

A MOLECULAR SOCIOLOGY OF STUDENT SUCCESS
IN UNDERGRADUATE EDUCATION

by

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DISSERTATION ABSTRACT

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Title: A Molecular Sociology of Student Success in Undergraduate Education

This study explores the promise of student success in undergraduate education that exceeds its standard definition and measurement as retention and graduation rates. The research paradox framing this dissertation is: *In what ways can universities support conceptions of undergraduate student success that escape measurement?* This paradox is explored through two analytic questions: *What do the orientations of student success in the American higher education literature produce?* and *What does the map of student success at Great State University produce?* To explore these questions, this study utilizes assemblage theory, a theorization of the composition of the conditions that produce our social fields to develop a molecular sociology, the methodology by which this study opens up the determinate world to the map of the assemblage.

A genealogy of the undergraduate education literature explores what the orientations of student success produce. This section first destabilizes the notion that student success is a collection of literature that moves forward linearly with the march of scientific measurement. Second, it provides the orientation of the current student success assemblage in American higher education, data-driven control. A cartography of student success at Great State University next maps the orientations and disorientations of the first year of GSU's student success initiative to data-driven control. In this mapping, we

explore the initiative's continued production of the in/dividual student: the dividual, or data point *subject* produced by data-driven control through the justification of student-centered practices. We also explore the moments that escaped the capture of data-driven control, or liberal education. Through a compilation of cartographic locations, we come into relation with student success at GSU as an assemblage of indeterminate molecularities productive of determinate reality.

This study concludes with a call for a fractal student success, a student success incommensurate with itself and its locations. This expansive success is fostered by critical methodologies and practices. Narrow policy changes suggested by many organizations active in student success serve to re/produce data-driven control. Change in our students' lives and possibilities will come from unyielding experimentations in research, practice, and policy to warp and overthrow data-driven control, and all assemblages that follow.

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CHAPTER I

A DIS/ORIENTATION TO STUDENT SUCCESS

Since education is not a means to living, but is identical with the operation of living a life which is fruitful and inherently significant, the only ultimate value which can be set up is *just the process of living itself*. And this is not *an end* to which studies and activities are subordinate means; it is the *whole* of which they are ingredients.

- John Dewey, *Democracy and Education*

(Dewey, 1916, p. 281, emphasis added)

Current institutional and research practice in American undergraduate education is to measure the end of student success through the subordinate means of individual grade point average (GPA), in relation to its correlation to retention and graduation (Camara, 2005, p. 75; Mortenson, 2005). Success is thus defined as retention and graduation. Most university departments are held accountable to operating maximally efficient programs and services, with efficiency generally defined as a measure of increase in student GPA, retention, and/or graduation against the (monetary) cost of provision of the service. Such a calculation lends itself to research on the optimal combinations of services to produce desired outcomes, research that departments use to remake themselves and bolster their claims to efficiency. Programs thus turn to research centers such as the National Resource Center for the First Year Experience and Students in Transition (2018), the Center for Postsecondary Research (2018), the Lumina Foundation (2018a), and the Liberal Education and America's Promise (LEAP, 2018a) Initiative at the American Association of Colleges and Universities (AAC&U) to provide

scripts for the efficient delivery of services. It is from the initial view of student success as “an end to which studies and activities are subordinate means” (Dewey, 1916, p. 281) that colleges over-determine the student experience, turning college success as idealized as a dynamic liberal education into the completion of a long checklist of items (both curricular and co-curricular, Kuh and Schneider, 2008) in as short of a time as possible. As a result, colleges gain accountability to success outcomes at the expense of success as a liberal education.

Purpose of the Study

The student success literature is replete with studies, both quantitative and qualitative, that seek to measure student success. Specifically, these studies seek to reveal what student success *is* through the definition and measurement of “the studies and activities [which] are [its] subordinate means” (Dewey, 1916, p. 281). In current practice, this ideal is often expressed through accountability to market-based outcomes, such as a shortened time-to-degree and vocationalization of majors (McMahon, 2009). I call this approach a Student Success Arithmetic (Moore, 2015).¹ In a Student Success Arithmetic, status quo + intervention equals desired student success outcome. These arithmetics fix time and capture all variation within their terms and exclude all indeterminacies or realities that are in excess. In this study, instead of a focus on adding up terms in search of student success, I focus instead on tracking how student success works, or the *whole of which the above are ingredients* (Deleuze and Guattari, 1972/2009, p. 109; James, 1907/1977, p. 377; Mol, 2002, p. 152). This shift has the potential to lead student services

¹ I name this approach following Jason Moore’s (2015) labeling of narrow environmental research as a Green Arithmetic, in which nature plus society equals Anthropocene. For Moore, this simplification of the Anthropocene does not account for the indeterminate but real contributors to our current geologic time. My argument here parallels his.

professionals, upper administration, faculty, and students closer to their shared ideal of fostering a liberal education, or, the ideal of undergraduate student learning that escapes measurement (NASPA – Student Affairs Administrators in Higher Education, 2015). In this study, I link assessment and measurement regimes, or Student Success Arithmetics, with market-based outcomes of college through the figure of the in/dividual student, or the use of student-centered language to justify the centering of dividuals, or data points, in practice. My analysis first destabilizes the foundations upon which Student Success Arithmetics rest. I then study student success as a whole in which measurements are an always already incomplete set of ingredients. I call this a molecular sociology—a look at the college environment not as a molar Arithmetic of discrete and measurable persons and constructs (either from a psychological or sociological standpoint, cf. Deleuze and Guattari, 1980/1987, p. 219), but as a multiplicity of indeterminate molecularities given shape and form within particular assemblages of power/knowledge. A molecular sociological methodology, further elaborated in Chapter 3, *A Molecular Sociology: For a Different Social*, highlights the role of measurements in determining the very individuals they measure (Barad, 2007; Hacking, 1986), and points to ways in which we can include that which escapes measurement in our research and actions.

A molecular sociology points to a process by which we can dislodge the primacy of systems premised on the determination and measurement of the in/dividual student. Paradoxically, in broadening student services research beyond the definition and measurement of outcomes, we can better ensure outcomes that escape definition and measurement, namely the outcomes associated with a liberal education. Put simply, to

resist student success as over-determination, a new organizing principle is needed, and the focus of this study is to explore one such alternative.

A Note Regarding Liberal Education

The notion of a liberal education is central to this study, because, as I will detail in Chapter 3, a liberal education is not only our country's current term to describe what Dewey (1916) calls the "value of the process of living itself," it is also the only one of the current major values of undergraduate education that, by its definition, escapes measurement (p. 281). There is no way to generalize its measurement across students similar to the means that exist to measure outcome-centered values of higher education such as future vocation (is x student employed in x job after x years), as liberal education refers to a process that leads to different outcomes for different individuals and collectivities. I utilize the LEAP (2018f) Initiative's definition of a liberal education in this study:

Liberal Education is an *approach to learning* that empowers individuals and prepares them to deal with complexity, diversity, and change. It provides students with broad knowledge of the wider world (e.g. science, culture, and society) as well as in-depth study in a specific area of interest. A liberal education helps students develop a sense of social responsibility, as well as strong and transferable intellectual and practical skills such as communication, analytical and problem-solving skills, and a demonstrated ability to apply knowledge and skills in real-world settings. (para. 1, emphasis added)

Liberal education, as defined here, is an *approach*, or using Dewey's words, a process. I use this definition for two reasons. First, this definition is fairly well disseminated

amongst higher education and student affairs practitioners and administrators, given the reach of the program on campuses nationwide (cf. LEAP 2018; LEAP 2018d). Second, LEAP and its parent organization, the AAC&U, mix a promotion of the values of a liberal education with the promotion of best practices and their attendant measurements in undergraduate education (see Kuh & Schneider, 2008 for perhaps the most widely utilized example of this). It is this mix – the combination of a focus on an unmeasurable value and a push to find some way to measure it – that I wish to complicate. We need to question the push for a measurement science of everything that pervades this current moment in higher education. In this dissertation, I demonstrate why we should resist such universalizing measurement in higher education and student affairs and give one example of an alternate practice.

Intermezzo: I Learned to Trust Data Early

My practitioner experience in higher education was entirely within the world of student athlete academic services at Division I/Power Five Conference schools. When I entered the university at which I spent the bulk of my professional career, I entered a student athlete academic support office with no coherent program of student athlete tutorial assistance. The program as it stood hired and individually scheduled a tutor for every course that students on particular teams were taking. I entered my newly-created position with some experience in other programs and a newly-minted credential, and it was my role to help the office develop a program. *A* program—my new office needed just one program for all student athletes, and for many good reasons, that one program was not going to be an individual tutor for every course for all 500 student athletes. In the development of that program, I needed to be able to assert my own knowledge of what

students needed what type of study assistance, and I needed to corral the knowledges and the buy-in necessary of others in the office and in the athletic department. I took the *neutral* track—I set up a series of meetings in which the office as a whole determined the metrics to which we would hold all student athletes accountable. All first term students were required to attend a new evening study program, and selected other students were mandated as well based on a combination of data points specific to their term at the university. Metrics would make the tough decisions on what students remained with us nightly past that first term, and it would be a tough decision that was uniform across different counselors' proclivities in our office and across sports in general. There was no more need to get into sticky discussions on why some students and not others were sprung free from required academic assistance, or why some students needed emergency assistance in the last two weeks of the term after being unhelpfully opted out at the beginning. The metrics were neutral. The metrics made decisions, and those decisions were based on our collective knowledge of what certain kinds of students (or certain kinds of collections of data points) needed.

After a few years in operation, the question that haunted me was not about our use of these metrics for very consequential decisions in the day-to-day lives of our students. I also was not haunted by my own and our office's collective decision to use the metric to shield us from additional hard conversations about student progress, student study/practice/sleep/Xbox habits, athletics time demands, and course selection. The question that haunted me was *how did we know our program worked?* What was the meta-metric for this arrangement? Years later, I still have no good answer for this. I could list all sorts of positive success outcomes that followed the development and

implementation of our metrics-based evening study program, including a reduction in academically ineligible student athletes, a reduction in students failing out of school, and increases in team Academic Progress Rate (APR) for several sports. But how did I know that this program was causing these things to happen? How could I tell that it was not instead an improvement that was a function of the students alone, or the students in combination with other environmental factors? This question drove me back to graduate school to find answers. In answering this, I thought I might be of help to other programs looking for interventions that worked to increase the success their students found in college. This dissertation owes its existence to my belief in data.

The question I cannot shake now is not about the character of our office's internal success metrics. The question I cannot let go of regards the system that makes all of this seem neutral, even inevitable. *Under what conditions is success named and bounded into outcomes, and how do we know success when we see it?*

Research Paradox and Analytic Questions

The central paradox of this dissertation is: *In what ways can universities support conceptions of undergraduate student success that escape measurement?* To highlight the paradox here, another way of asking this question is: in what ways can institutions support conceptions of undergraduate student success necessarily abstract to them without institutionalizing them? The use of paradox to frame this study is designed to resist easy recourse to answers, or Arithmetics, and instead provoke an extended exploration and experience in these social fields. In Chapter 2, I introduce the literature surrounding undergraduate student success, including definitions of student success, measurements to ascertain the existence of (the conditions for) student success, and the values that are

connected with student success. After a discussion of research methodology, as influenced by assemblage theory as the theoretical framework (Chapter 3), I address each of my analytic questions in turn (Jackson & Mazzei, 2012). The two analytic questions that structure my results are: *What do the orientations of student success in the American higher education literature produce?* (Chapter 4) and *What does the map of student success at Great State University produce?* (Chapter 5).²

My analytic questions come from two problems that arise in the literature. First, the question of student success, as currently structured, presumes simple empirical access to success which post qualitative inquiry does not grant (cf. Deleuze, 1968/1994, p. 67; St. Pierre, 2016; 2017). A transcendental empirical study of student success calls into question unexamined and shifting foundations of success. According to Gilles Deleuze (1968/1994), “the constitution of a unitary and systematic field... orientates and subsumes the researches or investigations in such a manner that the answers, in turn, form precisely the cases of solution” (p. 168). In a post qualitative consideration of student success, a dynamic, liberal education-inflected student success cannot be achieved through efforts focused on the attainment of desired student outcomes, be they retention, graduation, or other such “unitary and systematic field[s]” (Deleuze, 1968/1994, p. 168)—it is precisely those fields that are in need of interrogation and unyielding experimentation.

As a result of a premise in dynamic and multiple reality, rather than one that is static, measurable, and representable, post qualitative inquiry, here read through assemblage theory (Barad, 2007; Deleuze, 1986/1988; Deleuze & Guattari, 1980/1987;

² All proper nouns in relation to Great State University, including the name Great State University, are pseudonyms.

Foucault, 1976/1990), rejects the possibility of a measurement which can perfectly and completely capture reality. The premise of simple empirical research is that “infinite representation is indissociable from a law which renders it possible;” thus, *reality consists of more than what can be measured* (Deleuze, 1968/1994, p. 56). Expansive notions of student success include what is in excess of measurement; a liberal education contains ongoing processes that take an infinite number of shapes, it is not a discrete end point that can be reached. My first analytic question is a search for the foundations, plural and shifting, of foundational student success research. My second analytic question begins in the wake of this questioning to search of the *something more*, or the aspects of student success that escape systematic fields of measurement, or Student Success Arithmetics. I read both of these questions with and through a diffracted assemblage theory to form and reform the research method of this dissertation, a molecular sociology (see Chapter 3).

I explore the first analytic question through a genealogy of student success in order to destabilize, or disorientate³ (Ahmed, 2006), the literature base upon which current foci of retention and graduation persist (see Chapter 4). In this section, I explore the assemblages, or the system(s) of power/knowledge and resultant subjects that emerge at these junctures. I also explore the interstices of these moments, or their disorientations. I explore the second analytic question through a transcendental empirical study of the first year of Great State University’s² student success initiative (see Chapter 5). In this section, I explore the ways in which Great State University works within the territory of

³ I follow Sara Ahmed’s spelling of orientate (instead of orient) throughout as a means to re/orientate our thinking to the assemblage.

student success as well as in its interstices to advance liberal education, both entangled values the university espouses.

Orientating Analytic Question 1

To address the first problem of my dissertation, I begin with the source material used for the literature review (Chapter 2) and analyze the assemblages of power/knowledge which make the literature visible and sayable (Deleuze, 1986/1988). I look for the assemblages of power/knowledge that give undergraduate education shape throughout American higher education. In contemporary student success literature, student success is at best viewed to be measured by, and at worst equated with, GPA, retention rates, and graduation rates. In this section, I examine the orientations of previous moments in undergraduate education, and the subjects that each produced. I use genealogy as read through a diffracted assemblage theory (see Chapter 3) in order to examine “the historical conditions of possibility of our present ways of doing, being, and thinking” about student success (Koopman, 2013, p. 1). In reading the literature for stable territories of power/knowledge, I read for the actions and descriptions associated with being a good undergraduate student, looking for practices that hang together indicating common assumptions of a taken-for-granted reality of a good undergraduate student. I first break open words and visibilities in search of the knowledge, or contents and expressions, of each assemblage (Deleuze, 1986/1988; Foucault, 1976/1990). I then seek the connected power of this assemblage, or “the pattern of modifications which the relationships of force imply by the very nature of their process” (Foucault, 1976/1990, p. 99), and the subjects that these assemblages of power/knowledge produce (Barad, 2007). All the while, an idea of a successful student remains present, now not as a foundational

ideal towards which the march of measurement takes us, but rather as “relations of power-knowledge...not static forms of distributions, they are ‘matrices of transformations’” (Foucault, 1976/1990, p. 99). I destabilize the notion of a discrete, measurable in/dividual student who exists separate from the measurements of student success to which they are subjected.

Orientating Analytic Question 2

To address the second problem of my dissertation, I map the assemblage of student success at Great State University. To study student success as an assemblage is to view success as including and in excess of any simple empiricism that may hope to capture it. In this frame, and in our time, student success can either embrace the social field including its excess through unyielding experimentation, or seek to capture excess through increasingly sophisticated Student Success Arithmetics. These options can be exemplified in considering two students with the same GPA. First, GPA is a measurement which allows for the measurement, representation, and comparison of what a student learns in a classroom setting. Second, GPA also never represents the same student experience, whether they differ by coursework, or instructor, or student interest, or student background knowledge, or impacts of institutional oppression, *ad infinitum*. Both of these statements are real; Student Success Arithmetic has no means of incorporating the latter, while both are implicated in the assemblage.

To follow student success as excess is to pursue experimentations with success that enact non-coherence, “elements of structuring, ordering, that only *partially* hang together” (Law, 2008, p. 641). Dominant methods of measuring success, whether categorized as assessment or research, cancel this difference in the creation of a bounded

and homogenizing (or molar) series of related individuals. The use of these methods alone in program development and assessment ensures the continued narrowing of higher education to outcomes that can be measured. Two items follow if we⁴ concede that “our collective understanding of method seeks, albeit imperfectly, to enact forms of order, but that the realities always escape” (Law, 2008, p. 641): methodical approaches to supporting student success serve to reinforce measurable and over-determined forms of student success, and it is important to support forms of student success that escape measurement, an approach to student success research and practice that works outside of “our collective understanding of method” (Law, 2008, p. 641). To pursue the latter is to seek the series defined by difference, or excess—the molecular series. My approach differs from traditional quantitative and qualitative research in that the initial purpose is not to find coherence of success within disparate experiences, but rather to take as a starting point that there cannot be coherence among enactments of student success, as success will be different in each setting, on each day, across a multiplicity of ever-shifting horizons. With this presumption, the goal becomes to immerse oneself in the details of the difference in order to write both the practices of success that hang together across instances (the molar series) and those that do not (the molecular series), and in doing so, seek to map the assemblage of student success that creates both as such. The results section of this analytic question will approach a limit it can never reach – it attempts to represent what by its own definition escapes representation.

⁴ I use *we* and other forms of first person plural pronouns throughout this study when discussing work of the study traditionally assigned to a discrete and bounded researcher (the first person singular *I*). *I* still lurks around from time to time, a haunting of this turn toward the molecular by the molar. For a discussion of the theoretical basis for this, see the section on expression (also known as the collective assemblage of enunciation or the discursive) in Chapter 3. For a discussion on how this is taken up in the results of this study, see Chapter 5, “*We are Working on This: The Expression of the Student Success Initiative*.”

Intermezzo: I Learned to Distrust Data Early

Have you ever known a student athlete ruled academically ineligible to compete based on a million and one factors, the last of which being the difference of one point in a 500-point class? Have you ever wanted to do right by Black student athletes wanting to graduate, but could not make sense of the race/ethnicity flag in the student information system used to produce the Black student athlete graduation rate and doubted the validity of any rate (no matter how un/problematically corrected) that followed? Have you ever had to affirm the legitimacy of a student study hall assignment to coaches and counselors who want their students out—but the numbers say otherwise? Do you know how the special admissions process works at your institution? What metrics out of high school, community college, or another four-year institution make a student inadmissible, and what appeals make a difference? What makes metrics defensible, and under what circumstances do they crumble?

Have you ever talked with a student who has fulfilled the respectability promise implicit in success metrics—meet these metrics, and you will be deemed successful—and yet the latter does not follow? Have you ever worked with a community of students who on average are more successful than others, yet whose fulfillment of success is constantly in question? Have you ever come face to face with a transcript and a student in the same room and wondered how complicit you are in the institution's failure to provide this student an education above and beyond a game of transcript management to meet success metrics? Have you ever justified a discussion of major paths with a student—some more or less possible if a student wishes to remain academically eligible to compete—through recourse to individual responsibility and decision making?

In what circumstances do metrics channel power and contain knowledge? In what circumstances do metrics fall apart—or, to put a finer point on it—in what circumstances does action happen in a disorientated middle?

tobeginagainwithoutend

We begin again with Chapter 2, and a review of the higher education literature supporting what is now termed student success. Chapter 3 details the procedures of this study, from its roots in assemblage theory to its molecular sociological methodology and its execution in the archives and in the field. Chapter 4 disorientates a molar student success through a genealogy of American undergraduate education as it relates to what is now termed student success, ending with an exploration of the current assemblage of student success in American higher education. Chapter 5 explores this assemblage of student success at Great State University with an eye to Great State's practices that orientate to the assemblage as well as Great State's practices of disorientation, or experimentations with the excess of student success measurements. Chapter 6 explores the possibilities of a radically open student success that this study suggests.

The assemblages of student success explored here, and by extension a conception of student success that includes the values of a liberal education, are partial, incomplete, local, non-generalizable, and in-process representations. This undermines the idea of success research in service of a liberal education as an item for mass consumption and adoption, and instead promotes active engagement with research to form curricula and programming that is in a constant state of low-stakes evaluation and reform. This practice of evaluation promotes an understanding of social relationships of success as possessing

temporary, fragile, and non-replicable coherences that subvert Arithmetics of reducible and quantifiable definitions of student success and their attendant best practices.

CHAPTER II
FOUNDATIONS OF STUDENT SUCCESS IN UNDERGRADUATE
EDUCATION

My research blends two streams of research that have, to date, not been in conversation: literature on the definitions, measurements, and enactments of student success, and assemblage theory. Viewed through the lens of assemblage theory, the measurements utilized by student success research cannot capture or lead to the attainment of indeterminate conceptualizations of student success. The answer to student success is not to build a better measurement. Both halves of that sentence are faulty; answers and measurements build determinate outcomes, not indeterminate and dynamic change (Deleuze, 1969/1990, pp. 53-54, 98-99). Insights on measurement from assemblage theory provide a fresh path forward for higher education and student affairs research and practice. I review the student success literature in this chapter and turn to assemblage theory in the next.

In this chapter, I explore three dimensions of the literature on student success and undergraduate education. First, I explore the definitions of student success. This section provides responses to the question *what is student success?* Second, I explore the operationalization of student success in the literature and in practice. This section provides responses to the question *how does student success work?* Third, I synthesize these two sections by the values that they represent. This section provides responses to the question *student success for what?* But first, I introduce an issue present throughout this chapter and this study: time.

Intermezzo: On Anachronisms

Anachronistic: to be outside of time. Writing about the past of student success feels like that—what past does the concept of student success have? How can such a term of the present make sense in a past animated by other concepts? I cannot reconcile this completely; this is a difference that will hang together. I do have a few reading notes for how to sit with this difference, this anachronism, this haunting. First, I use undergraduate education to refer to practices facing the person of the student⁵ throughout this study, across periods of the history of American higher education. In our current period of history, reviewed below in this chapter as well as in Chapters 4 (*Undergraduate Education as Data-Driven Control*) and 5, undergraduate education is synchronistic with student success. Second, for prior periods of history, undergraduate education is not exactly synchronous with student success. This tension sits at the heart of my first analytic question. In Chapter 3, I explore the theoretical framework and research methodology that will help us think through anachronisms and synchronisms together, in tension without need for resolution. For now, reading even some literature of the recent past through the language of student success might feel anachronistic. I do this purposefully here, with intention (Kuby & Christ, 2018).

What is Student Success?

Told em I finished school, and I started my own business.

They say, “Oh you graduated?” No, I decided I was finished.

Chasin yall dreams and what you’ve got planned,

Now I spit it so hot you got tanned.

Back to school and I hate it there, I hate it there,

⁵ This wording is clunky on first glance, but the necessity for this specificity will become clear from Chapters 3 and forward.

Everything I want I gotta wait a year, I wait a year.

This ***** graduated at the top of my class,

I went to Cheesecake, he was a motherfucking waiter there.

- Kanye West, "School Spirit," *Late Registration*

(West and Franklin, 2004, track 15)

In the 21st century, the term student success is ubiquitous in undergraduate education. Student success as an object of inquiry in higher education-student affairs academic literature gained traction alongside the release of two contemporaneous canonical documents: *Learning Reconsidered (LR)*, whose object of inquiry is learning, and George Kuh's work on student engagement. *LR* reconnected the work of higher education~student affairs to the education of the whole student through the definition and measurement of desired student outcomes for the production of what was variously stated as student learning, transformative liberal education, and student success (NASPA & ACPA, 2004). Kuh, Kinzie, Buckley, Bridges, and Hayek (2006) stated that what matters in student success can be classified into three categories: pre-college experiences, the college experience (the two parts of which, student behaviors and institutional conditions, come together with student engagement), and post-college outcomes. In *LR* as in Kuh's work, student success is both exchangeable with their own objects of inquiry, learning and engagement, respectively, and is known through Alexander Astin's (1970a; 1970b) Input-Environment-Output (I-E-O) model (see *Figure 1*). In this model, students are understood as a collection of measurable characteristics upon arriving to the university (I), and the university environment itself (E) can be understood as a collection of measurable characteristics. Under these assumptions, the output (O) of the university

environment—student attainment of a specified desirable outcome, graduation for example—can be studied through scientific measurement, and university programming (E) can be adjusted accordingly to optimize student attainment of a desirable outcome. This methodology gave shape to the scientific study of college students through impact, or the measurable effect of the university environment (E) on student outcomes (O). This logic of scientific measurement now dominates legitimized knowledge production within higher education and student affairs (Wells, Kolek, Williams, & Saunders, 2015).

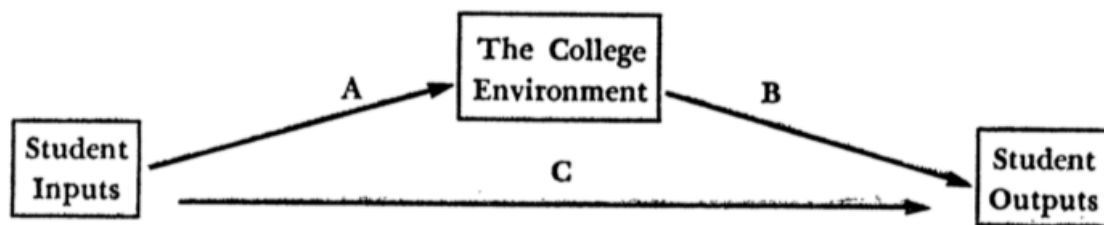


Figure 1. Astin’s Input-Environment-Output model. The innovation of this theorization of college impact is the shift to measure of (B) instead of simply (C). A secondary innovation is in theorizing the measurement of the interaction effects of the college environment on different types of students (AB) as well as the interaction effect of different types of colleges for similar students (AC). From “The Methodology of Research on College Impact, Part One,” by A. W. Astin, 1970, *Sociology of Education*, 43, p. 225. Copyright 1970 by the American Sociological Association.

Current student success research either looks to coded data points to discover the impacts of college or takes preset outcomes and looks to manipulate data sets to discover what collections of data produce the desired outcome (Kinzie & Kuh, 2017; Kuh, Bean, Bradley, Comes, & Hunter, 1986; Wells et al., 2015). As Estela Bensimon (2007) cited in her Presidential Address at the 2006 Association of the Study of Higher Education annual meeting:

Based on their multidisciplinary review of the literature on student success for the National Postsecondary Education Cooperative (NPEC), Perna and Thomas

(2006) concluded: “Regardless of discipline, the most common methodological approach in articles examining student success is quantitative rather than qualitative” (p. A-13). (p. 448)

Whereas the method of determining success is relatively stable, its definition is not.

Gillett-Karam (2016) points out one problem with the definitional instability of student success:

Defining student success has remained both vague and ambiguous. A lack of consensus around its meaning allows a continuing reign of power and privilege that prevents either theorists or practitioners from recognizing and changing the concept as it affects college students. (p. 10)

Given this consistency of operationalization paired with inconsistent definitions that lean toward completion, I structure the exploration of definitions that follows through a recent, comprehensive definition of student success offered by two scholars deeply identified with studies of student engagement and student success. According to Jillian Kinzie and George Kuh (2017), student success, “in popular parlance... broadly refers to students reaping the promised benefits of the postsecondary experience. The phrase also can encompass a combination of institutional and student actions and outcomes.” (p. 19).

Kinzie and Kuh (2017) continue on to explicitly define student success as:

‘increasing the numbers of students from different backgrounds proportionate to their age cohort consistent with national goals for post-secondary attainment who participate in high-quality educational programs and practices culminating in high-quality credentials (e.g., certifications, certificates, degrees) and proficiencies that enable them to be economically

self-sufficient and civically responsible post college.' (p. 20, emphasis in original)

I explore the larger literature defining student success through this temporal separation: student success in college (high-quality programs culminating in graduation), at the end of college (graduation or completion) and after college (market and public goods).

Student Success in College: Students and Environments

Student success as operationalized in within-college studies is generally done in line with Astin's (1970a; 1970b) I-E-O model through listing environmental (E) practices that are associated with an increased chance of completion, or of other in-college events, as an outcome (O) (Kuh et al., 2006; Mayhew, Rockenbach, Bowman, Seifert, Wolniak, Pascarella, & Terenzini, 2016).

Measurable student learning outcomes. Several in-college concepts have been associated with student success: involvement, engagement, and integration (Wolf-Wendel, Ward, and Kenzie, 2009), as well as learning (ACPA, 1996; Keeling, 2006; NASPA & ACPA, 2004). The role of involvement in student success traces back to the work of Astin's (1984) short piece on the subject, a piece that many cite in their use of the I-E-O framework (cf. Mayhew et al., 2016). In this piece, Astin (1984) argues for involvement as a variable that ties together most research on environmental factors that influence positive college outcomes such that "the greater the student's involvement in college, the greater will be the amount of student learning and personal development" (p. 307). Engagement in many ways is the successor to involvement, and as an in-college variable is most closely associated with the work of George Kuh, and his National Survey of Student Engagement in particular (Wolf-Wendel, Ward, and Kinzie, 2009).

Engagement captures the activities of students, whereas high-impact practices (HIPs; see next section) describe environments that increase rates of student retention and engagement (Kuh & Schneider, 2008). Consistent with Kinzie and Kuh's (2017) definition of student success, engagement is often thought of as a means to attain a more distant outcome, such as graduation or other public accountability metrics (Pomerantz, 2006). Integration refers to work connected to Vincent Tinto's studies on factors influencing student retention. Tinto's model of student departure (1975, 1982, 1988, 1993) describes student integration into social and academic environments as proxies for goal commitment and, thus, indicative of retention and graduation rates.

Learning as an in-college outcome gained prominence with the Student Learning Imperative (ACPA, 1996) and was reenergized with the next decade's *LR* (NASPA & ACPA, 2004) and *Learning Reconsidered 2 (LR2)*; Keeling, 2006). The student learning outcomes (SLO) movement entangles an eclectic assortment of constructs, including involvement, engagement, and integration. SLOs generally are not able to be directly pulled or calculated from student information systems, as "demonstrated learning is the key to student success. Assessment of student learning should be based on actual student work across a broad array of essential learning outcomes" (Rhodes, 2016, p. 37). In this usage, student learning outcomes are defined through the answers to the following questions:

What should be the outcomes of a college education? What are the general competencies and/or generic transferable skills? What should learners be 'expected to know, understand and be able to do at the end of a period of

learning' (Bologna Working Group, 2005, p. 29)? (Seifert, Bowman, Wolniak, Rockenbach, & Mayhew, 2017)

Kuh and Ikenberry (2009) detail the high stakes at play in institutional decisions to adopt and measure SLOs:

The present moment is sobering: How can higher education reduce expenditures, maintain the gains achieved in access, improve graduation rates, and remain affordable while at the same time ensure that students acquire the skills, competencies, and dispositions that prepare them for a lifetime of learning in an increasingly competitive global marketplace? One essential step is that colleges and universities must become smarter and better at assessing student learning outcomes; at using the data to inform resource allocation and other decisions; and at communicating these responsible, mission-relevant actions to their constituents. (Kuh & Ikenberry, 2009, p. 3)

Student success as defined through SLOs allows for learning to be placed in variation with other discrete and bounded matter, including monetary cost:

Ideally, one might suppose that cost-benefit analysis could be employed to make decisions about how to invest resources to improve effectiveness, but that approach would require that outcomes be valued in dollars, surely a difficult trick to pull off for example in considerations of equity and public service. More feasible is the hope of judging effectiveness by comparing the costs of alternative approaches that achieve the same outcome. For example, if the same level of learning could be achieved either by conventional lecture courses or by combining online instruction with small discussion sections, it is reasonable to

judge the effectiveness of the two approaches by comparing their costs, both explicit and implicit. Empirical social science research can contribute to such an assessment and is a primary purpose of studies such as the ones included in this volume. (Brint & Clotfelter, 2016, pp. 4-5)

Later, we will come to describe this simple empiricism as the creation of successful individuals into continuous algorithmic variation. For now, what is important to note is that the widespread adoption of SLOs leads to a definition of student success in college that indirectly implicates students. Student success becomes an efficient arrangement of student and environmental factors related to a distal student success outcome such as completion. In this next account, student success is measured not by the direct student acquisition of a desired student success outcome, but by a measure of the conduciveness of a university environment to the production of student success as ultimately measured by completion. These efficiencies are commonly labeled high impact or return on investment.

Environments: high impact or return on investment. Student success in college is also defined through supportive environmental conditions. Two common referents here are high impact and return on investment. High impact most specifically refers to Kuh and Schneider's (2008) list of 11 high-impact practices correlated with increased student retention and student engagement. In other words, student participation in these practices, such as ePortfolios and internships, increases the likelihood of the more distant outcomes of retention and graduation. University environments that are conducive to student success make "*one high-impact activity... available to every student every year*" (Kuh & Schneider, 2008, p. 20, emphasis in original). The phrase high

impact, outside of this usage, simply signals that the practice or outcome being referenced is an intermediary that efficiently leads to something else. High impact is a measure of change—what outcomes are most strongly correlated with (often distal) other desired outcomes. This logic creates a chain of practices leading from the most distal desired outcome—say, graduation—back through the undergraduate experience creating paths that carry the highest likelihood of producing the final outcome. This is the logic underlying such success-related initiatives such as Purposeful Pathways (Leskes & Miller, 2006) and Guided Pathways to Success (Complete College America, 2012), models of restructuring curricular pathways within and among majors to funnel students from orientation to graduation. Later, we will come to view initiatives such as Guided Pathways as algorithms that channel the flow of individuals in the manner thought most likely to produce four-year graduates.

Return on investment (ROI) is a concept that similarly channels the undergraduate experience through steps most likely to produce a final desired outcome. ROI differs in that it is explicitly linked to market values (cf. Swing & Coogan, 2010). Its logic can be rendered in a parallel sentence to that describing high impact above: given the market value of the inputs invested, what outputs are returned? Primary focuses on ROI are often linked to the economic pressures that colleges and universities face (Baer & Norris, 2016; Romero, 2012; Swing & Coogan, 2010). Particular student outcomes under measurement such as engagement or involvement are not absented but rather secondary. When impact or ROI are primary, the first focus of research or practice is on efficiency, a measure of change in relation to expenditure.

Given these pressures, many institutions are trying to better understand the factors that drive student success and failure in order to improve the efficiency of degree production. Traditional academic reporting systems are not adequate for this purpose, since they are designed to measure outcomes, not to uncover the factors that influence them. (Heileman, Babbitt, & Abdallah, 2015, p. 31)

Student learning outcomes fall under this heading when they are deployed such that measures of their growth becomes primary. According to a recent NASPA publication,

As the cost for students to attend college continues to increase along with the cost to successfully operate higher education institutions, more national focus is being placed on the overall return on investment in higher education. For example, as of 2015, 32 states are using some form of performance funding for public colleges and universities, with student retention and persistence as a measure (National Conference of State Legislatures, 2015). Public scrutiny is high, and institutions must provide evidence of how their students are persisting toward a college degree. As a result, colleges and universities are expanding their use of data to improve student performance. (Burke, Parnell, Wesaw, & Kruger, 2017, p. 5)

With these imperatives to graduate students, the impact of an intervention becomes primary. Practices are enacted during the college years that provide a return in the form of graduation rates against the monetary investment.

Student Success at the End of College: Completion

While student success does not carry a consistent definition in the literature or practice, it is often used as a synonym for college completion, or graduation. In my review of articles that mention student success published since 2004 in the top three

higher education journals⁶ ($n=190$), over half define student success through the definition and measurement of outcomes ($n=110$). Most of these include retention or graduation as an outcome ($n=86$). The remaining studies offer no definition of student success at all ($n=80$). No studies in this set that question the act of operationalizing student success through defining and measuring outcomes.⁷ Most studies thus explicitly or implicitly follow Tinto and Pusser's (2006) definition of success as

a broader concept that places a value on different forms of persistence. The most common of these, which will be employed here, defines success as the completion of a college degree. Though it may be the case that a person may view him or herself as successful for having completed a number of courses, we take the view that the completion of degrees, not just their initiation, is critical to a person's future occupational success. (pp. 1-2)

The definition of student success as college completion also has the broad support of the gray literature. Student success as completion has become the clarion call of many foundations and centers (Association of Public and Land-Grant Universities, 2018; Bill & Melinda Gates Foundation, 2018; Complete College America, 2018a; EAB, 2018b; Lumina Foundation, 2018a).⁸ These groups advocate for specific interventions to increase student success as retention and graduation through funding and publishing internal and external research. They produce solutions in which many institutions invest time and money. They host conferences and meetings of senior administrators on student success,

⁶ *The Journal of Higher Education, Review of Higher Education, and Research in Higher Education.*

⁷ Bensimon (2007) comes very close to doing so; see especially footnote four and her first paragraph on page 449.

⁸ For illustration: the splash graphic dominating the Complete College America homepage on March 3, 2018 begins: "American Dreams are Powered by College Completion..." The page continues on to detail what it calls "the college completion crisis: the barriers to student success are now clear..."

and they deliver a steady stream of data-driven student success emails to inboxes across higher education. Student affairs professional organizations are also involved in student success research and practice, which reflects both the salience of the concept to practitioners as well as organizational ties to external foundations (EAB, 2018b; Lumina Foundation, 2018d). Not to be left out, the U.S. Department of Education (2015; see also Commission on the Future of Higher Education, 2006) also calls for a shift in higher education toward defined and measured outcomes in the name of student success as graduation. The gray literature on student success is strong, and it lists heavily in the direction of data-driven research to improve graduation rates.

Student Success After College: Economic and Community Contributions

In the broader higher education literature, both economic and community goals are present as desired post-college outcomes. Vocational training entered the academy and the American consciousness in the late nineteenth century (Bok, 2013, p. 29; Eliot, 1869), and it remains the guiding purpose of higher education for undergraduates today (Slaughter & Rhoades, 2004, p. 19). According to this view, successful students are those who become workers and consumers (Slaughter & Rhoades, 2004, p. 19) who become the drivers of economic development:

America's national capacity for excellence, innovation and leadership in higher education will be central to our ability to sustain economic growth and social cohesiveness. Our colleges and universities will be a key source of the human and intellectual capital needed to increase workforce productivity and growth. They must also continue to be the major route for new generations of Americans to

achieve social mobility. (Commission on the Future of Higher Education, 2006, p. 7)

Traditionalists view vocational training as antithetical to the true purposes of higher education, as it creates “careerist students” (Kezar, 2005, pp. 34-35) in pursuit of market outcomes instead of scholars and leaders (Brubacher, 1982, pp. 86–87; Hutchins, 1936/1967, pp. 37-44). Many traditionalists view post-college student success to instead, or also, include students who become positive contributors to their communities. This is often discussed as a public good goal of education, or democratic education, or liberal education. Here, successful students enter into positive relation with others around them, both persons, communities, and public institutions. In this extension of the traditional purpose of higher education, successful students become well-rounded scholars and citizens (Du Bois, 1903, pp. 33-34; Guinier, 2015; Newman, 1852, as cited in Brubacher, 1982, p. 76). A liberal education is believed to not just create ideal democratic citizens (Shapiro, 2005, p. 89), but to be the experience of democracy itself (Dewey, 1916, pp. 94-116; Rose, 2009, p. 41). These historical and present-day framings of liberal education are in line with our working definition from LEAP (2018f) quoted in the introduction. This is an indeterminate and dynamic view of education, as there is no successful outcome it presumes, only participation in the process of continual and perpetual learning. This purpose is in tension with accountability movements, which take the purpose of higher education to be the delivery of measurable outcomes (Bok, 2013, p. 168). Naming all of these diverse economic and community contributions under student success again allows the term to perform the work it needs to do with the audience it has (Gillett-Karam, 2016).

Intermezzo: Moving Outside of Time, or, From What to How

The move that comes next is a simple yet necessary move for a study utilizing a poststructural and posthumanist assemblage theoretical framework. The vagueness of the definition of student success is a problem in that it allows listeners to place their own hopes and dreams of success into institutions that focus success on the production of graduation as primary. Have you ever worked in an office where the production of graduates was the number one priority to which all else was subordinated? If you have not experienced this with graduation, what about another metric? If you are a faculty member, are metrics used in your tenure case, and are they negotiable? When defined and measured constructs take priority, what happens to everything else of determinate or indeterminate value? I worked in an office that prioritized graduation above all else. I am very happy to be here writing to you instead. Environments that prioritize the production of one determinate value above all others end up, by definition, sacrificing the others for the production of the priority. When we do this with graduation, but name it student success instead, we obscure our actions to novice observers such as families and communities with their own sets of values concerning college. The current definition of student success is a problem in just the way that Gillett-Karam (2016) describes.

However, instead of trying to resolve the definition of student success in order to make evident the power dynamics at play for theorists and practitioners, this study investigates how student success works. The shift from *what does it mean?* to *how does it work?* is essential to moving from work that seeks to interpret the world to work that interrogates the conditions of what we take to be true such that we can remake them (Buchanan, 2017; Deleuze & Guattari, 1972/2009; Lenz Taguchi, 2012; Manning, 2016; Mazzei, 2011).

From this point on, having explored the problem with the unresolved (and temporally-demarcated) definitions of student success, we shift dimensions to examine how student success works.

How Does Student Success Work in Undergraduate Education?

In this shift from identification (what is) to operation (how does), we examine the practices of student success within undergraduate educational environments. This places the next section within the first temporal division explored above: student success in college, as this is the location of university interventions. We will keep the division of

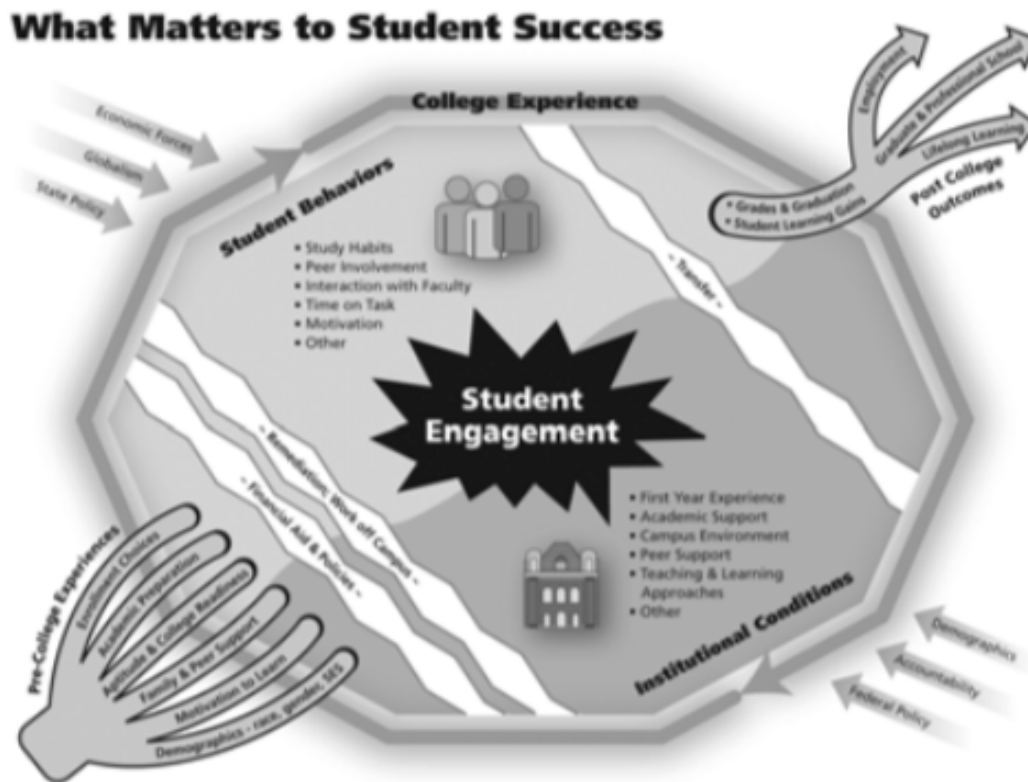


Figure 2. Kuh et al.'s updated and expanded environment (E) model, here labeled student engagement. Student engagement has two halves: student behaviors and institutional conditions. These halves frame this section. From *What Matters to Student Success: A Review of the Literature* (p. 8), by G. D. Kuh, J. Kinzie, J. A. Buckley, B. K. Bridges and J. C. Hayek, 2006, Washington, DC: National Postsecondary Education Cooperative. Copyright 2006 by the National Postsecondary Education Cooperative.

that section into student and institution alive here, in keeping with the specifications of Astin's (1970a; 1970b) environment (E), as translated to student success (see *Figure 2*).

Student-Level Indicators (Evidence of Student Behaviors)

One section of the literature focuses on student characteristics, experiences, and performances associated with student success. As much of the student success literature constructs student success as a latent variable measurable through the observable variables of GPA, retention, and graduation, first year retention and graduation rates are issues of concern for university administrators and students alike. Evidence-based institutional practices in undergraduate education lean on the following student-level indicators, among others, for validation.

(First-Year) Retention. Analyses of input factors into college graduation rates find first-year retention to be one of the most important predictive factors of graduation (Herzog, 2005; Tinto, 1998). With this in mind, nationwide trends of stagnating or decreasing first-year retention rates is particularly troubling (Tinto, 2010). Research into high impact educational practices demonstrate that a quality first year experience correlates positively to first year retention and graduation (Kuh & Schneider, 2008; Mayhew et al., 2016). Moreover, according to Tinto (2010), first-year and first-term courses are critical junctures in students' first-year experience and carry special importance to retention and graduation. As such, many universities have instituted special suites of programming designed to assist first year students academically and socially (Kuh & Schneider, 2008; National Resource Center for the First Year Experience and Students in Transition, 2018). The literature on first year retention discusses several important non-academic inputs, including integration. Academic integration, or sense of

belonging (Wolf-Wendel, Ward, & Kinzie, 2009) is measured often through student grades (Ishitani & DesJardins, 2002; Tinto, 1975).

The importance of grade point average. Grade point average is significantly related to student persistence (Cabrera et al., 1993; Herzog, 2005; Hu & St. John, 2001; Leppel, 2002; Tinto, 1997). First-year GPA, when tested as a separate construct, is also significantly related with persistence and graduation (Ishitani and DesJardins, 2002; Pascarella & Chapman, 1983; Spady, 1971; Terenzini & Pascarella, 1978).

Student learning outcomes. Student learning outcomes (SLOs) as a logic of how to structure undergraduate environments, beyond the construction and adoption of any particular outcome, are another related focus of research. Whereas the previous section focused on the definitions of SLOs, here I focus on their operation.

SLOs are sometimes billed as a mechanism to capture student learning and growth that is messy and imperfect (AAC&U, 2017, p. 14). SLOs are unique among student-level indicators of success in that comprehensive SLO assessment systems allow for the measurement of “the ‘value-added’ aspect of their education by comparing an initial measure of competency with a measure taken after the student has completed some of their entire intended degree program” (Dwyer, Millett, & Payne, 2006, p. 16). In this way, a focus on learning outcomes is seen as a way to understand what happens during the college years, instead of focusing on student attributes prior to or at graduation and beyond (Dwyer, Millett, & Payne, 2006, p. 1).

Measurement of SLOs is made possible through the logic of impact studies and rises to prominence with the assessment movement (cf. Elkins, 2015; Ewell, 1991) as well as ACPA’s (1996) *Student Learning Imperative (SLI)*. Whereas the *SLI* does not

foreground measurement of learning, subsequent ACPA documents working with the *SLI* do center the continuous measurement of learning. To quote an evocative passage from Marcia Baxter-Magolda and Patrick Terenzini (1999) at length:

Trends in learning outcomes and teaching practices have produced changes in our conceptions and methods of outcomes assessment. The dynamic nature of contemporary forms of teaching and learning require on-going assessment, which is increasingly viewed as an integral part of the teaching-learning process, as a feedback mechanism for teachers and learners alike, not merely an administrative add-on for accountability purposes... Assessment as a continuous process represents a significant conceptual shift that extends beyond a focus on outcomes to examination of the underlying conditions for learning (Hutchings, 1989). It also represents an explicit shift from individual courses or programs and their outcomes to how teaching affects the cumulative understandings of students. Assessing knowledge gains will no longer be sufficient; outcomes in critical thinking, cultural understanding, empathy, citizenship, and social responsibility will also be important (Astin, 1996). (p. 23)

NASPA and ACPA's (2004) *LR* continues this turn towards the continuous measurement of SLOs. *LR* frames its high-level SLOs in terms of learning, transformative education, and transformative liberal education. The attainment of these outcomes comes through a (re)new(ed) commitment to the continuous measurement of SLOs:

What is needed now is a new map, one that describes how learning occurs, where it occurs, how we can confirm that it is occurring, and what the outcomes of learning are. *In order to achieve this goal, every aspect of student life must be*

examined and a new configuration of learning processes and outcomes created. All of the resources of the campus must be brought to bear on the student's learning process and learning must be reconsidered. (NASPA & ACPA, 2004, p. 10, emphasis in original)

To achieve transformative liberal education, “every campus should be ready to define and measure its desired student outcomes” (NASPA & ACPA, 2004, p. 19). *LR*'s innovation is not so much in its commitment to continuous measurement, but in its entangling of the concepts of learning and student development. The means to know when these concepts happen for students—in other words, to know when institutional actions are effective—is in the definition and measurement of (expanded) SLOs. This needed mapping is expanded upon in *LR2*:

Questions like these drive the process of mapping the learning environment: What is the mission of the campus? What are the campus' learning objectives or outcomes? How does the work of student affairs support those outcomes? What new opportunities might arise when one asks first, “What is the intended outcome?” and then “What programs or services can be organized to support that outcome?” How can one create interventions in light of understanding that learning happens in multiple dimensions across the campus environment? (Keeling, 2006, p. 12)

This mapping comes into contrast with a transcendental empirical of mapping we explore in Chapter 3 and enact in Chapter 5. The mapping of SLOs described here fits squarely within the simple empiricism of Student Success Arithmetic (cf. Moore, 2015).

Student engagement. Student engagement as an educational outcome is connected to but not duplicative of student learning outcomes (Dwyer, Millett, & Payne, 2006). Student engagement as defined at the student level, “the time and effort students devote to activities that are empirically linked to desired outcomes of college” (Kuh, 2009, p. 683), is frequently operationalized through formal administrations of the National Survey of Student Engagement (NSSE) and related surveys (Finley & McNair, 2013; Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2009). The NSSE is in widespread use in the United States and many countries around the world, even as there are persistent questions about its alignment with student-centered practice (Macfarlane & Tomlinson, 2017) as well as its construct validity and reliability (Kahu, 2013; Macfarlane & Tomlinson, 2017; Olivas, 2011). McCormick and McClenney (2012) dispute these claims, and the NSSE continues to be the standard in assessing where student engagement exists and how student engagement works. Several works claim that students historically excluded from undergraduate education have the most to gain from student engagement as operationalized by the NSSE or through similar measurements of engagement outcomes (Finley & McNair, 2013; Kuh, Kinzie, Cruce, Shoup, & Gonyea, 2007; Quaye & Harper, 2015). These benefits of student engagement are functions of action on the student level as well as the institutional level; the second half of Kuh’s (2009) definition of student engagement, after all, is “what institutions do to induce students to participate in these activities” (p. 683). This inducement is explored next.

Environmental Indicators (Evidence of Institutional Conditions)

How do we change institutions to promote the creation of (incrementally) successful students? The answer across the higher education and student affairs literature is to foster cultures of data. Kinzie and Kuh (2017) describe this as such:

To make it possible for more students to succeed, we must know what the salient, actionable, research-based principles are, know how to implement these principles through a comprehensive, integrated strategy to achieve the targeted objectives, and enact in real time what is being learned from local action research on what is making a difference for which students. This will help committed educators use this information to change what they and their colleagues do to help more students succeed. (p. 26)

In Kuh et al.'s (2006) rendering, student-level and environmental indicators are connected by student engagement. I place that connection instead in the concept of impact, as does Keeling and Underhile (2007): “Outcomes define **impact** -- how the student has changed... **The achievement of learning outcomes (student success) measures institutional effectiveness**” (p. 3, emphasis in original). Literature focused on the institutional side of impact promotes three broad areas.

Continuous improvement. Built into SLO feedback architecture is continuous improvement, or looping mechanisms to know the past and improve present environmental characteristics accordingly (Culp & Dungy, 2012; Wiggins & McTighe, 2005). This involves the “**application of clear pathways for student learning and success** that guide students to completion, monitored with real time data systems that identify when a student is off track” (Kinzie & Kuh, 2017, p. 23, emphasis in original). It is with this connotation that the term student lifecycle typically comes into use. A quick

definition of student lifecycle might be simply the activities in which a student engages and the paths a student takes during their time in college. Most uses of the term come with an implication of a shaping of environmental factors to ensure that a student lifecycle leads to desired outcomes: “**VALDOSTA STATE UNIVERSITY** mapped the student lifecycle from registration to enrollment, to tutoring, to advising, and looked for ways to improve processes and direct resources to help retain students” (Burke et al., 2017, p. 16, emphasis in original). Early warning systems and related student risk assessments are examples of feedback loops present in continuous improvement systems (Kuh et al., 2007). Continuous improvement is a process to be applied everywhere on campus; it does not refer to any domain in particular to the exclusion of others. It works when it works everywhere, including at the departmental, faculty, and classroom levels (Stevenson, Buchanan, & Sharpe, 2006; Tinto, 2012)

Predictive analytics. Predictive analytics extend the reach of continuous improvement. Whereas with continuous improvement, one has to assess something in need of change in order to begin to change it (after the initial environmental occurrence), predictive analytics allow institutions to predict the results of environmental interventions in advance of their use and optimize the selected interventions to be the most likely to produce desired outcomes (Baer & Norris, 2016). Again, according to a recent NASPA publication on the topic,

In the context of student success in higher education, predictive analytics can be defined as the practice of collecting and analyzing student data to inform decision making regarding programs, services, and intervention strategies related to student persistence toward a college degree. (Burke et al., 2017, p. 6)

Predictive analytics predict the future from what we know about the past to improve present environmental characteristics. Types of student data used in these analytics are expanding past information traditionally found in student information systems to include pre-enrollment data, academic performance data, motivation and self-efficacy data, support services utilization data, and student engagement data. With technology advancements and investments, “institutions have the potential to analyze data points from nearly every interaction they have with a student” (Burke, et al., 2017, p. 26). Monetary investments in technology are themselves optimized—or, they “have a highly favorable ROI” (Baer & Norris, 2016, p. 8)—with predictive analytics. These analytics are designed to re/shape institutional environments in their image:

An impetus for using predictive analytics is to apply limited resources to intervene with the students who are likely to be retained with extra support. While support services are generally available to all students at an institution, targeted outreach can ensure that a student who is in danger of leaving the institution will be referred to the appropriate resources and remain enrolled. (Burke et al., 2017, p. 20)

Baer and Norris (2016) describe the re/shaping work of predictive analytics to occur not just in student services arenas, but also in classrooms, wherein

personalized, adaptive learning and competence-based learning promise to usher in a new era of pervasive learning analytics... These embedded learning analytics, which automatically and continuously collect data on learner progress and attainment, require far more robust analytical and management tools. The Bill & Melinda Gates Foundation and other groups have been actively supporting the

development of next-gen learning through pilot projects at a range of institutions and support of a variety of cloud-based vendor offerings in order to help build the industry. (Baer & Norris, 2016, p. 4)

This re/shaping of the institution requires the participation of the entire institution, just as continuous improvement does. This need for total participation is heightened by the need for as many data points as possible to build the best predictive model. Thus, the pursuit of student success through predictive analytics depends on the creation and maintenance of “culture[s] of evidence-based decision making” (Burke et al., 2017, p. 28). It is to these cultures that we turn to next.

Institutional culture. The final environmental factor related to student success covered here is institutional culture. Environments in which student success is generated by continuous improvement and predictive analytics depending on the constant participation of actors across the university are “**enactment[s] of cultural system[s] of student success**” (Kinzie & Kuh, 2017, p. 23, emphasis in original). Such cultures ultimately depend on the buy-in of these actors to use analytics and generate data (Keeling & Underhile, 2007; Kuh et al., 2015; Morris, 2016; Richman & Ariovich, 2013; Swing & Ross, 2016). Kuh et al. (2015) describe this as shifting from cultures of compliance, where actors participate in continuous improvement and use predictive analytics because they are required to, to cultures of transformation, where actors are motivated to participate by an internalized sense of collective responsibility. Fuller, Skidmore, Bustamante, & Holzweiss (2016) describe these motivated institutional cultures as cultures of assessment. Romero (2012) terms them cultures of evidence, wherein “colleges and universities establish assessment as a forethought, as opposed to

an afterthought of all planning processes” (p. 36). Baer and Norris (2016) tie the production of these cultures to leadership efforts to build “a culture of urgency throughout the institution” (p. 8). These namings all circulate around a fundamental environmental need for all actors within an institution to be intrinsically motivated to participate in continuous improvement and engage with predictive analytics as they continue to spread around the country. From this point on, we will name this a *culture of data*.

Orientation: Towards What Primary Set of Values?

Student success works through market and otherwise dividualized forces that provide impactful measurements of their results (cf. Slaughter & Rhoades, 2004; Tinto, 2005, pp. ix-x). In Chapters 4 and 5, I explore the orientations of student success historically in American higher education as well as at Great State University. Orientation is a concept explored in depth in Chapter 3. For now, orientation helps us respond to the question *student success for what?* These orientations guide the development of curricular and cocurricular programs in ways that enact an assemblage of student success even in the absence of a shared definition.

Determinate Values, Market and Otherwise

Market valuations of the impact of undergraduate education are as connected to faith in human capital theory as they are any espoused institutional purpose (Shapiro, 2005; Slaughter & Rhoades, 2004). Human capital theory as applied to undergraduate education measures the changes in a person’s income after college resulting from the knowledge and skills gained in college (McMahon, 2009, p. 41; Sullivan, Mackie, Massy, & Sinha, 2012). Undergraduate education produces the labor market benefit of higher

wages as well as non-market benefits that include increased cognitive skills, open-mindedness, personal and family health, child education, fertility rate, longevity, and levels of happiness, as well as lower infant mortality (Bowen, 1977, pp. 432-435; McMahon, 2009, pp. 37, 42-43). Market failures, or as McMahon (2009) describes, “the failure of higher education markets to produce an economically efficient result leading to optimal investment in higher education” (p. 44), include the devaluation of transgenerational social benefits, which benefit the operation and development of civic institutions, including democratic processes and the rule of law with their effects on human rights and political stability. These devalued transgenerational social benefits also include the reduction of poverty, the reduction of inequality, lower crime rates and criminal justice system costs, lower health care and public assistance costs, greater social cohesion, indirect effects on the sustainability of the environment, and access to the diffusion of new knowledge through interdependence with research.

This *failure* dovetails with the failure of the neoliberal state, whose focus is “not on social welfare for the citizenry as a whole but on enabling individuals [persons] as economic actors” (Slaughter & Rhoades, 2004, p. 20). Market failure is human capital theory’s signal that it, as a theory devised to track the economic value of knowledge and skills at an individual [personal] unit of analysis, is structurally incapable of valuing goods which redound to indivisible groups. The distinction between market failures and market and non-market values demonstrates the limitations of human capital theory: it values what can be monetized, and leaves to secondary importance that which cannot (Bowen, 1977, pp. 447-448). For this reason, it has been argued that a focus on the development of human capital prevents its very occurrence, as a focus on that which can

be measured through wages stunts the rich development of the skills that have market value (Slaughter, Taylor, & Rosinger, 2015). Nonetheless, market behaviors, measurements, and values are now pervasive across all functions within institutions of higher education (Slaughter & Rhoades, 2004, p. 305), including student success.

A recourse to data is at the center of every post-college definition or operationalization of student success or value of undergraduate education listed in this chapter thus far. A recourse to measurement is baked into the idea of a definable and recognizable discrete outcome of college. Market values pervade any such measurement of student success outcomes because Student Success Arithmetic allows success to be known and realized as a collection of data points exchangeable with the data points of dollars. This is neoliberalism's broader valence. Yes, neoliberalization is the marketization of all the things, but more broadly, it is a data-fiction of all the things. The value of undergraduate education here is placed in terms of capitalist markets, narrowly, and of measurable growth of determinate data, broadly. Liberal education provides a provisional path forward in accounting for the indeterminacies labeled as market failures above.

Intermezzo: Complicated/ing Data, Complicated/ing Liberal Education

In the section before this and the one that follows, I do not construct a binary values system in which determinate outcomes are always bad and indeterminate liberal education is always good. These are two of many constellations of values, each with their tradeoffs. My overall thesis is that we should tip practice in higher education towards liberal education, but by this I do not mean just say no to data. I cannot imagine a world in which that is possible, much less desirable. I have experienced the world in which data

works toward equitable access to an expansive student success. I was hired at Oregon State University (see *Chapter 1, Intermezzo: I Learned to Trust Data Early*) as a part of an initiative to improve GPAs and other data points for black football student athletes (Bachman, 2011). The data was the siren that caused university administrators to take notice and make changes. Data can be used in service of a justice-oriented ethics. Where determinate outcomes are in need of correction is when they become *a data-fication of all the things*. In such a system, where are the fissures in which liberal education thrives?

Indeterminate Liberal Education

When liberal education is the primary value of higher education, institutional goals shift to providing students a rich educational experience with student success measurements their byproduct (Rose, 2009, pp. 46-47; cf. Dewey, 1916). In this values system, the goal of higher education is the development of the whole person; in doing so, “their subsequent roles in society will take care of themselves” (Brubacher, 1982, p. 75). The value of a liberal education is in developing thoughtful citizens who are productive both individually and as members of a pluralistic democracy (Rose, 2009, p. 26; Shapiro, 2005, p. 97). This is indeterminacy in action: different actions for different students with different outcomes, all understood as a part of an immanent and perpetual process of learning, all understood as creating thoughtful, critical citizens. This view does not see market and non-market values as unimportant, but secondary, and destructive when thought to be primary (Dewey, 1929/1958, pp. 164-165; Hutchins, 1936/1967, p. 4). When undergraduate education values first what it can measure, it necessarily pushes out other conceptions of the purposes and associated values of higher education (Dewey,

1929/1958, p. 429; Slaughter & Rhoades, 2004, p. 333). An additional expansion of liberal education is to come in Chapter 3.

...themaschool'stools...

Everything is average nowadays

Everything is average nowadays

And everything is of no consequence

'Cause everyone is sitting on the fence

And everything will always stay the same

'Cause everything is average...

-Kaiser Chiefs, "Everything is Average Nowadays, *Yours Truly, Angry Mob*

(Wilson, White, Rix, Baines, & Hodgson, 2007, track 9)

With the previous section's caution against the primacy of determinate outcomes in mind, I situate this study on the boundary between education as determinate and indeterminate outcomes. The marketization of higher education is much lamented in current discussions regarding liberal education values in undergraduate education, but a path forward free from the individualized student at its core is largely absent (Giroux, 2014). Current critical work in undergraduate education recapitulates to critical Student Success Arithmetics through constructing critical assessment regimes, searching for (critical) outcomes, and/or seeking understandings of responsabilized individual students beyond marketization (cf. Teranishi & Bezbatchenko, 2015). Audre Lorde (1979/1984) illustrates the problem with this kind of recapitulation: "What does it mean when the tools of a racist patriarchy are used to examine the fruits of that same patriarchy? It means that only the narrowest perimeters of change are possible and allowable" (pp. 110-

111). The task of my first analytic question (cf. Jackson & Mazzei, 2012; see also Chapter 3) is to explore the shifting tools of (the racist patriarchy of) student success in the history of American undergraduate education. My second analytic question operationalizes Lorde's (1979/1984) caution that "the master's tools will never dismantle the master's house" (p. 112). I work again with assemblage theory and this study's (critical) methodology of molecular sociology to re/form a research practice capable of provoking new student success worlds.

In pursuit of an indeterminate student success, I disrupt the notion of a determinate, discrete, stable, measurable, and responsible human subject at the core of student success research. As such, this work is grounded in both poststructural and posthumanist thought. As in other disciplines within education and the broader social sciences, in student success research "humanism is everywhere, overwhelming in its totality" (St. Pierre, 2000, p. 478). Humanism is premised on a static, distinct, and measureable human subject. Higher education could not function in its current form without a reliance on this subject, as the relevance of transcripts, degree requirements, grade point average, retention, and graduation all have a distinct and radically responsible student at their core. Higher education scholarship generally seeks to follow "high quality inquiry" (Jones, Torres, & Arminio, 2014, pp. 29-53), code for qualitative and quantitative research justified through post-positivist validity and predicated on the existence of this subject. While the critical borderlands of higher education scholarship focuses on constructivism rather than strict post-positivism (Martínez-Alemán, Pusser, & Benismon, 2015); this constructivism still retains a discrete student subject, thus stopping short of posthumanism (Braidotti, 2013, pp. 16-25; Kirby, 2011, p. 48). There has been

very little attention given to posthumanism in higher education research. This study lives in this gap.

This study presents a posthuman way of viewing the role of definition and measurement in producing the values of a liberal education. Chapter 3 explores the particular details of this study's poststructural and posthuman theoretical framework and research methodology. Current research on student success creates a figure of an in/dividual successful student that aligns with a figure of a radically responsabilized humanist subject whose outcomes are measured as such by market values and determinate outcomes (Foucault, 1979/2008, pp. 271-273). This figure becomes the very problem that current research aims to solve (Deleuze, 1968/1994; Hacking, 1986), and the focus on the remedy of the unsuccessful variant of this figure precludes intentional institutional support of the values of a liberal education. A molecular sociology of student success presents an opportunity for universities to foster student success that includes these values.

CHAPTER III

MOLECULAR SOCIOLOGY

The relation between mathematics and [hu]man may thus be conceived in a new way: the question is not that of quantifying or measuring human properties, but rather, on the one hand, that of problematizing human events, and, on the other, that of developing as various human events the conditions of the problem.

- Gilles Deleuze, *The Logic of Sense*

(Deleuze, 1969/1990, p. 55)

In this study, I use a diffracted assemblage theory as my theoretical framework as well as my research method (Lenz-Taguchi & St. Pierre, 2017; Mazzei, 2017), as my research method is an experimentation with assemblage theory in form of a *molecular sociology*. In this chapter I first give a broad overview of assemblage theory. I then plug in a few concepts related to assemblage theory to form a research method of a molecular sociology, whose goal is to first deform student success as a simple empiricism, and then reform student success as a transcendental empiricism. We first break apart the student in order to see and hear molecular flows. This goal aligns with this study's two analytic questions, following the advice Deleuze gives above: the first analytic question problematizes human events, and the second analytic question develops the conditions of a new problem, how to pursue educational values that escape definition and measurement. I end this chapter by reviewing the scope and procedures of this particular molecular sociology.

A Diffracted Assemblage Theory

Assemblage theory as a theoretical framework decenters the simple empiricism of methodologies that define and measure outcomes, as these methodologies are limited by what appears measurable. Assemblage theory also provides an alternative conception of individuation. Current practice in higher education is to utilize a Student Success Arithmetic of humans (e.g., students) and constructs (e.g., GPA, retention, graduation, outcomes) as distinct and bounded matter that can be aggregated and analyzed as individuals and constructs (later, we will refer to these as individuals) to analyze concepts such as rates and impact. Assemblage theory provides that the whole—or the social field (Deleuze & Guattari, 1972/2009)—is primary, and that subjects are produced from this through interactions of knowledge and power. Assemblage theory centers a creative and productive social distinct from additive sociologies, or socials that must be made through the aggregation of apparently measurable objects (students, budgets, learning, etc.). Assemblage theory thus centers a new form of individual: the individuated contents and expressions of the social, or individuals as subtracted from the social. An assemblage (or *agencement*, or apparatus, or *dispositif*) is this social. It is a system of arrangement of heterogeneous elements. In what follows, I re/construct a capacious narration of assemblage theory through “enacting new patterns of engagement [and] attending to how exclusions matter” (Barad, 2010, p. 243) in the works of Gilles Deleuze, Felix Guattari, Michel Foucault, and Karen Barad.⁹ I present here a diffraction of assemblage theory, and re/create a set of concepts not in “a set pattern, but rather [in] an iterative (re)configuring of patterns of differentiating-entangling” (Barad, 2014, p. 168). In this diffraction, I demonstrate not the isometry of these theorists but rather their dis/continuities (Barad,

⁹ From this point forward, I’ll refer to this grouping of theorists as *our theorists*. I do briefly mingle in Massumi’s (1992) fantastic secondary text, evocative and *deviant* enough that in many ways it stands as a primary text of its own.

2010). I take as a guiding example of a diffractive analysis to be Barad's (2007) reading of the work of Niels Bohr in and through the work of Michel Foucault. This reading of assemblage theory conforms exactly to none of the individual works of these authors—two of our authors do not refer to their work as assemblage theory at all. And surely this reading is singular to this combination of authors within this apparatus, or assemblage itself, of a chapter.¹⁰ Readers familiar with the work of any one of these authors may find some of what follows to be novel. This diffraction is transgressive on principle—in reading these authors together, an un/recognizable assemblage theory emerges, one paradoxically faithful to our theorists and a creation (and creature) all its own. I diffract assemblage theory and then focus on the components of a molecular sociology next in pursuit of three interrelated goals:

- 1) To place concepts in relation here so that other relations may later emerge,
- 2) to place concepts in relation here to build a single common language moving forward, and
- 3) in this single common language, provide a theorized alternative to the current science of Student Success Arithmetic, additive sociologies and data-driven control student success science (see Chapter 1 for an expansion of Student Success Arithmetic and additive sociologies, and Chapters 4 and 5 for empirical explorations of data-driven control).

The potential number of concepts and terminology to name different aspects of assemblage theory is vast and while harmonious, they are not overlapping. Here, I focus on three patterns of difference found across our theorists. These three patterns of

¹⁰ In diffracting assemblage theory, this chapter works to give a reading of assemblage theory as well as demonstrate a meta-reading of assemblage theory through diffraction. I suggest reading this chapter on both of these levels.

assemblage theory are put to work throughout this study, and I use one term to name each of these throughout. These patterns, and the terms I use to refer to them, are knowledge, power, and subjects. Focusing on these three patterns of difference is a cut I make here that leaves out important concepts from our authors, and sticking with one term over others is another cut that smooths over jagged conceptual edges present amongst our theorists. In important ways, these cuts run counter to Deleuze and Guattari's (1980/1987) deliberate moves to "stretch tensors through all of language, even within language, and draw from it cries, shouts, pitches, durations, timbres, accents, intensities" (p. 104). Here, we stretch tensors not through multiplying these terms, but in taking these concepts and stretching them through the student success literature and student success practices at Great State U., and in doing so, draw from them the cries and intensities of liberal education. This chapter seeks to engage both those new to assemblage theory and those familiar with one or many concepts or theories in this diffraction. Our single common language does not flatten concepts into universals, but rather re-singularizes. Knowledge, power, and subjects become singularities not "opposing the universal but any element that can be extended to the proximity of another such that it may obtain a connection: a singularity in the mathematical sense" (Deleuze, 2006, p. 354). I include tables where helpful in order to collect the concepts in proximity to the singular term under discussion. In doing so, I hope to provide connections for readers who may be familiar with some literatures but not others.

This Janus-faced creature of a chapter also faces in the direction of a few skeptics. In the course of this exposition, this chapter provides a counterpoint to Serge Hein's (2016) assertion of the incompatibility of the theories of Deleuze and Barad, an

incompatibility he draws through contrasting Deleuze's philosophy of immanence with what he labels Barad's philosophy of transcendence. This diffraction places the works of our theorists, Deleuze and Barad included, squarely within a philosophy of immanence. This chapter also works with and through Ian Buchanan's (2017) call for an assemblage theory in direct conversation with the primary texts of Deleuze and Guattari. Buchanan (2017) is also opposed to the inclusion of genealogy within a concept of assemblage theory grounded in Deleuzoguattarian thought, arguing that

... the whole idea of a genealogy of the assemblage stands in flat contradiction of Deleuze and Guattari's account of the assemblage, which is focused on the question 'how does it work?' and not 'what does it mean?' much less 'where does it come from?' (Deleuze and Guattari 1983: 109). (p. 461)

I use our theorists, including Barad's (2007) diffraction through Foucault and Deleuze's (1986/1988) reading of Foucault, to argue that genealogy is entirely compatible with assemblage theory. In fact, I use genealogy as the method by which we explore the assemblages of student success present in the American higher education literature, as I explore in more detail in the last main section of this chapter, *This Molecular Sociology*.

Assemblage

I use the terms assemblage and assemblage theory throughout as a single common referent for related terms: *dispositif* (Foucault, 1974/2003), apparatus (Barad, 2007; Foucault, 1980), assemblage (Deleuze, 2006, Deleuze & Guattari, 1980/1987), and *agencement* (Deleuze & Guattari, 1975/1986). Assemblage refers to the organization of indeterminate molecularities that determines the possible determinations of measurable molar realities. Assemblages are not formed by determinate beings, persons, or objects;

assemblages form (or assemble) determinate beings, persons, or objects. Assemblage directly refers to the English translation of *agencement* in Deleuze and Guattari's work. It is important to note that the definition of the French word *agencement* "does not simply entail heterogenous composition, but entails a constructive process that lays out a specific kind of arrangement" (Nail, 2017, p. 24). Foucault (1974/2003), writing in French, uses the term *dispositif*, which translates to apparatus. Barad (2007), writing in English, uses the term apparatus and is careful to note the ways in which she both borrows and diverges from her reading of the Foucauldian apparatus. In collapsing all of these terms, there is loss. There is also much to be gained – an analysis of the "differences that matter" (Barad, 2007, p. 72) placed in a single common language that is accessible to a range of readers, connects to a feminist commitment to the body, and is portable throughout this work.

What again are the contours of our assemblage? Foucault provides a productive place to start. For Foucault (1980b), a *dispositif* (here translated as apparatus) is:

...a thoroughly heterogenous ensemble consisting of discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements, philosophical, moral and philanthropic propositions—in short, the said as much as the unsaid. Such are the elements of the apparatus. The apparatus itself is the system of relations that can be established between these elements. (p. 194)

Thus, an assemblage is a that which relates disparate elements; more than the set of relations, it is the act of bringing into relation. Deleuze (2006) emphasizes this active relation in defining an assemblage as

...first and foremost what keeps very heterogenous elements together: e.g. A sound, a gesture, a position, etc., both natural and artificial elements. The problem is one of ‘consistency’ or ‘coherence’... How do things take on consistency? How do they cohere? (p. 179)

Now we have an emphasis on what is assembled, on the act of bringing into relation, and on the work of the assemblage in the active maintenance of a consistency among related elements. For Barad (2007), apparatuses are

...the practices of mattering through which intelligibility and materiality are constituted (along with an excluded realm of what doesn’t matter)... That is, apparatuses are *material-discursive practices—causal intra-actions through which matter is iteratively and differentially articulated, reconfiguring the material-discursive field of possibilities and impossibilities in the ongoing dynamics of intra-activity that is agency*. Apparatuses are not bounded objects or structures; they are open-ended practices. The reconfiguring of the world continues without end. (Barad, 2007, p. 170, emphasis in original)

Barad makes clear that an assemblage is an active reconfiguring of its elements – an immanent production of the world. She uses the term assemblage in one small section only in *Meeting the Universe Halfway*, and explains her reluctance to use it in a footnote:

The use of the notion of ‘assemblage’ is risky here, since assemblages are generally assumed to be collections of individual determinate objects.

Importantly, apparatuses are *not* assemblages of preexisting, separately determinate individuals of one kind or another. It is crucial to remember that these ‘gears’ are intra-acting ‘components,’ not preexisting ones. (Barad, 2007, p. 451)

This caution signals again that her use of both assemblage and apparatus, while deriving from a citational chain connected directly to Foucault but neither Deleuze nor Guattari, align with a posthuman reading of all three. Empirical studies utilizing assemblage theory thus study intra-actions of entangled subjects rather than “preexisting separately determinate individuals” (Barad, 2007, p. 451). They exchange an additive sociology, or a simple empiricism of an accounting of presumed-determinate individuals, for a transcendental empiricism of intra-active components. This posthumanism, or transcendental empiricism, is directly related to the idea of entanglement present within the assemblage. Assemblages are compositions of pre-individual singularities; individuals are products of assemblages, not the constituent components. Assemblages are relations of creation, mapping the world as an immanent unfolding rather than a series of static constants. Assemblages map the creation of measurable, individuated relations as well as incorporeal relations and transformations. In Baradian (2007) language, “space, time, and matter are intra-actively produced in the ongoing differential articulation of the world” (p. 234). With this understanding of an assemblage in hand, we move to explore our three main concepts of assemblage theory: knowledge, power, and subjects. *Figure 3* presents Deleuze’s (1986/1988) graphical understanding of these three main concepts of assemblage, with and through Foucault, with our single common language appended below. *Figure 4* maps these terms across various texts of our theorists. Chapter 4 analyzes student success assemblages as knowledge, power, and subjects in the American higher education literature. Chapter 5 analyzes the knowledge and subjects created by the local, present-day student success assemblage at Great State U. The remainder of this chapter details exactly what these three concepts are and can do.

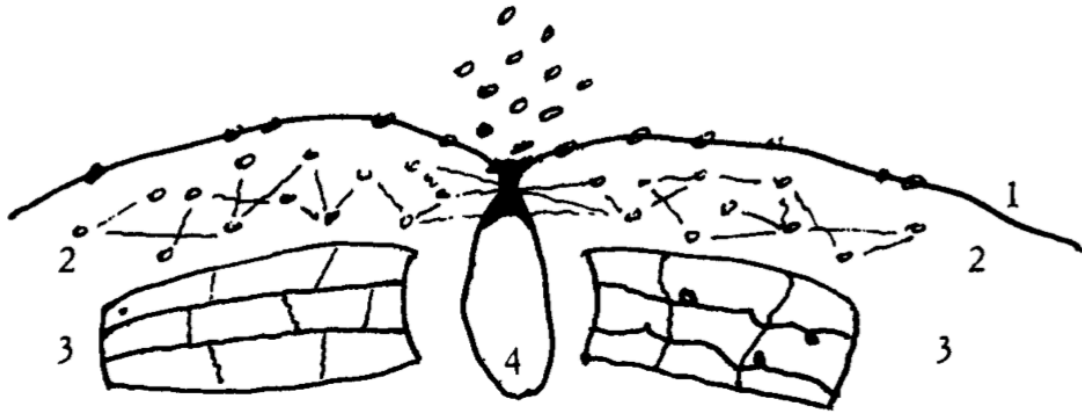


Figure 3. Deleuze’s depiction of Foucault’s assemblage. In our single common language, 1 is the surface connecting power and chaos, 2 denotes power, 3 denotes knowledge (with two sides, content and expression), and 4 denotes subjects. From *Foucault* (p. 120), by G. Deleuze, 1988, Minneapolis, MN: University of Minnesota Press. Copyright 1988 by the University of Minnesota Press.

Knowledge

Within assemblage theory, knowledge is comprised of contents and expressions in discontinuous relation. *Content* and *expression* are two additional single common terms central to our definition of assemblage theory. In other terminologies, knowledge relates words and things (Deleuze, 1986/1988), or knowing-in-being (“Knowing is a matter of intra-action,” Barad, 2007, p. 149), or nature and culture (“...with respect to the idea of assemblage, the nature-culture distinction no longer matters.” Deleuze, 2006, p. 179), or the material and discursive (Barad, 2007, p. 148; Foucault, 1978/1990, pp. 155-156). Deleuze (1986/1988) describes the relationship between these as “two irreducible forms of knowledge” (p. 121). Content takes both a form and a substance, as does expression.

Barad describes material and discursive realms but makes clear that this split in terminology does not reflect any separability of these terms in subjects. In order to make this point clear, Barad (2007) diffracts Foucault’s work (which she finds to include only a

Text	Knowledge	Power	Subjects
Deleuze and Guattari (1980/1987), <i>A Thousand Plateaus (ATP)</i>	Concrete assemblage composed of strata (p. 144)	Abstract machine (p. 144) (Undifferentiated: the plane of immanence, p. 266) Diagram (p. 92)	Body (p. 80) Haecceities (p. 261)
Deleuze (1986/1988), <i>Foucault</i>	Concrete assemblage (p. 37) Knowledge (p. 51) Historical formation (p. 51)	Abstract machine (p. 37) Diagram (p. 34) Power (p. 39)	Subjectivation (p. 104)
Foucault (1978/1990), <i>History of Sexuality, Volume 1</i>	Knowledge (p. 98) Truth (pp. 69-70)	Power (pp. 84-85)	Subject (pp. 66, 70, 84-85)
Barad (2007), <i>Meeting the Universe Halfway</i>	Relations-within-Phenomena (p. 140)	Spacetime-matter manifold (p. 246)	Bodies (p. 177) Material-discursive phenomena (p. 153) Exteriority-within-phenomena (p. 140)
Deleuze and Guattari (1991/1994), <i>What is Philosophy?</i>	Concrete assemblage (p. 36) Concepts (p. 36)	Abstract machine (p. 36)	Conceptual personae (pp. 69-73)

Figure 4. Concepts resonant with knowledge, power, and subjects in the works of Barad, Deleuze, Deleuze & Guattari, and Foucault.

token form of the material) with Niels Bohr's work in quantum physics to better account for the production of the material along with the discursive:

Apparatuses are material (re)configuring or discursive practices that produce (and are part of) material phenomena in their becoming. Discursive practices and material phenomena do not stand in a relationship of externality to each other; the material and the discursive are mutually implicated in the dynamics of intra-activity. (p. 184)

On this point, Deleuze and Guattari (1980/1987) and Foucault (1978/1990) are in agreement. However, they detail the conceptual distinction between contents and expressions as a means to map what knowledge enacts—a concrete assemblage for Deleuze and Guattari (1980/1987), knowledge or truth for Foucault (1978/1990; 1980). For Deleuze and Guattari (1980/1987), it is only within knowledge that a real distinction exists between content and expression. Similar to Barad (2007), Deleuze and Guattari (1980/1987) find subjects, the separable units of simple empiricisms, to be only modally distinct, as they are compositions of both content and expression.¹¹

In simple empiricisms, forms and substances are starting points for analysis instead of contents and expressions. Forms here can be understood as “modes of code and decoding,” whereas substance refers to “nothing other than formed matter” (Deleuze & Guattari, 1980/1987, p. 41). In assemblage theory, codes and formed matter are not primary; a method utilizing assemblage theory cannot measure the world as it appears and create “the continuous means to gauge students’ progress toward attaining a quality degree” (Maki, 2017, p. 7). Simple empirical evidence—form and substance—is never pure form and pure substance in assemblage theory, it is always a composition, or

¹¹ Meta marker: this is the location of the entanglement of concepts in a diffraction.

entanglement, of content and expression. Experimentations with assemblage theory instead practice a transcendental empiricism, or a study of the simple empirical in search of contents and expressions (Deleuze, 2001).

Text	Content	Expression
Deleuze and Guattari (1980/1987), <i>ATP</i>	Content (p. 44) Machinic assemblage (that which machines content; p. 88)	Expression (p. 44) Collective assemblage of enunciation (that which enunciates expression; p. 88)
Deleuze (1986/1988), <i>Foucault</i>	Content (p. 47) Words (p. 52) Non-discursive formations (p. 49) System of light (p. 32) Visibility (p. 51)	Expression (p. 47) Things (p. 52) Discursive formations (p. 49) System of language (p. 32) Sayability (p. 47), or statements (p. 51)
Foucault (1978/1990), <i>History of Sexuality, Volume I</i>	Materiality (p. 155)	Discourse (p. 156)
Barad (2007), <i>Meeting the Universe Halfway</i>	Matter (p. 148)	Discursive practices (p. 148)

Figure 5. Concepts resonant with content and expression in the works of Barad, Deleuze, Deleuze & Guattari, and Foucault.

Content. Content loosely describes the material: “it is a *machinic assemblage* of bodies, of actions and passions, an intermingling of bodies reacting to one another” (Deleuze & Guattari, 1980/1987, p. 88). Contents are not simply another way to refer to

the material world; in fact, this is the mistake made of a simple empiricism (Deleuze & Guattari, 1980/1987). To understand the world through assemblage theory, one must look through what at first glance might be understood as a simple separable material substance such as an “individual” student or forms such as programs, interventions, or institutions. Instead, one first looks to knowledge to study their compositions of content and expression, and the power that constructs them as such. Contents “are not defined by sight but are complexes of actions and passions, actions and reactions, multisensorial complexes, which emerge into the light of day” (Deleuze, 1986/1988, p. 59). Contents are not primarily forms (general expressions of a reality) or substances (the thing itself), and they are not simply a state of things. Rather, they are “forms of luminosity which are created by the light itself and allow a thing or object to exist only as a flash, sparkle or shimmer” (Deleuze, 1986/1988, p. 52). In order to assess content, we must “*open up* qualities, things and objects... extract from things and sight the visibilities and ‘self-evidences’ unique to each stratum” (Deleuze, 1986/1988, p. 53). Contents are

invisible so long as we consider only objects, things, or perceptible qualities, and not the conditions which open them up. And if things close up again afterwards, visibilities become hazy or blurred to the point where ‘self-evident’ phenomena cannot be grasped by another age. (Deleuze, 1986/1988, p. 57)

The content of our student success assemblage is data management systems (see Chapter 4 for the opening up of this in the literature, and Chapter 5 for the opening of this at Great State University).

Form of content. The form of content “defines a space of visibility” (Deleuze, 1986/1888, p. 47). Deleuze (1986/1988), in reading Foucault’s work, names the form of

content in *Discipline and Punish* to be the prison, and the form of content in *Madness and Civilization* to be the hospital. Massumi (1992) adds to this list the example of a high school, whose form of content would be the school itself. In what follows, I demonstrate that the form of content of both the student success literature as well as Great State University student success initiative, 25 years after Massumi's writing, is not a school at all, but rather metrics.

Substance of content. The substance of content is the "formed matter" specific to content (Massumi, 1992, p. 25). Deleuze (1986/1988) reads the substance of content in *Discipline and Punish* to be the prisoner. Massumi (1992) reads the substance of content of a high school to be students. Again, set in today's local and national student success assemblages and with a shift of gaze from a high school to a student success initiative (rather than to a university), I demonstrate that in the student success literature as well as at Great State U., the substance of content is the dividual (cf. Deleuze, 1992).

Expression. Expression describes the discursive: "it is a *collective assemblage of enunciation*, of acts and statements, of incorporeal transformations attributed to bodies" (Deleuze & Guattari, 1980/1987, p. 88). Expression is not the sum of utterances; we cannot understand what is expressed by aggregating quotations. We must "*open up* words, phrases, and propositions" (Deleuze, 1986/1988, p. 53) to analyze an expression. Expressions "become readable or sayable only in relation to the conditions which make them so and which constitute their single inscription on an 'enunciative base'... This single inscription, the form of expression, is created from the statement and its conditions..." (Deleuze, 1986/1988, p. 54). In an analysis making use of assemblage theory, statements are not simply processions of quotations or data; "the statement does

remain hidden, but only if we do not rise to its extractive conditions; on the contrary, it is there and says everything as soon as we reach these conditions” (Deleuze, 1996/1988, p. 54). Our analysis of the expression of student success will seek to extract it from the words, phrases, and propositions in which it sits. The expression of our student success assemblage both in the literature and at Great State U. will be cultures of data.

Form of expression. A form of expression is “an order and organization of functions” (Massumi, 1992, p. 25). Deleuze and Guattari (1980/1987) read the form of expression in Foucault’s *Discipline and Punish* to be delinquency, and Deleuze (1986/1988) read the form of expression in Foucault’s *Madness and Civilization* to be medicine. Massumi (1992) reads the form of expression in high school to be “the complex of administrative rules, laws, and traditions that determine how a school is laid out and what it does” (p. 25). The form of expression in the student success literature and in the Great State U. student success initiative is success.

Substance of expression. The substance of expression is the “formed matter” specific to expression (Massumi, 1992, p. 25). These are the statements of delinquency in *Discipline and Punish* (Deleuze, 1986/1988), or in the high school, “the phonemes and letters embodying” the “complex of administrative rules, laws, and traditions...” (Massumi, 1992, p. 25). The formed matter of the statements of success in the student success literature and at Great State U. are statements of success, or solutions.

Intermezzo: Relations of Knowledge and Power

According to Buchanan (2017), an assemblage functions to yoke together the otherwise discontinuous relationship between content and expression. I agree, as noted above. Buchanan (2017) says two additional items of interest: that he was limited from a

more in-depth discussion of the abstract machine (power) in this article, and that genealogy is contrary to an assemblage theory constructed through the primary works of Deleuze and Guattari. In what follows, I make the point that it is in considering the role of power in relation to knowledge that the utility of genealogy becomes apparent. Genealogy is a means to account for power, and in order to appreciate power's possibilities in creating new power/knowledge formations, it is useful to study power across historical formations of knowledge. Buchanan's (2017) objection to genealogy is lodged in the incompatibility of history and assemblage theory. However, genealogy is not a tool of exploring a linear history, but rather a tool to explore discontinuous historical formations—shifts in knowledge that are shifts in power/knowledge. In fact, our diffraction of assemblage theories with Barad (2007) assists in this reading, as she reads Foucault (through Bohr) in the same way: “what is needed are genealogies of the material-discursive apparatuses of production [knowledge] that take account of the intra-active topological dynamics that iteratively reconfigure the spacetime-matter manifold [power]” (p. 246). Whereas an analysis of knowledge yokes together content and expression, genealogy yokes together power and knowledge, and in doing so completes a map of the territory of an assemblage.¹²

Power

Power produces relations that form a territory, or the conditions under which knowledge is produced. Power is the motor of re/territorialization. On this point, our theorists agree. What then are the differences that matter? For Deleuze (2006) and Deleuze and Guattari (1980/1987), Foucault's readings of power are incomplete descriptions of the abstract machine. The abstract machine is the motor that produces all

¹² Meta-marker: To map in this manner is to diffract.

relations of an assemblage, those that produce patterns of connections of knowledge and those that move in alternate directions. In a letter to Foucault after the publication of *Discipline and Punish*, Deleuze (2006) explicitly reads this more capacious theorization of power into Foucault's argument:

This thesis about power arrangements [in *Discipline and Punish*], I believed, was moving in two directions that were not at all contradictory, and yet distinct. In any case, these arrangements could not be reduced to a State apparatus. In one direction, they made up a diffused, heterogeneous multiplicity or micro-arrangements. In another direction, they referred to a diagram, a sort of abstract machine immanent to the whole social field... [In *History of Sexuality, Volume I*] they are no longer content to form bodies of knowledge, they constitute truth (the truth of power). (pp. 122-123)

For Barad (2007), power is a special case of an assemblage. Power is the assemblage at the threshold of the spacetime matter manifold that can re/form itself as is or mutate in contact with knowledge. For all of our theorists, power is not possessed, power is exercised, it is "less a property than a strategy" (Deleuze, 1986/1988, p. 25). Power relations are "*relations between force and force*," relations that establish themselves "wherever included features, however tiny, are to be found: relations between forces such as 'boundary disputes, quarrels between parents and children, domestic tiffs, drunkenness and debauchery, public squabbles and a load of secret affairs'" (Deleuze, 1986/1988, p. 28, emphasis in original). Thus, analyses of power begin "with the techniques and tactics of domination" (Foucault, 1978/2003, p. 34). Power is an aspect of an assemblage that is in relationship with, but irreducible to, knowledge; "between techniques of knowledge

and strategies of power, there is no exteriority, even if they have specific roles and are linked together on the basis of their difference” (Foucault, 1978/1990, p. 98). Power and knowledge exist in a relationship of discontinuity, and their intra-actions immanently re/form an assemblage. In our assemblage theory, we will read power as both giving form to knowledge as it is and creating paths for the formation of new territories of knowledge. This reading explicitly conforms with Deleuze and Guattari (1980/1987), Deleuze (1986/1988), and Barad (2007), and draws on what is stated and implied in Foucault’s lengthy theorization of power in *History of Sexuality, Volume 1*. In this work, Foucault (1978/1990) claims power

must be understood in the first instance as the multiplicity of force relations immanent in the sphere in which they operate and which constitute their own organization; as the process which, through ceaseless struggles and confrontations, transforms, strengthens, or reverses them; as the support which these force relations find in one another, thus forming a chain or system, or on the contrary, the disjunctions and contradictions which isolate them from other another; and lastly, as the strategies in which they take effect, whose general design or institutional crystallization is embodied in the state apparatus, in the formulation of the law, in the various social hegemonies. (pp. 92-93)

Through this articulation of power, the potential of assemblage theory to intervene in the political takes shape, a political we will track throughout this section and into the next intermezzo. In using power throughout this study, I play with a few of the jagged edges of power that emerge from our theorists: power is abstract, power shapes knowledge, and power defines the boundary between the assemblage and chaos.

Power is abstract. The first aspect of power as understood in assemblage theory is that it is abstract—we must surmise it, palpate it (cf. Mol, 2002), as it does not appear in a measurable form. This is the direct utility of the word *abstract* in Deleuze and Guattari’s naming of power, the abstract machine. Unlike knowledge, the concrete machine that shapes words and things, power shapes knowledge, which shapes words and things; “...power is rethought in its overall materializing potential” (Barad, 2007, p. 230). Power contains nothing concrete of its own; it is the “...aspect or moment at which nothing but functions or matters remain. A diagram has neither substance nor form, neither content nor expression” (Deleuze & Guattari, 1980/1987, p. 141). In this definition, power’s separation from knowledge (content plus expression, each containing both form and substance) is made clear. Deleuze (1986/1988) makes this point crystal clear: power “is a pure function, that is to say a non-formalized function, independent of the concrete forms it assumes, the aims it serves and the means it employs...” (p. 72). Not only is power abstract, power is also non-representational; power does not represent or mirror knowledge. Instead, power is productive; power shapes knowledge relations:

The diagrammatic or abstract machine does not function to represent, even something real, but rather constructs a real that has yet to come, a new type of reality. Thus when it constitutes points of creation or potentiality it does not stand outside of history but is instead always ‘prior to’ history. (Deleuze & Guattari, 1980/1987, p. 142)

It is this relationship of power to knowledge—power linked to but not a mirror of knowledge—that makes it productive of the forms and substances of content and expression: “But precisely because it does not itself speak and see, it makes us see and

speak” (Deleuze, 1986/1988, p. 82). From this perspective, any analysis that seeks to be politically just through inclusion of many different forms and substances again takes a self-limiting starting point:

I want to emphasize in the strongest terms possible that it would be a mistake to think that the main point is simply a question of whether or not gender, race, sexuality, and other social variables are included in one’s analysis. The issue is not simply a matter of inclusion. The main point has to do with power. How is power understood? How are the social and political theorized? (Barad, 2007, p. 58; see also Puar, 2012)

Rich analysis does not begin from an arithmetic of simple empirical difference, but rather from the forces which produce differences we take as evident to count.

Power shapes knowledge. If power is not a mirror of knowledge, what is the nature of their relation? Yes, power is the abstract spacetime-matter manifold that gives shape to the conditions under which we consider concepts to be true and false, as well as the conditions under which subjects materialize. It is an abstraction that shapes the possibilities of what we see and say—but how? As content is yoked to expression, each shaping each other without fully determining each other, so power is yoked to knowledge. Power shapes knowledge without determining it, and past this, there is no possible equation or algorithm¹³ of their relationship. To understand their relationship, we must enter into a continuous experimentation and exploration of their contours. This is

¹³ Algorithm is defined later by and through the student success literature (Chapter 4: *Undergraduate Education as Data-Driven Control*). An intriguing definition of algorithm to think with for now, especially in relation to our review of the student success literature in Chapter 2, comes from media studies: “...in the broadest sense, [algorithms] are encoded procedures for transforming input data into a desired output, based on specified calculations” (Gillespie, 2014, p. 167).

the sense in which Barad (2007) calls for an understanding of knowledge (material-discursive practices) in relation to power (spacetime matter):

What we need is an understanding of the material-discursive practices [knowledge] by which these connections [of assemblages] are formed and reformed, not in space and time but in the very configuring and reconfiguring of spacetime matter [power]. In particular, the responsible practice of science requires a rich genealogical accounting of the entangled apparatuses or practices that produce particular phenomena. (p. 390)

It must also be said that just as power shapes knowledge, knowledge shapes power. For Deleuze (1986/1988), “this is the essential point: if power relations imply relations of knowledge, the latter also presuppose the former” (p. 83). Power and knowledge make each other and are related without being the same or being in a static relationship. A map of an assemblage consists of power and knowledge. This is the focus of Barad’s (2007) philosophy of agential realism: analyses of the ways in which subjects re/form knowledge (knowing and being), and knowledge re/forms power (the topology of spacetime matter, the spacetime manifold):

The topological dynamics of space, time, and matter [power] are an agential matter and as such require an ethics of knowing and being [knowledge]: interactions have the potential to do more than participate in the constitution of the geometries of power; they open up possibilities for changes in its topology and dynamics, and as such, interventions in the manifold possibilities made available reconfigure both what will be and what will be possible. The space of possibilities does not represent a fixed event horizon within which the social location of

knowers can be mapped, nor does it represent a homogenous, fixed, uniform container of choices. Rather, the dynamics of the spacetime manifold are iteratively reworked through the inexhaustible liveliness of the manifold's material configuration, that is, the ongoing dance of agency immanent in its material configuration. (p. 246)

We will return to agency within an assemblage in our discussion of subjects below.

Power defines the boundary between the assemblage and chaos. For Deleuze and Guattari (1980/1987), power can be understood to operate on knowledge to open knowledge to something other than itself. Power creates difference within knowledge, power opens knowledge to “assemblages of another type, the molecular, the cosmic; they constitute becomings” (Deleuze & Guattari, 1980/1987, p. 510). Power relates to knowledge as well as to an absolute outside of all assemblages, an outside we can never reach. Deleuze and Guattari (1980/1987) call this outside a pure undifferentiated abstract machine, or the plane of immanence. In keeping with Deleuze and Guattari (1991/1994), we will call this chaos. For Deleuze and Guattari (1980/1987), an analysis making use of assemblage theory “is not only a qualitative analysis of abstract machines [power] in relation to the [concrete] assemblages [knowledge], but also a quantitative analysis of the assemblages in relation to a presumably pure abstract machine [chaos]” (p. 513). Deleuze and Guattari (1972/2009; 1980/1987) name several forms of power, as does Deleuze (1992) alone, as does Foucault (1975/1995; 1978/1990). These forms of power differ not “on a quantitative scale measuring how close or far they are from [chaos]” (Deleuze and Guattari, 1980/1987, p. 514), but rather in their qualities as shaped in relation to knowledge and chaos. These categories of power, such as disciplinary power (Deleuze,

1992; Foucault, 1975/1995), biopower (Foucault, 1978/1990), and societies of control (Deleuze, 1992), should be read as the products of assemblage analysis, not as tenets of assemblage theory.¹⁴ The analysis of power/knowledge formations in the higher education literature (Chapter 4) makes use of this guidance. Chapter 4 undertakes a genealogy in search of the qualities of power in relation to student success in the literature and at Great State University. Chapter 4's findings in relation to power overlap in many ways with the findings of our theorists, yet these findings are specific to AHE's historical formations. In AHE currently as it relates to student success, power is data-driven control. Chapter 4, in taking a long view of the student success assemblage, is positioned to analyze the special case of the relations of power, "themselves based on particular features that vary according to each age" (Deleuze, 1986/1988, p. 114). Chapter 5, a study of one recent academic year at Great State University, uses the findings of power in this age and studies the concurrent re/creations of knowledge, "determined by [content and expression] at any moment" (Deleuze, 1986/1988, p. 114), as well as subjects. In this focus on the contours of knowledge and subjects produced within the GSU student success assemblage, Chapter 5 explores the ways in which data-driven control might come into contact with chaos such that becoming, or liberal education, becomes possible.

Intermezzo: Relations of Power and Knowledge

We return to our intra-action, or yokings, first between contents and expression (knowledge), now to include knowledge and power (the assemblage). The former intra-action produces truth, whereas the latter intra-action produces an assemblage, or truth "...linked in a circular relation with systems of power which produce and sustain it, and

¹⁴ cf. Koopman, 2013 on "biopower-hunting," pp. 6-7.

to effects of power which it induces and which extend it” (Foucault, 1980, p. 133). This for Foucault (1980) opens up the space of the political:

The problem is not changing people’s consciousness—or what’s in their heads—but the political, economic, institutional regime of the production of truth. It’s not a matter of emancipating truth from every system of power (which would be a chimera, for truth is already power) but of detaching the power of truth from the forms of hegemony, social, economic and cultural, within which it operates at the present time. The political question, to sum up, is not error, illusion, alienated consciousness or dialog; it is truth itself. (p. 133)

The political utility of assemblage theory is in this very mapping of truth to power.

Subjects: “Life Within the Folds”¹⁵

This leads us back to questions of agency and of subjects, and of another utility of diffracting Barad into assemblage theory. Again, for all of our theorists, there is no real distinction between subjects, only of content and expression, both of which are entangled within subjects: “In my agential realist elaboration, phenomena do not merely mark the epistemological inseparability of observer and observed, or the results of measurements; rather, *phenomena* are *the ontological* inseparability of agentially intra-acting components” (Barad, 2007, p. 33). This intra-action of the actual includes bodies of all sorts, even human bodies, you and I. Assemblage theory tells us there is no real distinction between you and I, or other bodies; we exist in entangled relations of power and knowledge. As such, assemblage theories leave us with no self-apparent individual human to measure. This is what places assemblage theory within the realm of the posthuman: “My posthumanist account calls into question the givenness of the

¹⁵ Deleuze (1986/1988), p. 123.

differential categories of human and nonhuman, examining practices through which these differential boundaries are stabilized and destabilized” (Barad, 2007, p. 66). This ontological inseparability calls out for specific interrogation in education where individuated human bodies are of primary importance, in research that takes to heart the ethics of feminist, queer, Black and of color research that gendered, sexed, raced, and placed bodies are the site of differentiated violence and pleasure, and in our larger historical formation, where bodies are made to matter every day. Bodies are also not made to matter every day, as in the example of the unintelligibility of systemic forms of oppression, such as systemic racism, when its effects are real but not, in current American politics, as they do not measurably cohere to bodies. This is the entanglement of ethics within assemblage theory, or Barad’s (2007) “ethico-onto-epistemology—an appreciation of the intertwining of ethics, knowing, and being” (p. 185), and the site of her dissatisfaction with Foucault: “for all of Foucault’s emphasis on the political anatomy of disciplinary power, he fails to offer an account of the body’s historicity in which its very materiality plays an *active* role in the workings of power” (p. 65). Foucault gives us the tools to do this but deploys them differently than Barad. The analysis of the role of subjects in assemblage theory that follows honors and sidesteps the deep scientificity that Barad brings, but in its own way envelops one of Barad’s (2007) central theses: it accounts for marks on bodies. This diffraction of assemblage theory places subjects as a category on the level of knowledge and power for just this reason. In what ways do assemblages re/form subjects, human, nonhuman, and otherwise?

All of our theorists account for subjects as intra-actively produced by, entangled in, and inseparable from assemblages. For Deleuze and Guattari, this is evident at the

level of content and expression. Expression is never the action of a separable body; “There is no individual enunciation. There is not even a subject of enunciation” (Deleuze & Guattari, 1980/1987, p. 79). Deleuze (2006) states this even more directly: “There is no expressing subject, i.e. subject of utterance, but only assemblages. This means that, in any assemblage, there exist ‘processes of subjectivation’ which assign various subjects: some are images, and some are signs” (Deleuze, 2006, p. 201). For Deleuze, Guattari, and Foucault, just as there is no individual subject who speaks, there is no individual embodied subject. Real distinctions—separability—for Deleuze and Guattari (1980/1987) occur between content and expression, not form and substance, as there is a substance (subject) of both content and expression. Barad (2007) thoroughly engages with this point: “...human bodies, like all other bodies, are not entities with inherent boundaries and properties but phenomena that acquire specific boundaries and properties through the open-ended dynamics of intra-activity. Humans are part of the world-body space in its dynamic structuration” (p. 172). This, in Deleuze’s (1986/1988) reading of Foucault, is “life within the folds” (p. 123): this is the production of subjects through the enfolding of the assemblage (see *Figure 3*). These folds are Barad’s (2007) agential separability: modal rather than real distinctions, the assemblage enacting “an agential cut—a resolution of the ontological indeterminacy—*within* the phenomenon, and *agential separability—the agentially enacted material condition of exteriority-within-phenomena—provides the condition for the possibility of objectivity*” (p. 175). As subjects are only modally, not really, distinct in assemblage theory, so is agency. There is no possibility of a radically responsible individual person, because no person can be individuated as such. It follows that “‘distinct’ agencies are only distinct in a relational,

not an absolute, sense, that is, *agencies are only distinct in relation to their mutual entanglement; they don't exist as individual elements*" (Barad, 2007, p. 33). This brings us to the last tenet of assemblage theory we will explore here: with no individual subjects independent of power/knowledge relations, in what ways can entangled subjects *impact* change?

Impact in the assemblage. Central to later chapters is the notion of impact, a Student Success Arithmetic. Impact is a quantitative accounting of the measurable change in individual students produced by an individual initiative, or an individual university representative. This sentence, one with a common sense understanding in the literature and in practice (cf. Astin, 1970a, 1970b), is non-sense (Deleuze, 1968/1994) in assemblage theory. A Student Success Arithmetic becomes possible within specific historical formations that individuate inputs, environments, and outputs such that an arithmetic can be performed. In assemblage theory, the common sense of impact is not foundational, but rather a function of an assemblage of power/knowledge.

This begs the question: what hope is there in assemblage theory if we ("individuated" humans) are not able to act separately to change the things that matter (power and knowledge), as they are beyond words and things and outside of our immediate reach? Deleuze (1986/1988) frames this question through the work of Foucault in the following way:

If power is constitutive of truth, how can we conceive of a 'power of truth' which would no longer be the truth of power, a truth that would release transversal lines

of resistance and not integral lines of power? How can we ‘cross the line¹⁶?’ (pp. 94-95)

How can we shift the orientation of power—how can we “tip the assemblage” (Deleuze & Guattari, 1980/1987, p. 161) toward power’s surface with chaos, and in doing so, open new possibilities of thought (Deleuze, 1986/1988), or becomings (Deleuze & Guattari, 1980/1987)—or in the language of higher education as read through assemblage theory, liberal education? Barad (2007) also names this need to be “...a politics of possibilities (Gilmore): ways of responsibly imagining and intervening in the configurations of power, that is, intra-actively reconfiguring spacetime-matter” (p. 246). The political question of a simple empiricism and of our current assemblage of power/knowledge is *how do we account for impact?* The political question of assemblage theory is *if we lack traditional individualized agency, how can we facilitate our own becomings?* Our theorists give us a few hints at such a process, but because our determination is an immanent re/composition of power and knowledge, there is no formula for becoming, there is no arithmetic or analytic here that can provide a solution; “the error we must guard against is to believe that there is a kind of logical order to this string, these crossings or transformations” (Deleuze & Guattari, 1980/1987, p. 250). For Deleuze and Guattari (1972/2009; 1980/1987), whatever solution to be had comes in mapping the assemblage, the only way to dismantle assemblages and create them anew is through mapping, or experimentation. For Barad (2007), “agency is about changing [the] possibilities of change entailed” in assemblages of power/knowledge (p. 178). As entangled subjects in assemblage theory, we do not have the capacity for radically individuated agency that is common sense with

¹⁶ As a reminder, *the line* referred to here is the surface between power and chaos. See *Figure 3*.

particular formations of power, but we can work to change the conditions that produce our possibilities. These changes we participate in, agential cuts or folds,

matter. Indeed, ethics cannot be about responding to the other as if the other is the radical outside to the self. Ethics is not a geometrical calculation; ‘others’ are never very far from ‘us’; ‘they’ and ‘we’ are co-constituted and entangled through the very cuts ‘we’ help to enact. Intra-actions cut ‘things’ together and apart. Cuts are not enacted from the outside, nor are they ever enacted once and for all.

(Barad, 2007, pp. 178-179)

It is from this diffraction of assemblage theory that we launch into our own experimentations with the contours of a molecular sociology.

A Molecular Sociology: For A Different Social

A molecular sociology is an experimentation with assemblage theory, one experimentation among infinite possibilities. If there is a prescription embedded within assemblage theory it is only experimentation:

Schizoanalysis, or pragmatics, has no other meaning: Make a rhizome. But you don’t know what you can make a rhizome with, you don’t know which subterranean stem is effectively going to make a rhizome, or enter a becoming, people your desert. So experiment. (Deleuze & Guattari, 1980/1987, p. 251)

This molecular sociology seeks to put student success “on the map” of the assemblage - of power/knowledge/subjects - in a way that is consistent with our diffracted assemblage theory. In doing so, we explore the social field as that from which all that is within student success is machined rather than construct student success from not-so-self-evident components in the vein of a Student Success Arithmetic (cf. Keeling, 2006). The

paradox that the social field of assemblage theory presents us is of a student success without students. The goal of a molecular sociology is to seek the conditions that produce the molar, or the simple empirical, including students, such that we can explore how we might re/make our social world. A molecular sociology is an exploration in worlding (cf. Massumi, 2002, p. 152). The mapping that follows is as Braidotti (2011a) describes - akin to a weather map, always in motion, imperfect in its static representation here. The particular focus of this molecular sociology, in addition to its mapping of the assemblage of student success, is on the exploration of the assemblage through four related concepts: real distinctions, orientation, hauntings, and liberal education—or becoming. I discussed the real distinctions possible within assemblage theory in the previous chapter. In short, no self-evidently distinct, bounded, and measurable body we perceive is really distinct from any other; all matter is formed of content and expression, form and substance. This is our primary concept, it is the focus of this naming—this is a molecular sociology, a sociology premised on entanglement, on a transcendental empiricism.

From this transcendental empiricism, three additional categories follow. I will explore each of these in turn in this chapter. Here I give a brief overview. First, we explore a transcendental take on Sara Ahmed's (2006) concept of orientation. She explores orientation through a practice she names a queer phenomenology. For our purposes, phenomenology operates at the level of the simple empirical (Deleuze, 1986/1988). As such, we will queer Ahmed's queer phenomenology, and use her writing to introduce a queer molecular sociology. We do so through exploring the molecular through a queered orientation and making use of paradox as a means of re/orientating. Second, we explore hauntings, or time within the assemblage. Time is another concept

that, in its usual linear connotation, is the product of an assemblage, not prior to it. Barad (2007) specifically gestures to this in her naming of power as the space-time manifold. The term *hauntings* comes from the work of Jacques Derrida, though here we will explore it through the works of Barad (2010) as well as Ezekiel Dixon-Román (2017). Third, we explore the concept that gives the primary reason for studying student success through assemblage theory and a molecular sociology in the first place: liberal education. Here, we re-define liberal education in the language of becoming. In doing so, we lean on the works of Deleuze (1969/1990), Deleuze and Guattari (1980/1987) and Rosi Braidotti (2011b).

Orientation: Towards What Does Our Social Tip?

In our review of assemblage theory in the last section, we briefly covered power's role in forming the boundary between the assemblage and chaos. Here, we explore the implications of this. If power produces us in its image through determining the connections between content and expression, then power (through Deleuze and Guattari's separate naming of this, the abstract machine) can also show gaps, fissures in which new patterns of connections can be made. These fissures, or the interstices of power, are an effect of a power whose orientation is shifting toward chaos. Deleuze and Guattari (1980/1987) talk about the need to tip the assemblage toward chaos, a notion explored with liberal education later. Here, we discuss this need in terms of orientations.

Sara Ahmed (2006) explores orientation as a key notion for phenomenology, one that explores how what is at hand is shaped, thus showing "how 'orientations' depend on taking points of view as given" (p. 14). To consider orientation is to consider the making-straight or making-sensible of what is given, as well as to consider "the constitution of a

field of unreachable objects” (Ahmed, 2006, p. 15). To practice a queer phenomenology is thus to “form new patterns and new ways of making sense” (Ahmed, 2006, p. 171). Here, we practice a queer molecular sociology, a practice that asks us to account for orientations (the territories of power/knowledge) as well as disorientations (life in the interstices, the opening of power/knowledge to chaos, possibilities for worldmaking). This is an adaptation of Ahmed’s focus on objects (in an unexamined phenomenology, a phenomenology that does not consider orientation, this focus on objects would be a simple empiricism, or a molar sociology) to a focus on power and knowledge, that which shapes subjects as such. *What are the subjects of the university, in what ways do they become visible and sayable, and how might we create them anew?* To consider the orientation of the assemblage is to map its territory, and to what it orients. Such a map accounts for orientations of race (racializing assemblages; Weheliye, 2014), capital (neoliberal assemblages; Foucault, 1979/2008; Melamed, 2011; Moore, 2015), subjection (sovereign assemblages; Foucault, 1975/1995), and so on. To account for the orientation of assemblages is the function of a genealogy, the subject of Chapter 4. Chapter 4 also begins to account for the queer, that which is disorienting to a system of power/knowledge that becomes the orientation of a power/knowledge to come. Chapter 5 takes on this task in the social field of the first year of Great State U.’s student success initiative.

If a queer phenomenology asks us to orientate towards queer objects, a queer assemblage theory asks us to orientate towards queer concepts, concepts that are disorientation devices, that allow “the oblique to open up another angle on the world” (Ahmed, 2006, p. 172). Chapter 5 takes up paradox as this queer concept. Paradox

disorientates us from established territories of power/knowledge and queers our gaze towards its interstices, towards chaos (the ultimate disorientation). Queer objects “support proximity between those who are supposed to live on parallel lines, *as points that should not meet*. A queer object hence makes content possible” (Ahmed, 2006, p. 169, emphasis in original). Paradox, as a queer concept, does this same work in a transcendental empiricism: it connects concepts that in a formal understanding run in parallel, it “breaks up the common exercise of the faculties” (Deleuze, 1968/1994, p. 227). Paradoxes “always have the characteristic of going in both directions at once, and of rendering identification impossible” (Deleuze, 1969/1990, p. 75). Paradox is a queer device, a concept that brings together concepts that do not meet in space-time (Deleuze, 1969/1990). In fact, Deleuze (1969/1990) discusses paradox as in opposition “to the oriented line of the present,” (p. 77) a direct connection of Ahmed’s empirical to the transcendental. Paradox forms the structure of the results of our study of Great State University’s student success initiative.

A queer dis/orientation fits assemblage theory so well in part because our theorists have related ways of discussing this idea. To take orientation seriously is also to say that we need to center cartographic processes (Deleuze & Guattari, 1980/1987). To take orientation for granted is resonant with Foucault’s (1980) caution against taking truth for granted, and his call, in his language, for queer disorientations:

The essential problem of the intellectual is not to criticize the ideological contents supposedly linked to science, or to ensure that his own scientific practice is accompanied by a correct ideology, but that of ascertaining the possibility of constitution a new politics of truth. (p. 133)

It is also to say that “*practices of knowing are specific material engagements that participate in (re)configuring the world...* Making knowledge is not simply about making facts but about making worlds, or rather, it is about making specific worldly configurations...” (Barad, 2007, p. 91, emphasis in original). To lean on orientation here is to use a slightly different conception of difference-making such that other practices of difference become possible. It is to bring in an explicitly queer way of knowing/being to bear on our mapping, and in doing so perform the very work of a cartography: to foster connections between fields, the removal of blockages on [assemblages], the maximum opening of [assemblages] onto a plane of consistency... The map is open and connectable in all of its dimensions; it is detachable, reversible, susceptible to constant modification. It can be torn, reversed, adapted to any kind of mounting, reworked by an individual, group, or social formation. It can be drawn on a wall, conceived of as a work of art, constructed as a political action or as a meditation. (Deleuze & Guattari, 1980/1987, p. 12)

Ahmed (2006) connects with just this point: “Queer becomes a matter of how things appear, how they gather, how they perform, to create the edges of spaces and world” (p. 167). In working with orientations, we connect a queer dis/orientation to our diffracted assemblage theory, both a political action as well as a working towards a maximum number of connections, a dis/orientation to embodied objects and experiences that carry the potential of creating new worlds.

Hauntings: Time in the Assemblage

Time is but another subject that is made in assemblages. The ordering of the chronological time of our present is one such creation. To take seriously the idea of the

social as productive on all levels, of all dimensions, time deserves scrutiny. In this particular molecular sociology, time begs and pleads for scrutiny, as it is an essential function of our field site: student success at Great State U. Is defined as a first-order function of time. A successful student is one who, coming in as a first-time full-time freshman, graduates in four years (plus the trailing summer if needed). Success is a function of time. In Chapter 5, we bear witness to the creation of that time, using the notion of hauntings as one of many devices to think through.

Haunting is, Baradian (2010) terms that plug into Ahmed, a dis/orienting experience of the dis/jointedness of time and space, entanglements of here and there, now and then, that is, a ghostly sense of dis/continuity, a *quantum dis/continuity*. There is no overarching sense of temporality, of continuity, in place... [objects] never rest, but are reconfigured within, dispersed across, and threaded through one another. The how is that what comes across in this dis/jointed movement is a felt sense of différance, of *intra-activity*, of *agential separability—differentiating that cut together/apart—that is the hauntological nature of quantum entanglements*. (pp. 240-241, emphasis in original)

Haunting gestures toward not just the presence of the past and future in the present, but the entangled presence of content and expression in all subjects, an ontological inseparability. Our modal distinction in matter and time allows for no simple empirical solution: “How can we understand this ‘collapse’—or rather, resolution—of an ontological/hauntological indeterminacy into a determinate state? Not by following Schrödinger’s equation. Perhaps not by any calculable means whatsoever” (Barad, 2010,

p. 251). Objects are never ‘mere objects,’ or measurable and determinate subjects knowable through simple empiricisms. The resolution of concepts into distinct and bounded entities (for example, student, or 4 years plus summer) always leaves a constituent excess, as “concepts are indeterminate outside of the appropriate material conditions needed to make them intelligible... contingent determination of the meaning of any concept necessarily entails constitutive exclusions. Every concept is haunted by its mutually constituted excluded other” (Barad, 2010, p. 253). Reworked with Deleuzian (1968/1994) language, hauntings represent the presence of both actual subjects and virtual hauntings in the real of the social field. Hauntings are a byproduct of our entanglement; to accept entanglement is to accept haunting.

What haunting does in a molecular sociology is to foreground that the heterogeneous elements in any assemblage are heterogeneous in relation to linear time as well—they exist as molecular, prior to linear time, and are made linear through the interaction of power and knowledge, the making-determinate of the world. Ezekiel Dixon-Román (2017) extends this to the social sciences, pointing out that to understand the social field through assemblage theory is to also understand the data of scientific studies to be haunted as well, constituted by the determinate, measurable substances of their study and their excesses.

Haunting is a function of every assemblage. We will explore haunting especially in relation to the student success initiative at Great State University, as again, its definition of a successful student—a first time, full time student who graduates in four years, plus the trailing summer if needed—makes its entanglement with time quite clear. The future haunts every present of the initiative, as it is that which needs to be controlled.

The past haunts every present as well, in many ways, including the past of past students (whose data is used to benchmark current students and build success metrics), past faculty, staff and administrators, caught in an endless cycle of continuous improvement... but let's not get ahead of ourselves. We will explore this in much greater depth in Chapter 5.

Liberal Education, Re/defined: Becoming

This brings us all the way back to liberal education. We are now in a place where we can further explore this term. Liberal education, as you remember from Chapter 1, is defined by the AAC&U as:

an approach to learning that empowers individuals and prepares them to deal with complexity, diversity, and change. It provides students with broad knowledge of the wider world (e.g. science, culture, and society) as well as in-depth study in a specific area of interest. A liberal education helps students develop a sense of social responsibility, as well as strong and transferable intellectual and practical skills such as communication, analytical and problem-solving skills, and a demonstrated ability to apply knowledge and skills in real-world settings. (LEAP 2018b, para. 1, emphasis added)

We discussed the suitability of most of this definition for our purposes and the unsuitability of the last clause, and this last clause's link to the actualization of liberal education by the AAC&U. The AAC&U, through its long-running LEAP (Liberal Education and America's Promise) Initiative, puts this definition of liberal education to work through an emphasis on programs organized to meet their list of "Essential Learning Outcomes," their definable and measurable products of a liberal education

(LEAP, 2018e). Progress toward these Essential Learning Outcomes can be tracked and measured through associated rubrics (LEAP, 2018f). In the language we have developed in this chapter, the beginning of this definition presents liberal education as the development of knowledge as defined in assemblage theory, as indeterminate, as content plus expression. The last clause of this definition, and the AAC&U's following actions for the development of liberal education, are orientated by power, specifically power as data-driven control, a power whose development we explore in Chapter 4 and study in action in Chapter 5. In this study, we seek out a student success at the surface of power and chaos, a liberal education of the indeterminate, or becoming-indeterminate, the two-way movement of education between power and chaos, forever immanently reshaping its contours, forever expanding the conditions of possibility for new subjects, new futures, and new forms of power. This is a student success that is productive of queer dis/orientations, or Braidotti's (2011b) radical relationality. These wide-open futures are what the language of student success gestures towards. This expansive operationalization of liberal education produces the constituent excess of a student success defined as graduation. Thus, we now have a way to speak of student success through assemblage theory. The territory of student success—determined relations of knowledge and power producing determinate subjects—is typically made manifest in student success defined as retention, completion, attainment of learning outcomes or other forms of Student Success Arithmetic that calculate success. The queer dis/orientation of student success—its hauntings of excess—is a student success of liberal education, when liberal education is defined as becoming.

Becoming, our final concept of our molecular sociology, is simply put as being-in-paradox, a paradox itself as paradoxes elide being as an impossible and necessary condition. This movement is what Deleuze (1969/1990) names the essence of becoming: “to move and pull in both directions at once” (p. 1). Whereas a Student Success Arithmetic is characterized by a continual search for a located composition of success, or in our times what we often refer to as a metric, becoming is produced when subjects “subtract and place in variation, remove and place in variation: a single operation... The problem is not the distinction between major and minor language [or molar and molecular sociology]; it is one of becoming” (Deleuze & Guattari, 1980/1987, p. 104). Becoming is produced “...by following the border, or skirting the surface, that one passes from bodies to the incorporeal” (Deleuze, 1969/1990, p. 10). Becoming produces the chance to create the future differently, or in the AAC&U’s words, an approach that prepares individuals to deal with complexity. The catch is that assemblage theory deems the individual to be content or expression (the only location of a real distinction) rather than a body of any sort. Students and other university persons are entangled with subjects everywhere and across time. Thus, liberal education as becoming cannot be thought of as measurably attained by any individual student as a function of a measurable time. Becomings are collective, becomings are entangled with time, becomings move and pull from the direction of power and of chaos; becoming, or liberal education, is produced along the surface between power and chaos. This surface is where we locate liberal education, what we define here as the excess of Student Success Arithmetic. Liberal education as becoming gives us the tools to explore the vision of student success that its naming implies: success in excess of measurement, or a success as indeterminate.

Whereas Student Success Arithmetic, or molar sociologies, or simple empiricisms are explorations of the determinate, a student success explored through this operationalization of liberal education, or a molecular sociology, or a transcendental empiricism is an exploration of the indeterminate. The goal of this molecular sociology of the student success literature and of a field site of student success is to explore the moments when subjects

gently tip the assemblage, making it pass over to the side of [chaos]. It is only there that the [assemblage] reveals itself for what it is: connection of desires, conjunction of flows, continuum of intensities. You have constructed your own little machine, ready when needed to be plugged into other collective machines. (Deleuze and Guattari, 1980/1987, p. 161)

At a metacritical level, this mapping process is also a little machine that is ready when needed for university subjects looking to tip student success assemblages away from Student Success Arithmetics and toward practices that approach the vision of what student success can be. In the words of Stefano Harney and Fred Moten (2013), “we owe it to each other to falsify the institution, to make politics incorrect, to give the lie to our own determination. We owe each other the indeterminate. We owe each other everything” (p. 20). Next, we explore exactly what procedures (without proceduralism, cf. Springgay & Truman, 2018) this obligation to the indeterminate takes in this molecular sociology.

This Molecular Sociology

This study applies assemblage theory and a molecular sociology to its analytic questions in two distinct ways: to map the territories of student success in American

higher education, and to map the territory and moments of escape in the student success assemblage at Great State University.

Analytic Question 1: *What do the orientations of student success in the American higher education literature produce?*

To address my first analytic question, I analyze the source material of my literature review to develop a history of the present of student success (Foucault, 1975/1995, p. 31). I use assemblage theory and molecular sociology as means to explore the territories, or systems of power/knowledge, present within American higher education literature and documentation. Of the components of a molecular sociology, this analytic question engages the first two: what are the orientations of these systems, and what subjects do they produce? To address this analytic question, I do what Buchanan (2017) says cannot be done: I perform an assemblage theory genealogy. In doing so, I destabilize the research base that produces student success as a stable, homogenous object attainable by a radically responsible humanist subject (Wells, Kolek, Williams, & Saunders, 2015). This unity and primacy of individuals is an assemblage of power/knowledge that Chapter 4 explains (Foucault, 1974/2006).

Participants. The archive this analytic question explores takes two different shapes. The main section of this genealogy begins with the first academic literature to study undergraduate students, literature sparked perhaps by William Rainey Harper's (1905) call for the scientific study of the student and realized in the student personnel movement. As such, this section takes as its archive the academic and grey literature of student personnel and higher education. I include a sketch of a genealogy of pre-student personnel/student affairs higher education as well; this sketch opens Chapter 4. The pre-

student personnel archive includes university charters and regulations, speeches, presentations, and letters by college presidents, faculty, and working groups, academic literature, and popular literature related to undergraduate education.

Research procedures. I began work on this section through mining the literature of my literature review for its contents as well as its references. I then snaked around written documents of all kinds, mining references of references as well as taking older complications of historical documents as starting points (cf. Hofstader & Smith, 1961a; 1961b). I looked in general for documents that described the functions or attributes of successful students, or, the visible and sayable of student success. I worked with documents from the beginning of American higher education to the present day. I looked in particular for general descriptions of students, discussions of what constitutes student success, actions students are described as taking, the role of the university vis-à-vis students, and recommendations or action items for university structures relating to students. I also read for disorientations, or deterritorializations, or shifts in knowledge that in our case align with the next moment of power (a quasi-cause of the next moment at best, Deleuze, 1969/1990). These moments of power and disorientation provide food for thought for our search for the molecular in the present, and our search for how present forms of power/knowledge might be made differently. This archival practice is not a science, and my findings are limited by the scope of my searching and thought. I used a simplistic computer filing system to store and sort electronic documents, though quite a number of documents explored here were print books or, in the case of some older speeches and university documents, appeared archived in print books. I developed extensive lists of pertinent quotes in Scrivener and sorted and resorted them as I read

more documents and read more philosophy, more documents and more philosophy, making dis/continuous connections along the way. Several months into this process, I began a Prezi to organize the shape of the territories of the archive I settled upon, making use of the visual nature of this medium as well as its zoomability to make final organizations.¹⁷

Data analysis. Periods of stable and unstable power are demarcated through reading these archives for practices of knowledge and presence of subjects as expressive of power relations which speak them and bring them into the light (cf. Foucault, 1975/1995, p. 194). In other words, I ask of these archives generally, and the quotes I pulled specifically, what does one have to believe in order to take something as reality, and what practices does one undertake on the basis of that taken-for-granted reality? This genealogical excavation also analyzes the differential production of subjects within each assemblage of student success. In doing so, Chapter 4 does not for example claim that the *student of student success* materializes with the stabilization at the dawn of field of student affairs, but rather that at this point, students become legible (Scott, 1998), or “object[s] of knowledge and analysis” (Foucault, 1978/2007, p. 247). Chapter 4 likewise does not claim that students disappear under our present regime wherein the subjects acted upon have shifted from students to dividuals (with students remaining the justification, or “in/dividualization”). Rather, in our current moment, the work of the university is on dividuals, data being one such dividual, and to conceive of our progress in this fashion grants us new avenues through which to explore the conceptions of student success that both fall within and escape this territory.

¹⁷ Thank you to Colin Koopman for suggesting this practice.

Summary. This charting of the territories of student success provides a look at the historical and present-day assemblages of student success in the literature. With this mapping of the national assemblage in hand, we have a few tools to explore local relations of knowledge, power, and subjects. This analytic question functions to shake the study of student success off of its present-day simple empirical foundation. The next analytic question provides details that a local site can better supply, including a window on life at the surface of power and chaos. In this, we find cues for a provisional way forward in service of an expansive student success.

Analytic Question 2: *What does the map of student success at Great State University produce?*

And glow, glow, melt and flow,

Eviscerate your fragile frame and spill it out on the ragged floor –

A thousand different versions of yourself.

- The Shins, “Sleeping Lessons,” *Winning the Night Away*

(Mercer, 2007, track 1)

To address my second analytic question, I map the assemblage of student success at Great State University. This analytic question fully explores assemblage theory and molecular sociology in its mapping of the both the territory of GSU’s student success initiative, including explorations of queer dis/orientations, hauntings, and liberal education as becoming. Through this analysis, we can locate the aspects of the student success initiative that tip towards liberal education.

Participants. I worked with senior leadership at Great State University to complete this research. They granted me extraordinary access to nearly all aspects of

planning and implantation of the first year of Great State U.'s student success initiative. Both the institution I studied and the persons who participated are kept anonymous throughout this study. This is done for many reasons, not the least of which was to bring such access into being. I also have no use for identified information in my results, as my mapping captures the collective, pre-individuated student success assemblage that, along with countless other interlocking assemblages, produces the persons of Great State University as such. The persons of this part of my study include members of senior leadership, administrators, faculty, staff, and students.

Research procedures. I observed planning meetings, campus meetings, events, office time, coffee talks, walking-between-meeting-plannings, and all manner of formal and informal conversations related to GSU's student success initiative from August 2016 to June 2017. I generally observed persons and groups for about 15 to 20 hours each week during this time, excluding winter and spring breaks. No formal interviews were used to form the results. I gathered information through observations and informal discussions with university persons, as well as through various planning spreadsheets and documents sent my way, email chains I was included on, drafts of strategies and metrics, data distributed to meetings I observed to inform group decision-making, and notes kept by certain participants. I adopted a primarily observational role, but I contributed thoughts to meetings from time to time when solicited, assisted with note taking when needed, and helped with a few odd technical requests related to the initiative. As my theoretical framework both denies the ability for any researcher to exist without biasing their surroundings (Barad, 2007), and focuses on the pre-individual and the forces by

which we individuate rather than individuals as bodily constituted (Deleuze, 1969/1980, p. 150), this interaction did not negatively impact my study.

Data analysis. In Chapter 5, I present my findings as a series of narratives, framed not by themes but through the queer concept of paradoxes. The collection of these narratives forms my (necessarily incomplete) representation of the assemblage of student success at Great State University. In Chapter 6, my discussion collides these paradoxes of student success as if they are tectonic plates and narrates the ridges of intensity produced along these series (Deleuze, 1969/1990, pp. 52-53; Deleuze, 1981/1988, p. 125). Each paradox is necessarily incomplete in its story, and each thoughtfully but imperfectly connected to others. Through this queerly oriented series of narratives, I bring you, the reader, inside the messiness of the assemblage of student success, and from within, I gesture to ways in which future practice might better align with the process values that faculty, staff, and students espouse.

Another goal of the writing style adopted in both results chapters is to speak to audiences versed in assemblage theory as well as to student affairs administrators and higher education scholars inside the work of student success but outside of this theory. The current evidence-based, post-positivist, identitarian higher education literature (Wells, et al., 2015) finds much of its power both in being readable and in promising links between cause and effect, or between interventions and outcomes affecting measurements of discrete individual students. I push hard against the idea that a simple empirical research and/or practice can achieve its own goals, much less the production of a liberal education. Institutions of higher education and student services programs need to thrive in the uncertainty and mess of student success as an assemblage in order to

promote the broadest practices of student success for the broadest range of students. My hope is this study shows, for multiple audiences, one theory-driven way this can be done.

Summary. The two expressions of this molecular sociology are now clear: a disorientation of the responsabilized individual humanist subject of the student success literature, and a mapping of the subjects, knowledge, and power at work at Great State U. I utilize this method in hopes of building not a model of student success best practices for others, but rather two maps of student success, available for expansion and plugging into others.

theoryprocedurepracticeirruptions

In pursuing this line of research, I hope to carve out a space for discussion that does not yet exist in these literatures. Within the philosophically oriented social sciences, there is not yet research performed which operationalizes assemblage theory in the study of undergraduate educational environments. Within the traditional student services and broader higher education literature, there is little research which questions simple empirical research practices or pushes methodological boundaries into poststructural empirical work. These gaps present both a promise that this study can help contribute to the development of a new sector of the literature, as well as the potential peril of this study being non-legible to both wings. In creating spaces within my work that are differently intelligible, I hope to demonstrate the utility of both to the other.

The research-based standardization of student success initiatives is implicated in the very outcomes, be they the unsuccessful student or the instrumental student, they ultimately wish to ameliorate. In utilizing a molecular sociology to palpate the entanglement of the multiple, in-tension, and non-quantifiable experiences that occur

within the event of student success, I hope to present another path forward in the possibilities available to higher education and student affairs practice.

CHAPTER IV
A HISTORY OF THE PRESENT OF STUDENT SUCCESS IN AMERICAN
HIGHER EDUCATION

There was an agitator in the midst of the Harvard faculty at the beginning of the nineteenth century. At the time, classes of students entered Harvard (and most universities) together, took the same course of studies, and graduated together four years later. Harvard Professor George Ticknor spent some time in Europe and experienced what he believed to be a better way of organizing undergraduate education. Upon his return, he offered the following critique of the American system:

It is, I think, an unfortunate circumstance, that all our colleges have been so long considered *merely* places for obtaining a Bachelor of Arts, to serve as a means and certificate whereon to build the future plans and purposes of life. (Ticknor, 1825/1961, pp. 269-270, emphasis added)

Fast-forward nearly 200 years later. What Ticknor derided as credentialism without educational substance (*merely* universal four-year graduation) is now instead categorized as student success. This term can be found everywhere, from the sides of billboards and buses to television and social media news items and commercials, even advertised beside high school basketball scoreboards. Colleges nationwide sell its promise to prospective students. At least one group claims responsibility for its origin:

Eight years ago, when we first created Complete College America, few spoke of student success. Strategic plans at institutions and systems focused on competition for students, not on the completion of their degrees... Today college completion *is* the conversation. Raised awareness of shameful graduation rates has inspired

greater public scrutiny... More people now understand that time is the enemy of college completion as they learn how very few graduate on time... Those who cannot speak the language of college completion today risk appearing tone deaf... Each day, more and more state leaders, administrators and faculty are deciding to join the ranks of the impatient reformers, choosing to own up to their data, recognizing systemic and structural shortcomings of the status quo, adopting best practices, discovering new approaches – but most importantly, *leading the changes* necessary for more student success. (Sugar, 2017, para. 2-5, emphasis in original)

Higher education has indeed transformed in its thinking about undergraduate education, several times over, from the unfortunate circumstance of college being a place for merely near-universal college completion to, roughly two centuries later, forming “ranks of impatient reformers” (Sugar, 2017, para. 5) for college completion, a major outcome of many associated with student success. We now live in a moment in which higher education and student affairs is beset with research attempting to build better measurements of undergraduate education, now an imperative for *student success*, and associated better best practices to impact student success, all to remake institutions in search of a goal that was only recently lost. Through what history of power/knowledge might this be explained?

Viewed genealogically (cf. Braidotti, 2011b; Deleuze, 1986/1988a; Deleuze & Guattari 1980/1987; Foucault, 1975/1995, 1978/1990; Kuhn, 1962/1996), the story of student success is not an evolutionary story of the perfection of interventions begun at the advent of the discipline of student personnel (now student affairs) in the 1930’s, nor of

assessment-driven improvements of the turn to the study of impact in the 1970s (cf. Venit, 2017). This genealogy of student success is not a story of linear scientific progress, but rather a story of orientations and disorientations of power/knowledge in undergraduate education. These dis/orientations give present-day practices, and the *successful student*, shape (Ahmed, 2006; Butler, 1990; Hacking, 1986). Just as “those who cannot speak the language of college completion”—or student success—“today risk appearing tone deaf” (Sugar, 2017, para. 4), those who today espouse Ticknor’s (1825/1961) *problem* in students “keep[ing] with the class to which they are bound” all the way to a universal four-year graduation appear myopic and out of touch with reality. There are multiple orientations to being a successful undergraduate student throughout the history of American higher education (AHE), and the truth produced in each of these orientations is unintelligible to the other. This chapter provides one possible response to the first analytic question of this dissertation: what do the orientations of student success in the American higher education literature produce?

Undergraduate Education as Class Unity, Disorientated by Discipline

A review of the academic literature regarding student success begins in earnest with the student personnel literature. Nonetheless, there are two significant movements predating the literature that merit mention, as they also play an important role in the assemblage of student success in place today. The first movement is the first assemblage of student success, perhaps unanachronistically better labeled an assemblage of undergraduate education in colonial and AHE. This assemblage is characterized by class unity as a mode of power. The second movement of note is the first disorientation, the

introduction of discipline marked in part by specialization. Each is briefly reviewed below.

A Sketch of Class Unity

In America, where the same set of young men recite side by side in the same recitation-rooms for four years, it is perhaps only natural that the feeling of class unity should exist as it does. It is not in itself an evil, although liable to grave perversion. Three fourths of the public disorder in our colleges are due to it in one or another shape.

- James Morgan Hart, *German Universities: A Narrative of Personal Experience*

(Hart, 1874/1961, p. 579)

The early student affairs literature reminiscences on the earliest days of colonial and American higher education, a time according to this literature in which the individual student was primary, a mode to which this literature yearns to return (Cowley, 1940). To review the practices that govern true statements of antebellum AHE is to reach a different conclusion about the orientation of this time. Class unity as the defining mode of power of the antebellum undergraduate education assemblage produces not an individualizing education, but rather a single undergraduate education for all students: one set of governing knowledge, one mechanism for its delivery, and one type of student produced. Under class unity, expression is a singular, classical “discipline and furniture of the mind” (Day & Kingsley, 1829/1961, p. 278), content is marked by the single class schedule, and the subject that is produced by this is the civilized class, in contrast to barbarous outsiders. This sketch will explore class unity’s content: its cohering of matriculating classes through class (freshman through senior)-level scheduling.

Content: Schedules. Class unity operated at the level of content in controlling the movements of students as a single matriculating class. The operation of early universities included detailed schedules in high level documents (cf. College of William and Mary, 1736/1914). On colonial campuses, all matriculating classes of students adhered to the same general time schedule throughout the school year. For example, the schedule governing Yale College in the middle of the eighteenth century extended beyond courses to a common breakfast and dinner time for all students, a common nightly prayer time, with free time allowed only in the thirty minutes “after Breakfast, and an hour and a half after Dinner, and from prayers at Night to Nine o’ the Clock,” to be enforced by fines (Yale College, 1896/1961, pp. 55-56). Beyond these broad all-student schedules, colleges under this regime also governed student schedules by matriculating class for certain times of each day and overall by term and year.

University documents and student recollections from colonial and early American universities document unified progressions of coursework through which each matriculating class of student follows Cotton Mather (1702/2009), a central figure in the Salem witch trials as well as one of Harvard’s early second-generation students and son of a Harvard president, recalled student life at the close of the seventeenth century as one of daily of matriculating class-specific instruction, a rhythm that cycled every year until graduation at the end of four years. In his time as a student, “the *Fellows* resident on the place, became *Tutors*, to the several *classes*, and after they had instructed them in the *Hebrew language*, led them through all the *liberal arts*, e’re their first *four years* expired” (Mather, 1702/2009, p. 9, emphasis in original). King’s College (1755/1961), later to

become Columbia University, produced the following four-year matriculating class schedule in their founding laws:

First. The business of the first year shall be to go on and perfect their studies in the Latin and Greek classics and go over a system of rhetoric, geography and chronology and such as are designed for the pulpit shall also study the Hebrew.

2ndly. The business of the second and third years shall be after a small system of logic to study the mathematics and the mathematical and experimental philosophy in all the several branches of it, with agriculture and merchandise, together with something of the classics and criticism all the while.

3rdly. The fourth year is to be devoted to the studies of metaphysics, logic and moral philosophy, with something of criticism and the chief principles of law and governments, together with history, sacred and profane.

4thly. The pupils in each of their terms shall be obliged, at such times as the president shall appoint, to make exercises in the several branches of learning suitable to their standing both in Latin and English, such as declamations and dissertations on various questions pro and con, and frequently these and syllogistical reasonings. (pp. 120-121)

The president of the College of New-Jersey (later to become Princeton University), discussed his institution's class schedule, specifically the schedule of courses by year in school, with prospective students in a similar manner:

The regular course of instruction is in four classes, exactly after the manner and bearing the names of the classes in the English Universities; Freshman, Sophomore, Junior and Senior. In the first year they read Latin and Greek, with

the Roman and Grecian antiquities, and Rhetoric. In the second, continuing the study of the languages, they learn a compleat [sic] system of Geography, with the use of the globes, the first principles of Philosophy, and the elements of mathematical knowledge. The third, though the languages are not wholly omitted, is chiefly employed in Mathematics and Natural Philosophy, and going through a course of Moral Philosophy. (Witherspoon, 1772/1961, p. 141)

In this period, after students completed a prescribed and unitary four years of coursework came graduation. There was no conception of graduating early or late, and virtually no examples of students not completing coursework with their class. As all students proceeded together through college as a unified class, graduation was simply the culminating senior class activity. Some universities had a form of exit examination at the end of the fourth year in addition to regular senior class coursework. In the early days of Harvard, graduation marked the completion of senior class coursework plus an examination in which individual students were required to demonstrate an understanding of the Bible and show themselves to be a moral person. In the words of the *Laws, Liberties, and Orders of Harvard College* between 1642 and 1646,

Every Scholar that on proof is found able to read the original of the Old and New Testament into the Latin tongue, and to resolve them logically withal being of honest life and conversation and at any public act hath the approbation of the Overseers, and Master of the College may be invested with his first degree.

(Quincy, 1840, p. 517)

At King's College (1755/1961), senior examinations took the form of a six-week window of questioning at will by the president, associated academics of the university, and any

masters-level alumni, after which “candidates as have resided four years and are then found competently versed in the sciences wherein they have been instructed shall then be admitted to expect their degree at commencement which shall be on the second Wednesday in May” (p. 118). These exit examinations, though in theory possessing the possibility of failure, in practice rarely if ever resulted in such. The practical result of the regime of class unity was that colleges graduated nearly every student who entered their doors as freshmen (Ticknor, 1825/1961).

And so it went for the first roughly 200 years of AHE. Prior to the late 1800’s and the proliferation of the elective system, students entered colleges as a class of truly freshmen—women were mostly excluded, and not only were these freshmen white, black men and women are still largely enslaved, and it is the explicit project of these colleges to civilize the barbarous land and its native peoples (College of William and Mary, 1736/1914). Once on campus, these freshmen took the same set of classical education courses together each year, and barring expulsion for misbehavior, or blips such as a protest against unfair student fees that led to 17 non-graduates among those enrolled in Harvard in 1655 (Mather, 1703/2009), they graduated together as seniors four years later (Ticknor, 1825/1961). Class schedules were not individual schedules, but rather the single course and extracurricular schedule of the entire class. Graduation was a function of being present for four years without being removed for disciplinary reasons plus submission to a universally-passed senior examination. In the estimation of Ticknor (1825/1961), these were the conditions that created AHE as a place *merely* for graduation. At the dawn of the nineteenth century, the class schedule transformed, and with it, class unity began its transformation toward its modern in/dividual form, with an

almost immediate impact on graduation. Class schedules soon fractured into a great deal of specificity, and with it the subject of the class fractured into individual students and the classical disciplines split into the new disciplines it could accommodate—and would create.

A Sketch of Disorientation: Educational Anarchy at the Turn of the 20th Century

But one thing is certain. A change must take place. The discipline of college must be made more exact, and the instruction more thorough. All now is too much in the nature of a show, and abounds too much in false pretenses... We must therefore change, or public confidence, which is already hesitating, will entirely desert us. (Ticknor, 1823/1961, p. 271)

This section explores the conditions that disorientated the assemblage of undergraduate education from the original *class unity* and, in doing so, set the conditions for the subsequent assemblage, the first of the student personnel era, centered on the unity of the student and not of the class. In this intervening period, higher education is disorientated by an emergent discipline. One story of this disorientation can be told in three parts: expression as specialization through the elective system, content as the new registrar systems, and subjects as the newly heterogeneous student body produced by the Morrill Act. What follows is a sketch of the destabilizing expression at work, specialization.

Expression: Specialization through the elective system. Over the time of class unity, the size of student bodies and faculty increased such that it was theoretically possible for colleges to offer a differentiated curriculum. Talk of an elective system for undergraduates took hold—why not allow students more selection in their coursework so

that they could best find relevance in their studies? Thomas Jefferson (1823/1961) was an early proponent of this in his development of the University of Virginia in the early 19th century. Harvard Professor Ticknor advocated for the elective system during this period as well. The widely-read Yale Report of 1828 held off a nationwide movement toward the elective system for a time with its eloquent missive for a unitary classical education as providing the “discipline and furniture of the mind” (Day & Kingsley, 1829/1961, p. 278). Class unity held through the passage of the first Morrill Act in 1862, but its creation of land-grant colleges and historically black colleges (sped along with the Morrill Act of 1890) intensified the push for expanded faculties and for colleges to offer expanded programs to an expanded student body. Although these practices weakened class unity’s hold, Harvard President Charles W. Eliot is widely credited with ushering in the elective system shift in higher education, and thus ushering in the technology that would disorientates class unity with the introduction of discipline (Foucault, 1975/1995) and contribute to the reorientation of power in its next mode.

In the *Atlantic Monthly* in 1869, soon-to-become president Eliot presented what he termed the new education. He explicitly did not propose a new education in the form of the elective system as we know it today. Instead, he presented a typology of three ways of including the new disciplines: scientific schools such as the Yale Scientific School and the Lawrence Scientific School at Harvard which were connected to the traditional classics-oriented colleges, scientific courses within classics-oriented colleges, and independent non-classical schools. He clearly rejected the second organizational type, which matches today’s organization of electives, in favor of the operation of several unified classes, linked to separate colleges, within the institution. Eliot (1869) suggests

that scientific schools were intended to function as the professional schools of the time did, in admitting students who have completed classical studies for an advanced degree. Eliot's view of an elective system was simply to have several unitary paths through higher education towards several different disciplines. Students within disciplines would still move through their four years together, but they would have the choice to pursue classics or one of the new arts and sciences and move through the university only with the other students who chose the same path, or major. In such a system, undergraduate education would remain stable, with expanded options for study upon graduation. However, within two decades, Harvard College was at the forefront of the destabilizing elective system as we know it today (Morrison, 1936/2001), where very few, if any, courses are dictated for all students of a particular class standing to take at one particular time.

As a result, specialization as an expression of what undergraduate education should be individualized undergraduate students' paths both by creating choice in programs and majors as well as elective options that individualized paths within majors. Eliot ultimately provided a bridge not just to a different organizational system within higher education, but to a different assemblage of power/knowledge. Student movement through the institution became individual, a function assigned to persons rather than to all members of a class. Electives and course and major choice heightened the possibility of some individuals not finishing with the class. Transportation technology increased the incidence of transfer students. The related development of Carnegie units facilitated the articulation of credits within and between universities. Institutional knowledge about individual collegiate performance (now known as student records) becomes visible and

sophisticated, a necessity with the new need to audit degree completion. New computing technologies interact with the institutionalization of this explosion of knowledge, as Hollerith machines and similar devices find their way into emerging registrar offices (Baehne, 1935). In short, not only are there more students, more faculty, and more colleges at the close of the nineteenth century, but also more majors, more paths within more majors, and more students not graduating. Specialization as an expression provided the rationale for taking a newly increased number of students and sending each of them on their own path through the institution, under the presumption of choice (Eliot, 1898/1961) and self-direction (Hale, 1882). Through these changes, the elective system brought a form of Foucauldian (1975/1995, 1978/1990) discipline to bear on AHE.

According to Foucault (1975/1995),

Instead of bending all its subjects into a single uniform mass, [discipline] separates, analyses, differentiates, carries its procedures of decomposition to the point of necessary and sufficient units. It ‘trains’ the moving, confused, useless multitudes of bodies and forces into a multiplicity of individual elements...

Discipline ‘makes’ individuals; it is the specific technique of a power that regards individuals both as objects and as instruments of its exercise. (p. 170)

This discipline disorients class unity. According to Eliot (1898/1961), speaking after the first few classes of students in the modern elective system had graduated from Harvard,

It has been alleged that the elective system must weaken the bond which unites members of the same class. This is true; but in view of another much more efficient cause of the diminution of class intimacy, the point is not very

significant... The elective system fosters scholarship, because it gives free play to natural preferences and inborn aptitudes, makes possible enthusiasm for a chosen work, relieves the professor and the ardent disciple of the presence of a body of students who are compelled to an unwelcome task, and enlarges instruction by substituting many and various lessons given to small, lively classes, for a few lessons many times repeated to different sections of a numerous class. (pp. 609-610)

Electives individuate under the banner of choice. For a time, specialization disciplines newly formed students, but in the explosion of major paths, discipline alone does not form a stable assemblage of power/knowledge in undergraduate education. In fact, this period is later referred to by Duffus as “‘educational anarchy’” (as cited in Lloyd-Jones & Smith, 1938, p. 5). The first student personnel positions formed in the wake of this disorientation to help students manage this anarchy (Lloyd-Jones, 1949). By the turn of the 20th century, the excess of student movement provoked by specialization becomes unmanageable—this excess finally drives the stabilization of a new assemblage of undergraduate education in the 1930s.

Undergraduate Education as Student-Centered Biopower

The student personnel movement... has developed as the division of college and university administration concerned with students individually and students as groups.

- The Student Personnel Point of View

(American Council on Education [ACE], 1949, p. 3)

Specialization introduced discipline into AHE, disorientating the assemblage previously orientated by class unity. Discipline partitioned the expressions of stabilization through the organization of majors and coursework. In this partitioning, this system created the early 20th century population-level problem of *student mortality*, “the failure of students to remain in college until graduation” (McNeely, 1938, p. 1). The resulting population-level study of student mortality combined with the individualizing force of discipline formed student personnel as a field of study, biopower (Foucault, 1976/1990) as the reorientated mode of power, and student-centered biopower as the emergent assemblage in undergraduate education.

The problem of student mortality is the problem of today’s *unsuccessful* student, the student who does not complete college at all, much less in a timely manner (Sugar, 2017). At the turn of the 20th century, student mortality is a new feature to the recently individuated American college landscape, as a widespread problem of college dropouts, or non-retained and non-graduated students, was unknown under class unity. The now fractured paths through undergraduate education generate the problem of student mortality, or students who die an institutional death before graduating with their class. To solve this problem, students begin to be studied at the population level. Administrators studied rates of death, or dropout, on their campuses, while at the same time students continued to be individually assessed (outside of norm-referenced tests) as good or bad, normal or abnormal, successful or unsuccessful. The sciences of population now taught within the curriculum began to be applied to the institutional treatment of students; a norm-referenced “unity” emerges “in the movement to individualize education” (Hopkins, 1926, p. 95). The scientization of undergraduate students (Harper, 1905;

Willey, 1949), or “the age of scientific management in education” (Lloyd-Jones & Smith, 1938, p. 247), occurred through mutually reinforcing expressions and contents, crystallized at the dawn of the field of student personnel with its centering of the scientized individual student in undergraduate education. This crystallization is marked by the joining of discipline (marked by specialization) and the ascendant biopolitics (marked by the increasing scientization of the aggregate student body) to form a stabilized, doubled biopower (Foucault, 1978/1990, pp. 139-140). This stabilization marks the second assemblage of undergraduate education in AHE, and the first of the higher education-student affairs literature: undergraduate education as student-centered biopower.

Intermezzo: A Genealogical ‘Discovery’ of Foucauldian and Deleuzian Concepts

In the early days of researching this chapter, days spent combing through books that reeked of mold and left such a coat of residue on my fingers that I began to keep hand sanitizer on my desk, my idealized output for this chapter, becoming inputs for the next, was to be newly-created higher education concepts (see the discussion surrounding the footnote in Chapter 3: *Power Defines the Boundary Between Power and Chaos*). This was to be a project that used theoretical and methodological concepts from assemblage theory broadly, and in this section insights from Foucault on genealogy in particular, simply as methodologies to form these new higher education concepts (Mazzei, 2017). Genealogy here was to be a means by which I might discover the orientations and disorientations of student success in American undergraduate education (Koopman, 2013). What began as a project of discovery slowly turned into a realization that these broadly relevant discoveries had already been made by two of the very philosophers I

was reading to inform my methodology. Two years into my research, I present to you not new concepts at all, but outside of our first orientation of power (class unity), a particularly timed and sequenced collection of Foucauldian and Deleuzian concepts. In what follows, I outline short notes on each: discipline (in *Disorientation 1*, following Foucault, 1975/1995), biopower (in this section and in part in *Disorientation 2*, following Foucault, 1976/1990) to include discipline as well as biopolitics, and societies of control (in the final orientation, Deleuze, 1992).

Discipline, for the Foucault (1975/1995) of *Discipline and Punish*, is the power exercised in and through individual persons. It is, as quoted earlier, the power that *makes* individuals. Disciplinary power produces “meticulously subordinated cogs of a machine... permanent coercions... indefinitely progressive forms of training... automatic docility” (Foucault, 1975/1995, p. 169). Discipline alone in AHE does not produce *automatic docility* on the part of students; it produces *educational anarchy*. Discipline here is a disorientation that marks a departure from the past but not an orientation of its own. It contains this orientating potential, however; the individualizing force of discipline marks the moment “when the sciences of man become possible” (Foucault, 1975/1995, p. 193). The entrance of the sciences of man, or biopolitics, alongside discipline in AHE defines the second orientation of (an anachronistic) student success: (student-centered) biopower.

Foucault describes biopower slightly differently across his works. For our purposes, we work with the biopower he describes in *History of Sexuality, Part I* (Foucault, 1976/19990). This is a doubled biopower, a power comprised both of discipline as well as biopolitics. If discipline *makes* individuals, biopolitics *makes*

populations. Population, for Foucault (1976/1990), consists of “the calculated management of life... the regulated formation of the social body” (p. 140). In this section, we explore this union “at the juncture of the ‘body’ and the ‘population’... organized around the management of life rather than the menace of death” (Foucault, 1976/1990, p. 147).

Societies of control is a description of power from Deleuze (1992) that maps onto a Foucauldian biopolitics (Nail, 2016). Here, I use societies of control instead of biopolitics when describing our final (and current) orientation to mark it as a change in quality from biopower, the power orientating the assemblage of student-centered biopower that precedes it. The rise of the relative quantity, or emphasis, of biopolitics will produce a change in the quality of the orientation of power and of the assemblage. The slow but steady disorientation brought about by the rise of biopolitics produced an orientation of its own. *Societies of control* (and the assemblage here named for this governing power, data-driven control) designates this shift. Societies of control are marked by “inseparable variations, forming a system of variable geometry... a modulation” (Deleuze, 1992, p. 4). Societies of control no longer deal “with the mass/individual pair. Individuals have become ‘*dividuals*’” modulated in continuous algorithmic variation (p. 5). The final orientation section, below, explores the work of societies of control at length, and Chapter 5 takes up the work of data-driven control in orientating the student success assemblage at Great State University. With these conceptual ‘discoveries’ now outlined, we return to our exploration of the second orientation of student success in AHE: student-centered biopower.

Expression and Subjects: The Personnel Point of View and Students

The publication of *The Student Personnel Point of View* (ACE, 1937), perhaps the foundational document of the field of student affairs, certainly does not mark the beginning of personnel work; at this point, personnel work was a generation old. This section does not explore the emergence of personnel work itself, as relevant as that history is for so many related issues here. Instead, this section makes a narrow argument rooted not in such a search for a continuous history of undergraduate education but in the exploration of its dis/orientations: *The Student Personnel Point of View* and related literature of this period are the *expression* of and, along with associated *content*, form the (student) *subjects* of student-centered biopower.

The personnel point of view first and foremost asserts itself as in service of the development of the whole student, in distinction to the perceived prior emphasis on academic individuation only. In the words of *The Student Personnel Point of View*, the personnel point of view

imposes upon educational institutions the obligation to consider the student as a whole—his intellectual capacity and achievement, his emotional make up, his physical condition, his social relationships, his vocational aptitudes and skills, his moral and religious values, his economic resources, his aesthetic appreciations. It puts emphasis, in brief, upon the development of the student as a person rather than upon his intellectual training alone. (ACE, 1937, p. 1)

The language of institutional obligation to whole students travels throughout the early student personnel literature. Esther Lloyd-Jones and Margaret Ruth Smith (1938) also discuss the new and necessary burden placed upon institutions:

When a college finally accepts a student, however, a contract is made in effect: the student agrees to try to meet the standards which the college holds up for him, and the college also assumes the obligation, not only of parading knowledge before his eyes and ears, but also of continuing to study his interests and abilities and attempting to develop them to their highest possible levels. (pp. 130-131)

Thus, the personnel point of view resolved the anarchy brought about by specialization and discipline by continuing the academic individuation of students brought about in the late 19th century and adding to it the obligation to know students through diagnostic inventories (Lloyd-Jones & Smith, 1938). As such, the personnel point of view both extended the reach of the disciplinary partitioning of the student and connected with modern movements in other academic disciplines to place individual students as normed members of a mass of students through scientific study.

This individual student was created not just through the consideration of non-academic traits, but by norming these traits within populations. Under the personnel point of view, knowledge of students through population-level measures was to begin at the point of admission. In the words of long-time University of Maryland Registrar Alma Preinkert (1940/2005), the

high mortality rate among freshmen indicates clearly that many students admitted to colleges and universities are not qualified to do college work. The old technique of admission has been proved inadequate, unscientific, and lacking in discrimination... An intelligent determination of an admission system for a college or university presupposes a clear conception of the aims of the college, a definite knowledge of the intellectual and emotional characteristics which will fit a

student to succeed in a particular educational situation, and the provision of methods to identify and measure accurately the presence or absence of these qualifications. (p. 24)

The identification and measurement of these student-level characteristics came through the new sciences of personality and aptitude measurement that made their way to colleges and universities after World War I (ACE, 1949). These norm-referenced tests were developed to order individuals within a normalized population range. In fact, the Educational Testing Service (ETS), developers of the Scholastic Aptitude Test (SAT) and other population-level norming tests for college-bound students is one of the major population-norming organizations to come from this time, and it developed from an offshoot of the group that produced the original *Student Personnel Point of View* (ACE, 1933; Lloyd-Jones, 1988).

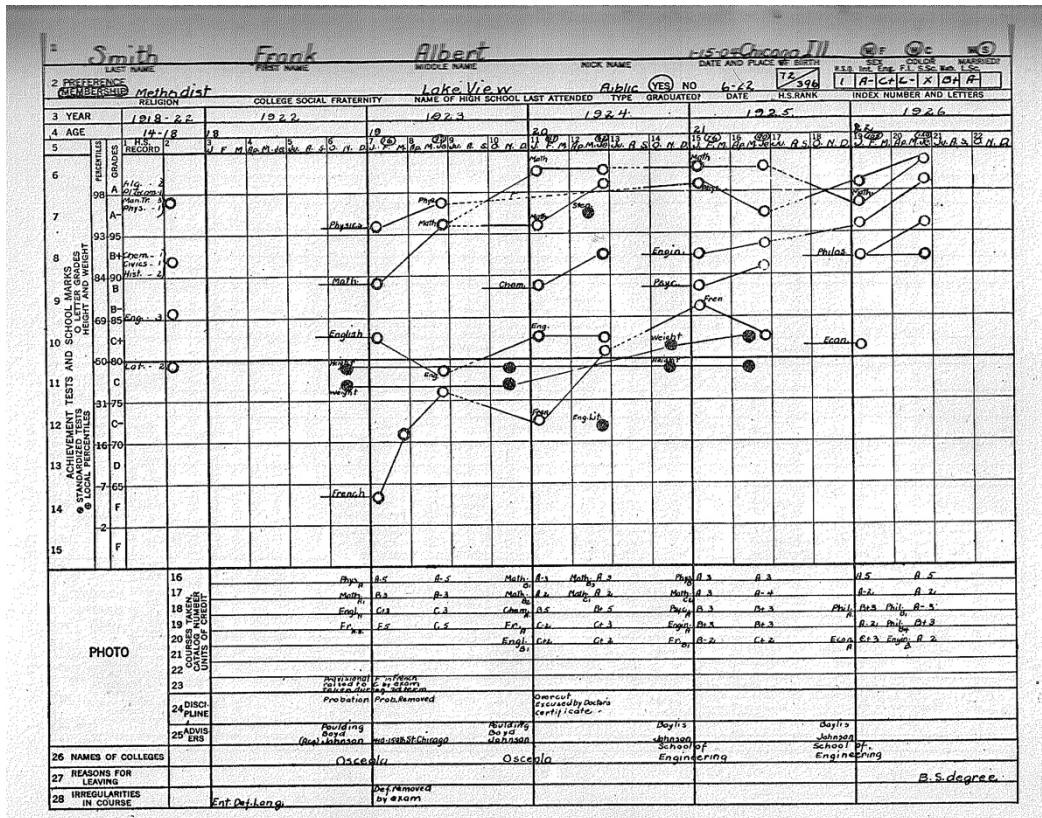
Once a student gained admission to a university, it became the work of administrators with a personnel point of view to study them within the masses of all matriculated students at the level of the student population. In a registrar's office with a personnel point of view in registrar's offices, it became highly important to generate institutional statistics about its students as a whole and by groups (Brumbaugh & Berdie, 1952; Lloyd-Jones & Smith, 1938; Preinkert, 1940/2005). Preinkert (1940/2005) gestured to this population-level knowledge becoming a part of the knowledge of this assemblage, stating that its generation "determines in large measure the importance of the registrar's office within an institution" (Preinkert, 1940/2005, p. 127). The individualization of the student through knowledge of whole students is thus enmeshed with the scientific study of populations under the personnel point of view. Each provides the information and

justification for the other. The subject created within this system is, appearing in stable form for the very first time in AHE, the doubled (individualized and scientized) student.

The two dimensions of the personnel point of view as the expression of this assemblage are the individual whole student and the science of student populations. This aligns with Foucault's (1976/1990) description of biopower: "the *disciplines*: an *anatomo-politics of the human body*... and *regulatory controls*: a *bio-politics of the population*" (p. 139, emphasis in original). The relationships formed by this assemblage broadly and this expression and these subjects specifically spin between these two dimensions, weaving a web through which research and practice are made true.

Content: Standardized Records

The field of student personnel gains steam throughout the early 20th century as a means by which universities can reassemble the student who has been split into pieces by the elective system and the specialization of the university (Lloyd-Jones & Smith, 1938). The administrative activities of this nascent field are located not only in organizational areas typically associated with student affairs such as academic advising and residence life, but also in the emergent functions and technologies of the registrar's office. The importance of institutional technologies knowing the individualized and normed student is demonstrated through campus practices such as those of University of Chicago, where each instructor was to report each term not only the students' academic progress, but also "file a written report setting forth his observations on the student's capacity, faithfulness, habits, health, character, personality, or any other trait or qualities which influence his effectiveness" (Boucher, 1931, p. 108). These reports, centrally aggregated alongside scores on standardized measurements, produced knowledge of individualized and normed



29 YEAR	1922	1923	1924	1925	1926
30 AGE	18	19	20	21	22
31 NOTABLE ACCOMPLISHMENTS UNUSUAL EXPERIENCES	Pris. a. Sponsoring Radio Station	Constructed "Patent" Motion Machine	Made elec. motor of second-hand parts.	Made elec. yacht	Collected 300 pictures, drawings of diagrams of shipbuilding designs which are considered excellent
32 CLUBS, FRATERNITIES OFFICES			Math. Club Member	Professional Frat.	Head of Math. Club
33 ATHLETIC	Tenn.	Soccer	Tenn.	Base B.	Base B.
34 EXTRA CURRICULAR EXPERIENCES	High Sch. Radio Club	Nature Club	Kodak Club	Ed. Steel and Sec. of Radio Year Book	Continued pictures for article on "Wild Life on the Lake Shore"
35 VOCATIONAL EXPERIENCES	Clerk in Father's Store	Clerk in Father's Store. Spt. and aft. school	Winesman Ass'n	Clerk in Father's Store	Asst. Engin. on S. Amer. Steamer
36 DURATION		Father's Store in winter	Linesman Ass'n in summer	3 mos.	3 mos.
37 WEEKLY PAY			\$2.0		
38 HOURS A WEEK		9.0 weeks	20 weeks	20 weeks	20 weeks
39 SUPPORT OF SELF AND DEPENDENTS	Incidentals	Tuition Board	Tuition Board	Tuition Board	Tuition Board
40 LOANS AND SCHOLARSHIPS					
41 STUDY CONDITIONS AND HOURS OF STUDY A WEEK		Has separate room at home for study 28 hrs.		uses school library more than formerly	30 hrs.
42 SUMMER EXPERIENCES	Ed. Linesman Assn. 3 mos.	Uncle who is reporter strongly urges becoming writer	worked on great lakes	Built yacht worked in Radio Station	went to South Amer.
43 EDUCATIONAL PLANS			wants to be writer but is undecided	Engineering(?)	Elec. Engin.
44 EDUCATIONAL SUGGESTIONS	L. A. College			Engineering	Elec. Engin.
45 VOCATIONAL AND PROFESSIONAL PREFERENCES	Writer	Writer	Writer	Undecided - longs to be writer	Elec. Engin.
46 INTERESTS REPORTED	Radio	Writing	Math.	Math.	Engineering
47 PHYSICAL DISABILITIES		Slightly deaf			
48 HEALTH					
49 MENTAL HEALTH		Broods over failure in French and low	Plans to travel, giving up writing as life work	Wants to travel, giving up writing as life work	Enthusiastic about Engin.
50 SOCIAL ADJUSTMENTS AND HOME CONDITIONS		Unhappy mark in English. Seems to know very little about campus life	Social contacts are in home community.	Has very few acquaintances	is still relatively unacquainted on campus
51 COMMUTING TIME HOURS A WEEK		12	12	12, 10	10

Figure 6. A sample personal record card circulated by the American Council on Education. From *Measurement and Guidance of College Students: First Report of the Committee on Personnel Methods of the American Council on Education with an Introduction by Dean Herbert E. Hawkes, Ph.D., LL.D., Chairman of the Committee* (pp.

39-40), by the American Council on Education, 1933, Baltimore, MD: Williams & Wilkins Company. Copyright 1931 by the American Council on Education.

students, or early success measurements. Student records constituted the substance of content in student-centered biopower. Such visibilities (Deleuze, 1986/1988a) benefited from several technologies, one of the earliest being the personal record card.

The personal record card (*Figure 6*) was an early student personnel technology, developed, promoted, and distributed nationwide by the American Council on Education, whose two uses were operation and research (ACE, 1933). These two uses tie together in one technology the twinned axes of student-centered biopower: anatomo-politics, through operation, and biopolitics, through research. On the one hand, the operational use of the card was conceived as for university personnel with student-facing positions such as presidents, deans, advisors, and instructors for use “in their contacts with students... to know as much as possible about the whole individual with whom they are concerned” (ACE, 1933, p. 55). On the other hand, the research use of the card was conceived as for the research worker “studying any problem of education or of individual similarities or differences... dealing with large numbers of cases as a statistical problem” (ACE, 1933, p. 55).¹⁸ The personnel record as a standard blank form centrally distributed by ACE facilitated both intra- and inter-institutional research. Through its operational and research uses, this technology was constituted by and constituted the content of student-centered biopower.

Although the model card was adopted by a number of institutions nationwide (Preinkert, 1940/2005), it was adopted in addition to other primary institutional student

¹⁸ One such problem of education was explored in the 1930's by University High School, University of Minnesota. They used the Personal Record Card to track school-wide changes in normed Stanford Achievement Tests, Intelligence Quotient tests, and even local school research worker-normed student grades by year of school (Embree, 1937).

records, and never came to replace them. Its demand of an institutional culture of data would not garner wider support until a half-century later. Though the technology itself never took off, its logic of being both student-facing and data-facing infused student personnel work, and later came to infuse the contents (the primary institutional student records databases) and expressions (cultures of data) of the future.

Disorientation 2, The Rise of Biopolitics: A Turn to Impact and Effect

... you can see that what appears on the horizon of this kind of analysis is not at all the ideal or project of an exhaustively disciplinary society in which the legal network hemming in individuals is taken over and extended internally by, let's say, normative mechanisms. Nor is it a society in which a mechanism of general normalization and the exclusion of those who cannot be normalized is needed. On the horizon of this analysis we see instead the image, idea, or theme-program of a society in which there is an optimization of systems of difference, in which the field is left open to fluctuating processes, *in which minority individuals and practices are tolerated*, in which action is brought to bear on the rules of the game rather than on the players, and *finally in which there is an environmental type of intervention* instead of the internal subjugation of individuals.

- Michel Foucault, *The Birth of Biopolitics*

(Foucault, 1979/2008, pp. 259-260, emphasis added)

Higher education faced many changes in the late 1960s, changes brought about by court-ordered desegregation of the remaining institutions clinging to that particular strand of racism, anti-war protests met with deadly state violence, and the demands of minoritized populations within the university that their bodies be included not just within

institutional hierarchies and practices, but within knowledge production as well. In spite of these moments, the assemblage organizing undergraduate education remained student-centered biopower. This biopower still spun between two the axes of discipline of individuals and biopolitical regulation of populations. Biopolitics did not arise free of discipline, it was intertwined with it from the beginning and inseparable from student-centered biopower. Biopolitics arrives to orientate student-centered biopower in and through already-existing student personnel practitioners and its earliest researchers. This mutually reinforcing relationship between discipline and biopolitics began to change towards the very end of the late 1960s. Although published research and institutional practices still espoused a focus on the education of whole students that cannot be reduced to either axis (cf. Jacob, 1957), the parity between the two axes in practice falls away, and biopolitics begins to disorientate the very assemblage it once orientated. AHE begins to increasingly favor biopolitical contents and expressions, and a biopolitical integration of minoritized and historically-excluded students.

Expression: Impact

Harper's (1905) desired movement for the scientific study of the student began with the introduction of biopolitics into field of student personnel and intensified at the tail end of the 1960s and into the 1970s. The scientific study of the impact of college on students came to dominate the literature, and discussions of the whole student receded into the background as an explanatory and animating principle behind the study of impact, but absent from its methodology. The individual student remained hailed as the purpose of practice and research, but research began to move away from its previous reliance on the integration of knowledge collected through population-level studies with

non-normed knowledge of students to produce decisions that were not directly dictated by the evidence presented in normed studies (Lloyd-Jones & Smith, 1938, p. 262). This previous reliance began to be referred to as a reliance on common sense, whereas the coming modern practice relied on science (Willey, 1949). Arguments began to circulate that studies of college impact were needed in order to best serve students, and these studies could only be reliable if they tracked many variables of many students longitudinally (cf. Feldman & Newcomb, 1969). According to these arguments, once administrators, practitioners, and researchers understood the variables which best predict a positive impact of college on the whole students, then these groups could manipulate these variables at their home institutions to best ensure these positive results. In order to best serve individual students, administrators, practitioners, and researchers needed to focus on the study of populations of students to the exclusion of practitioner adaptation of population-level results to individual circumstances. In order to best serve the student produced by specialization and discipline, higher education and student affairs needed to focus on biopolitics. This relationship of the whole student as mere justification for the scientific study of the student persists to the present day, as discussed in greater detail later. The rise of biopolitics within student affairs independent of discipline comes with the first widely-circulated works focusing on the methodology of impact, those of Kenneth Feldman and Theodore Newcomb (1969) and Alexander Astin (1970a; 1970b; 1977).

The call for a new methodology for student personnel research came from the widely cited and circulated *The Impact of College on Students*, Feldman and Newcomb's (1969) far-reaching meta-analysis of the scientific student personnel research of the prior

forty years. Feldman and Newcomb release this work in two volumes: the first of which contains their analysis, and the second of which contain the raw data from the studies they reviewed, placed into standard blank forms of their design. Their work brought two innovations to student personnel research. First, they brought the field to focus on impact, or “what kind of students change in what kinds of ways, following what kinds of experiences, mediated by what kinds of institutional arrangements” (Feldman & Newcomb, 1969, p. 5)? This focus on the manipulation of student and institutional variables was incompatible with the reigning student-centered biopower. This focus on the manipulation of variables was thought to be “folly” just ten years prior by the last meta-analysis to gain widespread favor (Brunson, 1959, p. 156). Second, beyond their conclusions regarding specific impacts, they ultimately concluded that their confidence in these causal relationships was greatly limited by the methodologies these studies employed in generating their determinations. The research they reviewed was ultimately unintelligible to their approach: it “is not so much that their findings are wrong as they cannot be interpreted: often one simply cannot judge whether impact can be inferred from the data” (Feldman & Newcomb, 1969, p. 2). The territory of what knowledge fell under the realm of possibility of truth shifted when this expression entered into the mainstream of student affairs research and practice. The most influential conclusions Feldman and Newcomb drew had little to do with specific impacts but were rather in both centering the need for research to study impact and declaring current methodology to be insufficient for its study.

Whereas Feldman and Newcomb initiated the call for methodologically sound research on impact, Alexander Astin was the most influential voice to answer, both in the

form of a methodological guide (Astin, 1970a; 1970b) as well as in his landmark text *Four Critical Years* (Astin, 1977). In fact, in the opening pages of Astin's (1970a; 1970b) two-part exposition on the methodology of impact, he explicitly placed his work in alignment with the methodological gap illuminated by Feldman and Newcomb (1969). Leaving Astin's (1970a) finer methodological points aside for now, he is clear that his focus was "on problems of *inferring causation*: that is, of determining if and how the student is affected by his college experience" (p. 224, emphasis in original). We now have a clean definition of impact: the study of causation, or of cause and effect. The conceptual model he advanced for such studies had three "distinct components: *student outputs*, *student inputs*, and the *college environment*" (Astin, 1970a, p. 224, emphasis in original), or the I-E-O model. Desired changes in student outputs may be a function of either the distinct category of student inputs or the distinct category of the college environment.

College impact is a measure of change that flows from student inputs to college environment to student outputs, excluding changes that flow directly from student input to student output; impact isolates college as a mediating factor. This I-E-O model became a standard to this day in higher education-student affairs knowledge production (Ozaki, 2016). Astin was very careful to distinguish change from impact, and the ability to separate individual from environmental causation was the bright line he painted between impact and student-centered biopower. He gave an example of a science department considering restructuring their undergraduate major because a significant number of students were transferring out of the major. He deemed this folly, stating that the correct way to view this local situation was in view of multi-institutional, longitudinal data that

showed most departments of his type had *more* students exit the major; therefore, “his college was exerting a relatively *positive* rather than a negative influence on the student’s interest in science” (Astin, 1970a, p. 228, emphasis in original). His recommended action of viewing local events not as singular cases with individual and population-level factors, but through the lens of population-level statistics was the realization of a biopolitical system of knowledge production absent its twin, discipline, under biopower. The fact that his remaining methodological guidance reads like a standard first graduate class in quantitative research methods today speaks to the influence of Astin’s approach to college impact.

Throughout these 1970 articles, Astin showed researchers how to properly bound and track individuals, or variables, to determine causality. Today’s statistical approaches may be more complex than the analysis of variance and multivariate regression computations these articles forward, but the logic remains the same: scientific local actions come from a knowledge of how variables move globally. Astin (1977) himself published an exemplar text study utilizing the method of impact seven years later; *Four Critical Years* was explicitly designed to answer “questions about the effect of college... on the basis of the first ten years of an ongoing research program that was designed to overcome the limitations of earlier studies and to produce data for definitive studies of college impact” (p. 3). That the first edition of the next canonical meta-analysis of student affairs research, Ernest Pascarella and Patrick Terenzini’s (1991) *How College Affects Students*, had a base of research to review that answered the calls of Feldman, Newcomb, and Astin speaks to the influence of their approach to what counts as knowledge on the field. Pascarella and Terenzini (1991) open with a foreword by none other than Kenneth

Feldman and follow this not with their own words to open their book, but rather use Feldman and Newcomb's (1969) opening words: "If one believes in the cumulative nature of science, then periodic stocktaking becomes essential for any particular arena of scientific endeavor" (p. xv). Both volumes lay claim to this periodic stocktaking, or a look at the evolution of the science of the student of their respective times. One year prior to the release of *How College Affects Students*, Budd (1990) found *Four Critical Years* to be the most cited book in the field of higher education, with *The Impact of College on Students* tied for third. Although there was continuing skepticism about the utilization of this value-added approach to measuring the impact of college on student outcomes (cf. McMillan, 1988; Pike, 1992), nevertheless, the logic that the field should focus on the measurement of impact through the tracking of variables persisted.

Content: Early Student Information Systems

Early impact studies relied on new technologies to catalog all variables collected on all students across all points in time. Studies since the beginning of the field of student personnel relied on the standardization of student information across universities, but these past studies predating this period were reliant on paper records compiled by human computers (e.g. Drought, 1941). Two systems of standardization predate impact studies: the use of a single researcher or team of commonly trained researchers visiting institutions in person (e.g. Hopkins, 1926; Brumbaugh & Berdie, 1952), and by the distribution and collection of blank standard forms on which registrars recorded and remitted standardized sets of student information (e.g. ACE, 1933; McNeely, 1938). Standard fields of information, more so than the standardized training of researcher-data collectors, become essential to impact studies. Impact studies required the collection of a

greater number of fields of information at a greater number of points in time, and this exponential increase in the number of variables collected placed a premium on data recording and analysis systems. The complex paper systems of early impact studies stand at the precipice of the automation of student information systems (e.g. Astin, Panos, & Creager, 1966). In the language of electronic computation, impact studies involve an exponential increase in the quantity of packets, or individuals, needed by researchers. In this usage, individuals are bounded and discrete points of data collected and manipulated by researchers. The large-scale, multivariate, longitudinal studies of this time required the means to collect, store, and manage individuals. Many studies began to utilize large data sets of student information first collected on paper researcher-generated forms, then transferred to tape and processed by shared computers (Panos, Astin & Creager, 1967; Astin, King & Richardson, 1980). These technological advances further disorientated the prior balance of individual practitioner knowledge and large studies in the direction of the latter.

Subjects: New Persons, Same Emergent System

In/dividual-centered practice, or practice justified by the development of the whole, individual student but powered by individual data, finds its individual with the automation of student records and the creation of research data computable by machines rather than humans. Once student records were automated, this evidence became the thing that moves research and practice, eventually leaving the student in the care of practitioners needing constant caution to dump “cultures of good intentions” in favor of “cultures of evidence” (Mason & Meyer, 2012, p. 64). The whole student remained the stated *raison d’être* of higher education and student affairs whereas it was data on which

the knowledge of this disorientation centered. The focus of practitioners, administrators, and researchers on transcript-level data centers the copy of the student record, and in this action, the individual student is displaced by their simulacra (cf. Deleuze & Guattari, 1972/2009, pp. 264; 321-322), individuals in the form of student record fields. The subject produced by student-centered biopower is the individual student; with this disorientation, the subject under production begins to shift to the dividual.

In this rise of the dividual, the integration of new persons into higher education was not characterized by higher education changing to include previously excluded people along with their collective knowledges and experiences of marginalization, historical subjugation, and exclusion. Instead, integration was a focus on the plugging in of the dividual of student identities to this emergent assemblage (cf. Foucault, 1979/2008, pp. 259-260). We will explore this in greater depth in the next orientation.

Continuous with the desire and technology to know masses of students by dividual characteristics was the admission of increasing numbers of students with minoritized characteristics, and the demands of these students that the academy reflect their knowledges and experiences. The most telling example of the tension between the whole (cis het white) student and the contemporary university comes with the forced racial integration of undergraduate education, and the tension that emerged between the model white student of student-centered practice, and students who were never thought within this model. Structurally excluded students demanded their place in higher education not just as registered students, but within the logics and practices of their institutions (Ferguson, 2012).

Historically white institutions of higher education at this time were the progenitors and inheritors of current and prior assemblages of power/knowledge, including the formation of the boundaries of class unity by the exclusion of the (indigenous, slave, black, female) other, as well as a personnel point of view designed to preserve “the culture and learning of the race” (Lloyd-Jones & Smith, 1938, p. 39). Thus, the full inclusion of othered and excluded bodies in AHE was both historically different and a shift of the power/knowledge systems of its past and present. The final institutional holdouts on student body desegregation relented under court order and military force but a few years prior to Feldman and Newcomb (1969). According to the Institute of Education Sciences, after America’s final militarized desegregation, white students went from 84.3 percent of all students enrolled in institutions of higher education in 1976 to 60.3 percent in 2012, the percentage of students of color more than doubled from 15.7 percent to 39.7 percent (as cited in Whitt and Schuh, 2015a). Would physical inclusion of black students and other students of color hastened by state power change AHE’s system of power/knowledge, student-centered biopower?

Desegregation in impact studies came as Foucault (1979/2008) described in this section’s opening quote; minoritized peoples were no longer forcibly excluded but tolerated within the system as it was. At the time of the civil rights movements and the final desegregations of higher education, impact studies disorientated student-centered biopower and ushered in the assemblage to come. Race was at times invoked by personnel scholarship as the purpose of higher education but was more so absent from mainstream—whitestream—student personnel writing. Upon the rise of impact studies, race enters the whitened literature in in/dividual form, with race being one of many

dividuum studied scientifically. As time passed, race would become a special subset of in/dividual justification for research, taking the general form of a concern for equity (and its adjacent opportunity gaps, achievement gaps, or white hoarding of resources) as the justification for impact studies with race as a data point (Dowd & Bensimon, 2015; Gurin, Dey, Hurtado, & Gurin, 2002).

Integration of the literature, as the act of including not just radicalized individuals but the bodies and experiences of black and other minoritized peoples, would come in second-wave student development theories (Jones & Stewart, 2016). Identity development theories centering the bodies and experiences of black people (Cross, 1978) and gay people (Cass, 1979), among other minoritized groups, eventually make their way into the previously whitened space of student affairs textbooks (e.g. Evans, Forney, & Guido-DiBrito, 1998). Other development theories of the time give us theories that describe integration as a change on the part of both students and campuses (Schlossberg, 1989). This integration of bodies and experiences marks the separation of the student affairs literature into impact studies and development theories. The former drive current day practice, the latter are learned in graduate school and put to work by practitioners who are so moved. From this second-wave of student development theory onward, impact studies carry the imprimatur of science; student development becomes justification for impact science. Marginalized bodies and experiences enter the literature and are channeled according to the contours of impact studies, the biopolitical axis of student-centered biopower taken on its own. A new assemblage of power/knowledge is needed to similarly channel the disruptions of impact: data-driven control.

Undergraduate Education as Data-Driven Control

The numerical language of control is made of codes that mark access to information, or reject it. We are no longer dealing with the mass/individual pair. Individuals have become “*dividuals*,” and masses, samples, data, markets, or “*banks*.”

- Gilles Deleuze, *Postscript on the Societies of Control*

(Deleuze, 1992, p. 5, emphasis in original)

The disorientation of student-centered biopower wrought by the rise of impact studies of student populations led to its diminution as an assemblage of power/knowledge. In its place came data-driven control, the assemblage of undergraduate education—now understood as the assemblage of student success—in higher education and student affairs today. The truth of higher education is no longer found in the twinned study of the individual student and masses of students, the two axes of student-centered biopower. The truth of higher education is now found in the study of the dividual, bits of data placed in continuous algorithmic variation to build the ideal, or successful, student. This data, or these dividuals, may be of any kind, and connected to all manner of individuals or masses: money, time, grade point average, Pell eligibility, high-impact practices, learning outcomes, library usage, percentage toward degree, number of advising appointments, a homework answer, hours spent logged into learning management systems (LMSs), midterm grades, tags. We now have a system “that singles out potential... [students] at risk, which in no way attests to individuation—as they say—but substitutes for the individual or numerical body the code of a ‘dividual’ material to be controlled” (Deleuze, 1992, p. 7). The mode of power governing this system has shifted from biopower (Foucault, 1976/1990) to a society of control (Deleuze, 1992). In AHE

today, data-driven control as the assemblage of student success places individuals in continuous algorithmic variation in search of the combination or collections of combinations that create desired outcomes. These outcomes have changed at the national level over the past quarter-century, from engagement (Astin, 1984) to learning (ACPA, 1996; NASPA & ACPA, 2004) to success as retention and four-year graduation (Commission on the Future of Higher Education, 2006). All of these outcomes are expressions of control as a mode of power (see Chapter 3 for more on expressions and power). Until this assemblage shifts, shifts in desired student-level outcome(s) will garner no major change in research or practice, as AHE will continue to seek the attainment of outcomes through placing individuals in continuous algorithmic variation (see Chapter 2 for more on the shifting outcomes in the time of biopolitics and data-driven control). AHE will move on to the next big student-level outcome, prompted by the data speaking certain truths, and view it as the “cumulative nature of science” (Feldman & Newcomb, as cited in Pascarella & Terenzini, 1991, p. xv) marching forward.

Expression: Cultures of Data

The dawn of this stabilized era is 1991’s *How College Impacts Students*. In the intervening 22 years since Feldman and Newcomb (1969), the studies of impact they called for have come into being and are at the forefront of research. According to Pascarella and Terenzini (1991), Feldman and Newcomb (1969) “precipitated a virtual torrent of studies on the characteristics of collegiate institutions and their students [individuals] and how students change and benefit during and after their college years from college attendance” (p. xv). *How College Affects Students*, now in its third edition, became the heavily adopted reference that *The Impact of College on Students* was. What

Feldman and Newcomb (1969) precipitated, Pascarella and Terenzini (1991) crystallized. It is now assumed within the expressions of truth that impact can be defined and measured.¹⁹ This is reinforced by corporate America (U.S. Chamber of Commerce Foundation, 2016), philanthrocapitalism (Avivar Capital, 2016; Bill and Melinda Gates Foundation, 2018) and the state (Commission on the Future of Higher Education, 2006; National Institute of Education, 1984). The landscape is now as such that arguments for developing cultures of assessing impact, and continually varying practice to affect the greatest positive impact, are *de rigueur*.

Today's student affairs practitioners, administrators, and researchers are expected to be conversant in, if not acculturated into, cultures of data. A culture of data, or a culture of defined, bounded, and measurable bits of information, is necessary for the comprehensive study of college impact. The phrase *cultures of data* has several high-profile mutations referring to similar sets of practices, including cultures of assessment (Banta, Jones, & Black, 2009; Schuh, 2013) and cultures of evidence (Culp & Dungy, 2012; Dwyer, Millett, & Payne, 2006). One definition of a culture of evidence, from a consultant working simultaneously for the Lumina Foundation and for NASPA – Student Affairs Administrators in Higher Education (NASPA), is

...a commitment among student affairs professionals to use hard data to show how the programs they offer, the processes they implement, and the services they provide are effective and contribute significantly to an institution's ability to reach its stated goals and fulfill its mission. (Culp, 2012a, p. 5)

¹⁹ One need look no further than the new subtitle to *How College Affects Students, Volume 3: 21st Century Evidence That Higher Education Works* (Mayhew et al., 2016). See page 2 of this volume for discussion of its conceptual framework, Astin's I-E-O model.

These cultures are promoted by national student affairs organizations (Culp & Dungy, 2012), large grant-making foundations (Culp & Dungy 2012), researchers (Kinzie & Kuh, 2016), and professionals (Elkins, 2015). It is through one of these cultures of data that a university attains student success. The clarion call of data-driven control is to be *student-centered and evidence-based*; in other words, to center the in/dividual, the individual as inspiration and the dividual in practice.

One of the perceived dangers to cultures of data discussed in the literature are cultures of compliance, situations in which actors move in certain ways in order to meet the standards of cultures of data, but do not connect their assessment practices with burning questions about student performance and the university environment (Kuh et al., 2015). Cultures of compliance are compulsory and breed resentment. Shifting from cultures of compliance to cultures of evidence helps “student affairs professionals follow the data, even when the results inconvenience or disappoint some members of the team” (Culp, 2012b, p. 23). A culture of data is a system in which actors are *motivated* to participate. Those duly motivated move in conformity to the relations defining learning (as a measurable outcome not an unaccountable process; Keeling & Underhile, 2007), engagement (as participation in high-impact practices, Kuh & Schneider, 2008), and student success (as measurable retention and graduation, with any number of measurements theorized as more proximal; Johnson & Cheatham, 1999; Seidman, 2012) in data-driven control. Though these are often portrayed as separate movements of the last 30 years, they simply represent different imaginings of outcomes within cultures of data. To advance cultures of data is to push for the dividualization of the university, and to push for not just the practice of assessment but the embrace of it. To embrace assessment

is to accept due responsibility for student learning, institutional effectiveness, and public support for higher education (Elkins, 2015; Kuh et al., 2015). To be in the culture is not just to be in the institution, but to remake the self to include a motivation for continuous individual assessment and improvement. Our boundaries of knowing AHE are constituted by data-driven control and our knowledge of AHE comes from a dividual placed in continuous algorithmic variation when we become acculturated to assessment, or when assessment becomes part of how we view our duties as practitioners, administrators, and researchers.

Content: Data Management Systems

Massive quantities of student information are collected and stored each year by every institution of higher education in America. These dividuals are no longer confined to those within student information systems, systems which on their own have grown to collect exponentially more information. These dividuals are collected by new electronic management systems of all kinds, including LMSs, assessment management systems, electronic records management systems, systems specific to the tracking of advising and tutoring, and newly marketed student success management systems. These systems trade information manually entered by university staff or directly by students, as well as information from campus biometric systems, swipe-card technologies, transfer institutions, library consortia, federal student aid databases, among many connections and flows. We are awash in a sea of dividuals; evidence accumulates everywhere. With this influx of evidence comes the need for new methods of its organization and dissemination; the data speaks, and we must be able to hear it. The earliest forms of digital student information systems, generally adopted by individual offices within universities (Delf,

1982; Jaski & Eddy, 1976), gave way to integrated student information systems that promised to combine systems from registrar's offices with those in admissions and financial aid, for example, to make a single system for all on campus (Anderson & Papinchak, 2001). These systems included student-facing innovations such as touchtone telephone registration, begun in 1985 at Brigham Young University, and today's web-based registration (Spencer, 1991). As this integration occurs, new vendors form with new systems to be operated by single campus departments, which creates demand for integration anew (or, in an acceleration of the flow of data, demand for an application programming interface [API] patch; Yardy, 2017). In addition to old and new individual management systems comes the rise of alternative credentialing, badges, co-curricular transcripts, and now, the promise of a Student Success Management System that will bring as many students as possible back for new semesters (or ensure they graduate), maximize the number of credits students pursue and complete, and boost the share of students who land a job that requires the degree they earned in college. (Straumsheim, 2017, para. 11)

Also shaping the modulations of individuals are foundation-developed initiatives that flow into peer-reviewed literature, such as the Degree Qualifications Profile (Lumina Foundation, 2014; Jankowski & Marshall, 2015) and Guided Pathways to Success (Burke et al., 2017; Complete College America, 2012). These systems, animated by the logic of data-driven control, are remaking the territory of the university from the inside out. These systems are islands in search of integration, an API, support from a foundation, a feature in *Inside Higher Education* or *Change*, or the right dashboard to mobilize within data

driven control's continuous algorithmic variation of an ever-expanding territory of individuals, and become entangled with the algorithms that give them voice.

In today's assemblage of power/knowledge, data speaks through algorithms. As these algorithms are governed by the truth of knowing complex relationships of impact, or causality, through data, algorithms are increasingly designed to calculate progress toward degree and other predictive analytics (Burke et al., 2017). The truth of the logic of prediction is so ingrained in undergraduate education that universities purchase multi-million-dollar individual management systems that include proprietary algorithms to identify students as at-risk and/or predict their future academic achievement. These algorithms sell the promise of capturing the at-risk combinations of individuals and assisting the provision of the proper means of support by which at-risk combinations of individuals morph into a successful combination of individuals. In fact, within this logic, every student carries risk until they complete the desired outcome (e.g. high risk, rising risk, and low risk; Studwell, 2016). The universities making this investment, which in this system of logic comes at the opportunity cost of potentially dozens of staff members, do so with no knowledge of the algorithm, as it is proprietary (EAB, 2018a). This highlights a paradox of data-driven control: institutions are so invested in the truth of data-driven prediction that they invest enormous amounts of resources in order to gain this knowledge with no knowledge of its exact derivation.

Predictive analytics are a specific type of algorithm that aims to predict student achievement of a single or constellation of outcomes at hand. Whereas data management systems primarily store and display individuals, predictive analytics (increasingly packaged within data management systems) place these individuals into motion. The algorithm(s)

used in predictive analytics channel, or axiomatize (Deleuze & Guattari, 1972/2009), data with the promise of capturing and channeling the future. Predictive analytics aim to predict the likelihood of students achieving the outcome at hand through placing academic, behavioral, and engagement data in relation to each other in an algorithm designed to identify students most in need of institutional intervention, generally to preserve academic performance (Burke et al., 2017). These outcomes are at once hyper-local, for example highlighting collections of individuals in need of a specific intervention at a specific university in order to remain likely to graduate in four years, and enmeshed within larger movements, such as the student learning movement in student affairs at the turn of the 21st century (ACPA, 1996; NASPA & ACPA, 2004). Predictive analytics are algorithms of impact, the form of content in data-driven control, placed into continuous [algorithmic] variation that both find and produce risk-laden combinations of individuals.

Subjects: Dividuals

Most university administrators, practitioners, researchers, and faculty no longer deal with embodied students; most deal with dividuals. Nearly every interaction with students as persons on college campuses today are mediated by dividuals—and in many cases, dividuals supplant the student subject entirely. Dividuals, packets of information about students and of all manner of university life, are the subject of the ostensibly student-centered modern American university (cf. Deleuze, 1992; Oregon State University, 2017; Raunig, 2016). Dividuals are defined and bounded, exchangeable, actual, visible, knowable, and quantifiable in the time and space of the study. Common student-related dividuals are listed above. The number of dividual-facing positions in undergraduate education is increasing (Elkins, 2015), and traditional student-facing

positions such as instructional faculty are increasingly individual-facing. This is both a direct consequence of cultures of evidence, and an indirect consequence of curricular offerings in which faculty know discussion board posts, clicker entries, or LMS engagement statistics.

Cultures of data call for individuals to be known and combinable in ever-increasing ways. Two examples of this come in the data-fication of an institution, and the call for the data-fication of the nation. Prince George's Community College uses an All-in-One assessment system, in which common grading rubrics are developed for courses, whose results, or individuals, are uploaded to an assessment management system to allow for the assessment of students, courses, programs, and general education at the college (Richman & Ariovich, 2013). Individuals flow unencumbered from late-night faculty grading sessions of student work to assessments of most other administrative levels within the system. According to this All-in-One design,

Data from each [assignment] rubric feed into the course outcomes and are then connected to program and/or general education skills. Furthermore, since the same rubric is used across all sections of the same course, the end result is performance data on the skills demonstrated in the assignment for a large sample of students. Thus, from a single assignment, faculty have graded the students while course learning outcomes have been assessed, and data have been collected on both program and general education learning outcomes. (Richman & Ariovich, 2013, p. 8)

This process continues with no end; it is one in which individuals are placed in continuous algorithmic variation. Administrators describe All-in-One as “a cycle of continuous

engagement” that, though it escapes quantification and thus the boundaries of what its own terms constitutes as knowledge, still “clearly makes assessment meaningful for faculty and improves their understanding of how their courses and assignments fit into the whole curriculum” (Richman & Ariovich, 2013, p. 9). Data envelopment on a larger scale comes with calls for national-level assessment through the work of national foundations and professional organizations or through national assessment systems (AAC&U, 2017; Dwyer et al., 2006; Kuh & Ikenberry, 2009). These systems, simultaneously local and national, driven by the state and by capitalism, work through manipulating combinations of dividuals towards forms of student success defined by optimal combinations of dividuals.

Data-driven control includes forces which are colloquially and academically categorized as neoliberal, or functions of academic capitalism (Slaughter & Rhoades, 2004). Dividuals also come in the form of money, investment, revenue, tuition dollars, returns on investment, a budget line, a vote in a state or federal elected body, and an opportunity cost. These dividuals become relatable to dividuals of assessment data, student records, institutional outreach efforts and he like and form a picture of an institution that is efficient and deserving of state investment or not, as of accreditation or not, or access to federal student financial aid or not. As Kuh and Ikenberry (2009) find, institutional accreditation, particularly as calls for accountability entered into its processes in the 1980’s, “is the primary vehicle for quality assurance in AHE and the major driver of learning outcomes assessment” (p. 26). Swing and Coogan (2010) extend this logic in connecting dividuals of learning, assessment, quality, graduation, and accountability through monetary cost:

When students are retained colleges receive the benefit of their tuition or state funding associated with those individuals. And the individuals advance toward their degrees. Using the College Board's estimate that a bachelor's degree is worth approximately \$300,000 more than the cost of the degree, a rough guess of the value for successful completion of a three-hour course (approximately 2.5% of a bachelor's degree) would be about \$7,500 above the cost of the course (Baum & Ma, 2007). The value of an assessment that increases the percentage of students earning credits could be based on the portion of the change attributable to that assessment, the amount of improvement observed, and the number of students affected. (p. 11)

Brint and Clotfelter (2016) find such monetary valuing to be "a difficult trick to pull off for example in considerations of equity and public service" (p. 4), but nonetheless recommend assessing institutional effectiveness through the comparison of individuals of information, including cost, related to "alternative approaches that achieve the same outcome" (p. 5). This includes analyses such as the cost of a lecture course compared to the cost of a hybrid online and discussion course, presumably also using individuals such as course grades and satisfaction to ascertain comparability. If student affairs units cannot or will not demonstrate their effectiveness through this scientific shuffling of individuals, Elkins (2015) predicts the consequence will be that "their areas of employment [will be] deemed 'nonessential'" and shuttered (p. 44). Whitt and Schuh (2015b) make the translation work of assessment between neoliberalism and science explicit, as it is implicated in units "surviving; demonstrating cost effectiveness; measuring student needs; assessing student satisfaction; [and] demonstrating the effectiveness of programs,

policies, and practices” (p. 96). It is indicative of an assemblage of data-driven control that we are in a time defined by student success initiatives, a term that contains multitudes (EAB, 2018b; Kinzie & Kuh, 2017; Roth, 2014; Shaw, 2017; Wolf-Wendel, Ward, & Kinzie, 2009), but in the literature and practice almost invariably means dividuals such as retention and graduation (Brint & Clotfelter, 2016). When truth comes in the form of a dividual, practitioners, administrators, and researchers push to discover the dividuals in their midst, separating data from its *others*, including hunches, gut feelings, anecdotes, multitudes, complexity, and the spirit of liberal education advanced not through the attainment of outcomes but in entanglement with the changing of the world.

Creating the Future of Undergraduate Education

Budd’s (1990) list of most cited higher education books had another curious inclusion: Thomas Kuhn’s (1962/1996) *The Structure of Scientific Revolutions*, tied at number twelve. Kuhn’s (1962/1996) work provides a direct counterpoint to the belief “in the cumulative nature of science” structuring the works of Feldman and Newcomb (1969), Pascarella and Terenzini (1991), and data-driven control. For Kuhn, as well as for the other anti-foundational theorists and philosophers of immanence cited here, science does not accumulate through progressively better metrics, outcome statements, technologies, or algorithms; science is a collection of dis/orientated assemblages of power/knowledge, punctuated by paradigm shifts, or points at which the structures of was previously understood to be true no longer held. The project of this genealogy was to put immanence to work to produce a review of the literature structured not by the steady progression of higher education research to its present perfected state of student success,

but rather by an excavation of the assemblages of power/knowledge upon which this moment is built.

Today, ranks of impatient reformers engaging student success through data indeed drive practice and the literature (Sugar, 2017). Data-driven control, expressed through literature including that authored by quasi-corporate entities like Complete College America, drives reforms that create the undergraduate curricular experience in its image (cf. Brint and Clotfelter, 2016, p. 26). In order to think undergraduate education outside of the orientated territory of data-driven student success, we must map the territory on which it stands. This genealogy is one such mapping of the practices that can be thought of as true, or the content and expression that form knowledge, in undergraduate education.

A lesson to carry forward from this review is that the production of four-year graduation will not come from the perfection of the science of education, from a better algorithm, from more complete sets of individuals, or even from the adoption of quasi-corporate solutions, as these are not the products of a perfecting science of student success (Feldman & Newman, 1969; Pascarella & Terenzini, 1991), but rather the product of an assemblage of data-driven control. The only assemblage of undergraduate education that has produced four-year graduation in the history of AHE is class unity, a regime which treated students not like individuals or individuals, but rather as indistinguishable members of a near-universally privileged, white, cisgender, male unitary class mobilized through a single university curriculum each year for four years, with no barriers to advancement other than disciplinary expulsion or dropping out as a protest of policy, cumulating in near-universal graduation. As a return to class unity is likely off the

table, perhaps the production of four-year graduation will come from the subversion of our current regime of data-driven control into uncharted territories. Or, just maybe, we will stretch and bend and warp the boundaries and coordinates of this orientation not in service of four-year graduation, but in search of the non-dividual corners of student success such as a liberal education (Roth, 2014; Shapiro, 2005). To seek such becomings is not to operate within the boundaries of unscientific anecdotal practice as opposed to scientific or data-centered truths (Culp & Dungy, 2012; Willey, 1949). Rather, data-centered truths *are* the knowledge of the present, haunted by power/knowledges of the past and those to come. To seek a higher education that pursues liberal education is to understand the orientation of our current assemblage, and to push at its interstices to create the forms of student success that escape the capture of data. Next, we explore the map of Great State University's student success initiative, itself orientated toward data-driven control.

CHAPTER V

A MAPPING OF THE PRESENT OF STUDENT SUCCESS AT GREAT STATE UNIVERSITY

Student success, an inescapable term in contemporary undergraduate education, generally carries a specific meaning in the academic and gray literature: retention and graduation. This is the case as well at Great State University. The brand-new student success initiative is oriented wholly around attaining a ten percent increase in the four-year graduation rate of first-time full time undergraduate students from the matriculating Fall 2012 FTFT cohort to the matriculating Fall 2016 cohort. By marketing the provision of *student success* instead of *retention and graduation* to the public, institutions weaponize vagary to capture the imaginations and intensities that *retention and graduation* does not elicit. Student success as a vagary allows the term to be what it needs to be to do work with the audience it has. There is great power in this capture of difference. We here attempt no different capture; we grant student success its definitional *vagrancy* and instead orient our inquiry to how it works. In the words of Foucault (1980), “The history which bears and determines us has the form of a war rather than that of a language: relations of power, not relations of meaning” (p. 114). To study this war, we explore the first year of Great State U.’s student success initiative as an assemblage.

Treating student success as an assemblage allows for a discussion of student success not just as it is (definitionally), or appears to be (representationally), but also in terms of the orientation through which it comes into line and its potential to queer its orientation to become something different. The sociological exploration that follows maps the orientation and disorientation of student success. The orientation of student

success is comprised of series of expressions and content which homogenizes, is visible, and is largely taken-for-granted. These are the series which render certain material↔discursive practices intelligible; these are the regimes of truth of student success at Great State U. Disorientations are series comprised of the practices of student success at Great State U. which escape these series. This social exploration is structured not through individuals, or persons, but rather through the content and expressions of these series. These series cascade and flow through the molecularity of the initiative as an assemblage rather than as assembled, re/presenting orientations and disorientations here at what at times feels like a casual pace but what might more often feel like a frenzy. In previous chapters, *Intermezzos* provided from-the-middle asides to complicate and move the topic at hand. In this chapter, the movement is built in; each section in this chapter is an intermezzo, a from-the-middle irruption of Great State University's student success initiative. This movement is intentional; this is the intensity of the first year of Great State's student success initiative that escapes representation through the words of each series. As we are in search of the molecular, or that which prefigures representation, observation and experience do not reveal a pre-individual reality but are the means by which we palpate the content and expression of the world (Mol, 2002). We touch and maneuver and poke and prod and agitate and stir and shake and *disturb* the world in search of both difference repeated to create the same, the series which comprise homogenized orientations, and also difference that escapes capture by representation. Liberal education is that which is at the boundary of orientation and absolute disorientation; here, data-driven control and chaos. As a chapter, this tracing tells the static and determinate stories of the persons and things of Great State University. As an

assemblage, this map becomes a little abstract machine, a tool to create a different way forward for student success and liberal undergraduate education.

“We are Working on This:” The Expression of the Student Success Initiative

There are no people in this molecular sociology. There are no individual administrators, no faculty, and no students to be found. This ethnography tells the incomplete story of an initiative, of an institution, and of the content and expression circulating in this moment. This ethnography maps the conditions of possibility of student success as liberal education. To envision the promise of liberal education is to envision the promise of education that takes seriously the gains possible when we act at the limits of data-driven control and take up residence in the borderlands where control meets chaos. The representation of the results of this research centers the premise of this promise. To fracture/fractalize individuals in practice, we must break apart the reliance on individuals in research, and in our representations of research. Constructions of students as data points must go, and individualized administrators and faculty must go as well.

We, as used in this ethnography, covers a shifting terrain. *We* is an attempt to join in community with *you*, the reader. *We* is an escape from the directness of *you*. *We* is the bubble created during field site observations by those in the room, administrators, to be contrasted with *you*, outside the room. Often *you* had a name: advisory. Advisory is the turn of phrase that deems you worthy of contributing to the construction of the student success initiative. Advisory is the turn of phrase that keeps your committees' contributions beyond the scope of open records laws. Advisory marks the limit between *we* and the outside. Advisory folds you in to the initiative, but only so much: *“that's going to be the thing about this advisory group, people aren't going to give a shit.”* We

administrators give a shit; our jobs are on the line. For those still tracking persons, note that human membership in these groups are in constant movement. Administrators and faculty, from entry-level to senior, from non tenure-track to full, occupy both groups in ever-shifting combinations. Administrator, when used to name speakers throughout this chapter, refers to a person in that context who was on the inside. Advisory, when used to name speakers throughout this chapter, refers to a person on the boundary between inside the initiative and outside of it. There is no presumed hierarchy between these two namings; sometimes advisory folk were below administrators on organizational charts, and sometimes they were above. There can be no naming of speakers purely from the outside, as those expressions escape the visibility of the initiative, the institution, and myself, your narrator who is somehow implicated in both and neither of these groups. In practice, in a world of content given form by data-driven control, these distinctions matter. In some cases, this indirect attribution will also fall away from quotations, leaving the only possible attribution to the assemblage. The aim of this molecular sociology is to map GSU's collective assemblage of enunciation, the *expressed* of their orientations as well as disorientations, in search of possibilities of machining *content*, in particular *students*, differently. As such, through giving no attribution to quotations other than administrator and advisory, the ultimate attribution of quotations here is to the collective assemblage of enunciation of GSU's student success initiative.

Quotations and paraphrased expressions appear in this shaky attributional space. Practically, this is an anonymous study. The level of access this ethnography maps, from senior leadership to entry-level coordinators, is made possible through anonymizing both people and the institution. Functionally, attributional ambiguity exists only if you are still

in search of radically individualized individuals to hold accountable. This study gives clear attribution and assigns clear accountability to the orientated and disorientated aspects of the student success assemblage at Great State University. Accountability here comes not from naming names, but from the accuracy of this cartographic map, and the work that it does in advancing radically open futures through both liberal education and critical qualitative research methodologies.

Allow Ourselves to Introduce... Ourselves

To the tune of “Tune Up #1,” *RENT* (Larson, 1996a, Track 1).

August 25th, 2pm

Pacific Standard Time.

From here on in, the success initiative begins.

Well—this narrator’s view of it. It’s been kicking for a bit.

First scene: meeting,

with the retention czar

that’s just been hired on.

Where’s data?

Here? Come on!

Grad rates are the goal,

four year ones specifically.

Are you talking to me?

Not at all –

Are you ready?

Where's those gains already?

They've hired an admin, now can they find 60?

I've got a great strategic plan

<beep>

Seeing Student Success Like an Institution: An Overview of Dividuals in Continuous Algorithmic Variation

Okay students, now let's get in/formation.²⁰

We begin again with the practices of student success that are legible to a university. This legibility is a function of data-driven control discussed in the previous chapter. Eighty or so years have passed since the crystallization of student-centered biopower in undergraduate education, and a quarter-century has passed since the crystallization of data-driven control. Much has changed in this passing of chronological time: centralized records have moved from Hollerith machines to mainframe computers to server farms, central student affairs documents no longer (explicitly) describe undergraduate education as a project of preserving the race, the ranks of student personnel officers and of faculty have boomed alongside *de jure* desegregation and several waves of increased undergraduate enrollment. While these are significant historical shifts with far-reaching material consequences, their greatest significance comes in the associated shifts in the pattern of relations within which we understand what we know to be true. Data-driven control is the pattern that now marks the assemblage of heterogenous elements of student success.

²⁰ Beyoncé, "Formation," *Lemonade* (Brown, Frost, Hogan, Knowles, & Williams, 2016, Track 12).

It is well worth noting that while data-driven control marks student success at the institutional or administrator level, it less completely marks it at the borderlands of the institution, the advisory level. For the people in the institution who are on the boundary of inside and outside of the initiative, and who work with students directly, they can see student success outside of data, and they note the insufficiency of data to describe their students. In a very important way, the work of the initiative is seen as the resolution of this incongruity in the direction of data-driven control: *“I think it is worth saying that in the last two years we’ve put in this massive effort, truly unprecedented on this campus, to coordinate advising, to track advising appointments, to know when students are off-track—we’ve really invested in this work, this isn’t bullshit.”* The sight of advisory folk must be corrected to see student success through tracks, through data. In an important way, the initiative views its work as in part creating a community, a series of relationships governed by data driven control:

Administrator 1 and 2: Discussion of slower-than-expected implementation of *“standards of practice”* in campus advising.

Administrator 2: *“You can’t come in and mandate something to a community when the community doesn’t exist.”*

Advising as a function and advisors as persons existed in communities at GSU long before the student success initiative. The work of the coordinated advising strategy of the student success initiative was to colonize the borderlands of the initiative under the flag of data-driven control. Ambiguity, fuzziness, information out of sight of the initiative needed to become legible to it, and this legibility was gained through data-driven control.

Below is an introduction to the forms that organize and make content and expression visible as substances by data-driven control at Great State University: dividuals, flows of dividuals, and the local grid of intelligibility.

GSU Dividuals

Dividuals are defined as discrete, bounded, and mobile, recombinable entities. In many cases, these dividuals are considered data. Stated differently, in many cases, the environment at GSU must be placed into dividual form in order to be considered data, and thus knowledge. This definition perhaps steals conversation from what follows, namely, a partial listing of dividuals in motion at GSU.

Retained. The student (ID number) in question was registered for at least 12 credits on the census date of the term in question. *Units: nominal variable, yes/no.*

TTD. Time-to-degree is understood in two ways: 1) the number of terms or years an institution tells the federal government that a particular degree program requires to complete. 2) a student-level measurement of how much time a student (ID number) in question took to complete a particular degree. *Units: ordinal variable, positive numbers.*

FTFT cohort. First-time full-time cohort is the group of students matriculating in a given year that count in the retention and graduation metrics of that class. These students are first-time undergraduate students transferring in no college credit other than what they may have earned while concurrently enrolled in high school, or what they may have earned in the summer prior to their first time fall enrollment. *Units: ordinal variable, only one cohort at GSU is of interest to the student success initiative; it is referred to in two ways: the matriculating students of Fall 2016, or the Class of 2020.*

On-time. On-time refers to the time period in which GSU would like all students to finish undergraduate degrees: four years. There is discussion of undergraduate programs designed to take five years, career paths for which a fifth year is advantageous, and financial and family circumstances that may contribute to a fifth year or more to complete a degree. On-time is an unquestioned benchmark with a gravitational pull of its own; valid exceptions to extended TTD are invariably streamlined to on-time graduation. *“As long as they get out in four, and then do the post-bacc.” Units: nominal variable, yes/no.*

GPA. Grade point average is the quantification of learning averaged across the set of credits completed by a student (ID number) level across a set of courses taken. *Units: scalar variable from zero to four.*

Term credits attempted. The number of credits a student (ID number) was registered for after the last day to withdraw, or as altered by approved petition. *Units: ordinal variable, whole number generally ranging from 0 to 12 (full-time for the purposes of federal student financial aid), to 15 (average number of credits generally required for a student [ID number] to graduate in four years, or more.*

Term credits earned. The number of credits, of those attempted, that were successfully passed. At GSU, this excludes courses completed with grades of F, incomplete (I; until resolved), no pass (NP), or no basis for grade (X). The Y grade, another no basis for grade designation, was removed during the time of this study to reduce the ways in which student (ID numbers) fail to earn course credit. *Units: same as term credits attempted.*

AY credits earned. Academic year credits earned is the total number of credits earned by a student in all terms excluding summer term. To be on track for on-time graduation at GSU, students must complete 45 credits each AY. A rough predictor for students (ID numbers) ‘at-risk’ of not graduating on time is if they miss this benchmark, or its associated term benchmark of 15. *Units: ordinal variable ranging from 0 to 45 or more.*

Professional objectives, interests, majors, tags. Nascent capturings of information about students into formats visible to data-driven control. *Units: categorical variables, generally.*

Yield, or impact. A dividual derived from the computation of impact, described below under *GSU Flows of Dividuals*. As a dividual, impact is used to determine the effectiveness of a particular unit, be it a pilot program, office, person, or the initiative itself. *Units: if following a calculation, then this is a scalar variable. At GSU, most determinations of impact occurred outside of formal calculations, as most methods of calculating were unformed or in constant flux (see metrics and PTD, below). Therefore, in practice, units are an ordinal variable representing best a gradation of many categories, and at its most simplistic yes/no.*

Goals. The largest of targets of the student success initiative. *Units: nominal variable.*

Strategies. The first-level components of goals; a goal is comprised of a set of strategies, through which the goal is realized. *Units: nominal variable.*

Tactics. The first-level components of strategies; a strategy is comprised of a set of tactics, through with the strategy is realized. The second-level component of goals.

There was discussion throughout the year as to the proper categorization of ideas as goals, strategies, or tactics. *Units: nominal variable.*

Educational Advisory Board (EAB), Complete College America (CCA), Association of Public and Land-Grant Universities (APLU), Inside Higher Education, Center for Postsecondary Research. Sources of student success solutions. Forms of content of data-driven control. *Units: nominal variable, solutions.*

Touch. An advising meeting, tutoring appointment, or other person-to-person contact between the institution (employee ID number, program name, or unit code) and a student (ID number). *Units: ordinal variable, whole numbers.*

USD. United States dollars. Money. As a dividual among dividuals, it is able to be placed into variation with other dividuals to create the possibility of thinking of student success in terms such as return on investment, and students in such terms as customers. *Units: ordinal variable, USD.*

Data. Data, a frequently-used term, here refers to bounded and recombinable constructs. *Units: bounded, definable, measurable construct of any constitution.*

Public-private partnership. A description of the nature of GSU's relationship with most of its information technology vendors. GSU's partnership with EAB in particular gives EAB access to student information system (SIS) data from the past ten years in order for EAB in return to generate predictions of risk levels for currently-enrolled students based on prior student performance data. GSU pays EAB millions of dollars every year for the opportunity to give EAB this data, and in turn receive this metric. EAB presumably uses the knowledge, or data, it gains from each of its client institutions in its recommendations and metrics for all of its client institutions. EAB

considers the metric it produces with GSU's student data - the predictive analytic of student risk - to be proprietary, and as such GSU cannot know what it is. GSU does not know what individuals EAB uses in its at-risk metric, nor does it know what weight EAB gives what individuals, nor does it know when EAB varies either the individuals in use or their relative weights. In short, GSU does not know the formula by which its students are placed on EAB's scale of risk. In return, GSU gains data-driven truth: what students are at-risk, as known through (unknown to them) data. *Units: for the private end of the partnership, USD; for the public end of the partnership, legitimacy.*

Proprietary. Legal ownership. Here, this refers to legal ownership of an algorithm used on campus to determine if a student is 'at-risk' and would benefit from increased touches with advising or tutoring. GSU does not own this algorithm; it is proprietary to EAB. Thus, no administrator or advisory person knows how students receive at-risk labels. *Units: nominal variable, yes/no.*

SCH. Student credit hour. Generally referred to not as a unit of learning, but as a unit of tuition revenue, e.g., a 3 credit course with 50 students enrolled generates 150 SCH of revenue. *Units: ordinal variable, whole numbers.*

GSU Flows of Individuals

A flow is that which relates a series of individuals to each other. Under data-driven control, flows shape the continuous algorithmic variation of individuals in terms of their relative weight and inclusion over time.

Gantt chart. Order and combination of persons, goals, strategies and tactics to produce desired outcome on time. *Constituent individuals: responsible persons ("owners"), goals, strategies, tactics, due dates.*

Databases and APIs. Dividuals relevant to the student success initiative exist in multiple digitized systems throughout the university, including the registrar's SIS (Banner), Canvas, GSU's learning management system (LMS), and SSC Campus (Student Success Collaborative Campus, an EAB product), GSU's new advising platform and risk predictor (EAB now bills this as a student success management system, or a SSMS). Dividuals flow between these systems with special programming provided by vendors or GSU information technology personnel. These patches that allow for intra-system flows of dividuals are referred to as APIs, or application programming interfaces. The push in the initiative is for more flows of information, and thus more or better APIs, an issue both of IT support and the removal of FERPA blockages.

“Canvas, Banner, and SSC don't talk to each other.” / This is a “larger conversation with General Counsel about the way data is flowing.” / <discussion of the blockage of the flow of midterm grades among systems> / “Let's have a student success meeting with [advisory] in April.” / “It hasn't been helpful to say this is what other schools do. The problem is our interpretation of FERPA.”

Constituent dividuals: potentially, all fields within all campus databases. This is limited by IT support and interpretations of FERPA.

Degree audit. Formatting of SIS dividuals through graduation requirements determined by student (ID number) declared major(s) (code[s]) and minor(s) (code[s]).

Constituent dividuals: course and grade requirements; courses completed, quality points, credits, primary major, secondary major, declared minors.

Degree progress, PTD, TTD. Degree progress and progress toward degree (PTD) are calculations of the percentage of the coursework aspect of degree requirements

a student (ID number) has completed. Non-coursework completion degree requirements, including required GPA upon graduation and residency terms, are not included in this calculation. As such, the best possible calculation of degree progress or PTD is still incomplete. This calculation is further complicated by the number of degree programs a comprehensive university like GSU has, the number of pathways to complete these programs (different emphases or tracks within majors, B.A. versus B.S. options, etc.) as well as the calculations of the completion of required electives, or the courses that occupy the gap between the university's minimum number of credits earned required to earn a degree and the number of courses explicitly required of a student in a particular degree program at the departmental, college, and university level. TTD is sometimes conflated with PTD to refer to the total number of terms or years a student takes to complete a degree, and other times used to refer to the number of years a degree program takes to complete. *Constituent individuals: this was in constant question. Possible individuals: (primary?) major course requirements, (primary?) major GPA requirements, student (ID number) completed courses, student (ID number) GPA...*

Clusters. Pre-defined four-year plan of courses to help guide incoming students to “on-time” or four-year graduation. This is a direct application of Complete College America’s (2012) Guided Pathways to Success on this campus. *Constituent individuals: primary major, student ID, cluster, four-year plans.*

Statistics, or metrics: “*On some of this, we’re caught up in statistics.*” This, and statements like this, are vague references to metrics or algorithms that most, if not all, people in the room believe in but do not know the parameters of their construction (if they currently exist). *Constituent individuals: various metrics were discussed in relation to*

the initiative, including PTD and the university budget model for colleges and departments that was to hopefully include a metric that incentivized student success. The individuals that constituted these statistics, or metrics, were in constant question.

Slide decks. PowerPoint presentations of the success initiative are fungible combinations of slides. Sometimes new slides are generated, but most times, slides are combined and recombined from presentation to presentation, placing simulacra of the initiative in operation across campus throughout the year. *Constituent individuals: slides.*

Value of four-year graduation. Value—cost or benefit—is referred to in almost exclusively economic terms. The cost of not graduating in four years is extra tuition and lost full-time wages, while the benefit of graduating in four years is not having to pay extra terms of tuition and instead earning full time wages. *“Our strategy in these times is to help our students get out as fast as they can to help lower their bill.”* *Constituent individuals: USD, time.*

Dashboard. A landing page that provides a quick snapshot of individuals and flows that administrators and advisory folks can quickly use to make data-based decisions. *Constituent individuals: EAB has a dashboard that advisory folks used, inclusion and organization of constituent individuals was EAB’s decision. Administrators discussed the need for a different, administrator student success dashboard all year, but the constituent individuals were never finalized, and the technical ability to create this dashboard, even when individuals were known, was missing.*

Research-based, evidence-based, data-based, the literature. In advisory meetings, research meant (largely quantitative, data-driven) higher education academic literature. In mixed meetings and in purely administrator meetings, research was a term

frequently used (“*Research shows that...*”) but rarely defined. Implicitly, this almost always referred to white papers from foundations and the like. There was one instance this year that a definition was given, and it matched its implicit usage: “*You know, the stuff from Complete College America.*” *Constituent dividuals: justifications for actions.*

[Senior leadership]. Combinations of persons working to hold the student success initiative accountable. Student success planning meetings often were used to plan for meetings with these groups. As stated at the end of the first of two student success planning meetings in one day, both devoted to preparing a slide deck for a separate meeting with senior leadership: “*We spend so much time talking through and planning how we’re going to talk through things with others.*” *Constituent dividuals: administrators.*

Impact. The impact of the student success initiative is generally understood to be a function of two items: input (I), or the student as they arrive at GSU, and environment (E), or the ways in which GSU promotes or blocks student success (this aligns with Astin, 1970a, 1970b; Kuh et al., 2006). Impact is the difference between the student output as manipulated by the GSU environment and the student output after the same period of time with no connection to GSU. This formulation placed the initiative at times at odds with admissions: “*If [they] keeps admitting worse students, we’re fucked.*” Impact is the motor of the continuous algorithmic variation of flows of dividuals within data-driven control. *Constituent dividuals: input, environment, output.*

Student. As visible to the institution, a student is the set of dividuals associated with a student ID number. *Constituent dividuals: any dividual that can be directly*

concatenated to the student ID field in a student information system, be it in the central registrar SIS or any number of satellite, local, or to-be-APIed SISs.

How Does One Become a Student Success Problem?

Being the problem makes you the problem.

This study is limited as such to the performances, statements, and enactments of this single year. Framing the student success initiative through the *problem* of the four-year graduation rate of the class of 2020 works as a limit as well. A problem comes with clear boundaries that form both problem and its solution set. The question of how one becomes a student success *problem*, or rather, how one becomes the target of GSU's student success initiative, lingered throughout this year, even with the initiative's boundaries long set. Later, we take a look at student success as a problematization. In this section, we map the boundaries of the student success initiative--what problems are visible through its orientation?

The Problem, As Announced to Campus

This initiative began its public life at GSU one year before this study began. In a speech marketed to GSU with email campaigns including custom graphics, and scheduled in a large central location on campus during the lunch hour with the local news media on hand and campus videographers at the ready to both livestream and repackage clips for future promotion, this initiative was introduced as such:

It's a problem of expense. The problem of student success is a problem of individual student finances; to remain in school past on-time completion is to spend even more money on tuition than a student should need to, and it is also to lose the opportunity to earn a full-time wage in the meantime. This is a familiar argument in the academic and

gray literatures. Curiously, in this section of the speech, the administrator announcing this initiative spoke not of tuition, but of expenses or costs. It goes without saying that at GSU, as it is across the nation, the overwhelming direct expense of college attendance is tuition. Expense, or cost, as used here functioned as a euphemism for tuition in order to allow this administrator to discuss how the institution might reverse rising student expenses without reducing tuition: *“The best strategy to reduce the cost of college is to ensure more of our students graduate on time.”* It is “heartbreaking” that one-half to one-third of GSU students pay massively increased costs from failing to graduate on time, or at all. Increased costs thus shift the problem from its usual location in discussions of historically (and unsustainably, for all except the white ultra-rich) high tuition to on-time graduation. The way to reduce student costs, when the problem is located in this manner, is no longer to reduce tuition, but to graduate students sooner; we must *tear down the institutional barriers*. The solution is baked into the problem; as the problem is framed in the language of data-driven control, to solve it GSU must remake the institution in the image of data-driven control.

It’s a problem of structure(nce). The problem of student success is thus also a problem of institutional structure. It is a problem of environment (E), and as such, this student success initiative is framed in terms of impact-environment-outcome (I-E-O), the dominant language of impact studies. The desired output is four-year graduation and the institutional environment is to be manipulated to motivate and support students’ (timely) graduation. Student input characteristics are monitored as a potential drag on environmental efforts: *Update from the [senior leadership] meeting: fall 2017 enrollment undershooting expectations at May 1 decision day. Made sure to add that reaching to*

admit lower-profile students will negatively impact retention. There were a few major structural changes announced in this speech, one of which held the promise of more structural changes to come. GSU was to hire what was referred to as a retention czar. This retention czar would hold a senior position, and this position's title would contain the alternate naming of retention czar, student success. This retention czar would be placed within an existing organizational structure and be charged with changing the larger institutional environment so as to produce more four-year graduates. The problem, as announced from within the new organizational structure one year later, was stated as such: *"My role here is in student success, so how are we going to graduate our students in four years. [My previous campus was] farther ahead - had SLOs [student learning outcomes], mechanisms for measuring, embraced campus wide, every syllabus had objectives... things were more integrated."* The problem of this new student success organizational structure: how to manipulate the institutional environment to produce an outcome of ten percent more four-year graduates? We are getting a little bit ahead of ourselves—there was one more student success problem of note mentioned in the campus rollout of GSU's student success initiative.

It's a problem of not letting what we've built up crumble to nonsense.²¹ A sharp reduction in state funding was cited in the introductory speech as a direct influence on the need for the initiative in the first place. Great State U. was not only feeling the effects of state disinvestment after the Great Recession, a common issue for public universities across the country, but was feeling the effects of a codified state disinvestment begun decades prior. As soon as state disinvestment was cited as meaningful, however, the speech shifted focus to the institution. GSU, it was said, could

²¹ All due credit and apologies to Depeche Mode (Gore, 1986, Track 3) for inspiration in this section.

no longer wrap itself up in worry about the return of state funding to earlier levels. Instead, GSU must restructure in light of this reality. The institution cannot crumble while it waits for state funding; it must understand itself to be a quasi-public (or quasi-private?) entity and optimize students' exponentially higher expenditures accordingly.

The Problem, As (Usually) Defined Within the Initiative

Welcome to our first student success meeting since the hiring of our retention czar. The plan is to develop the plan, or to assign strategies and tactics among folks for the attainment of the student success goal. This meeting provides only momentary resolution; nine months later, the very last student success planning meeting of the year was convened with just the same plan in mind, and many meetings in-between the two reworked the same goals, strategies, and tactics. At the beginning of the year, GSU's student success target - an increase in the institution's four-year graduation rate by ten percent by 2020 - is divided up into two actionable goals. The first component is an increase in student retention, the second component is decreasing time to degree. I describe GSU's understanding of each below, in turn.

Increasing student retention: Coordinated advising. Increasing student retention is a goal containing three strategies at the start of the academic year: increasing student support, creating community, and implementing the recommendations from an academic policy audit provided by EAB. The vision for increasing student support is to put policies and procedures in place campus-wide to ensure that this year's first-year students (FTFT, to be exact) receive one mandatory advising session, or touch, timed to occur at an optimized time during the year. As fall quarter is only weeks away at this point, and the availability of undergraduate academic advising on campus is notoriously

spotty depending on a given student's college and department, this is a lofty tactic. It becomes apparent that mandatory touches will come from the advising office that serves both undeclared students as well as students who need assistance that their college or department cannot provide, as this office is within the student success initiative. Many advising-related tactics need action in the next few weeks. As it concerns advising, students, advisors, and college and university administrators need to get in formation.²²

Student support. Advising is a profession that retains the vestiges of student-centered biopower. The purpose of advising since the dawn of student affairs is to help students internalize the values of the institution and perform actions in accordance with these values on their own, independently.²³ This process between advisors and students was never thought to be fully scientized; under student-centered biopower, scientific knowledge of students informs, but does not determine, advisor interactions with students. This initiative conceives of the advisory role in motivating students no differently: mandatory advising is thought of as a strategy “*to achieve the goal of students understanding the structure of their major and four year plan.*” However, data-driven control comes into play when determining which students will have access to advising, and at which points in the academic year. The selection of student (ID numbers) encouraged to utilize advising is exclusively informed by institutional and EAB-determined collections of data points that define risk. Formulas and proprietary algorithms form the specificity of the target populations for mandatory touches as well as the messaging these students receive in these mandatory sessions. One data

²² Beyoncé, “Formation,” *Lemonade* (Brown, Frost, Hogan, Knowles, & Williams, 2016, Track 12).

²³ For an extended discussion of the intersections of the dawn of student affairs and the down of student-centered biopower, see Chapter 4.

identification/disciplinary messaging pairing was suggested for students identified by the data as at-risk for being not retained: “*The first question should be ‘are you planning on coming back next year?’ And if not, let me help you change your mind.*” As such, calls for coordinated advising can be read as calls for advisors to shed the layers of student-centered biopower they retain and come more fully into data-driven control.

A side item under student support is tutoring. The stated goal is free evidence-based tutoring for all: “*we need to use what works.*” Tutoring receives no sustained attention from the administrators of the student success initiative in its first year. Its functions remained largely invisible to the initiative.

Community. The second strategy under the goal of increased retention, creating community, is placed in the planning stages for this academic year and to be implemented in the 2017-18 academic year. Community comes in and out of the initiative in very interesting ways throughout the year. One contact point is through data-driven control: community is an evidence-based set of relations that produces increased four-year graduation rates. In this usage, community is used as a best practice for student success, and variously labeled as a tactic or strategy. Several forms of community cited in this way were GSU living-learning communities, the freshman live-on requirement, first-year programs (including living-learning communities), and student groups. All of these forms of community preexisted the student success initiative, and none were included in the practices of the first year of the student success initiative.

Community also came into contact with the initiative as a mechanism to direct attention away from student success as definable and measurable, and towards a definition of student success as that which is excess. Sometimes, this excess took the

form of explicit pushes for liberal education. Other times, it was used to justify definable and measurable work through the anticipated impacts such work would have for minoritized communities. In one major address, an administrator spoke to this latter sense of community when defining the work of the office leading GSU's student success initiative:

Education is about unlocking potential, the full potential of each student; it takes place, fundamentally, in community. We don't come together to teach and learn in schools, in universities, just because congregating together is convenient. We come together because we humans need to work and grow and learn in community – from and with each other -- if any of this is going to work.

Community *transes* the surface of control and becoming. It both provides justifications for reading student success through measurement, and it provides an opening to practice success outside of measurement's capture.

The EAB audit. The third part of increased retention, the implementation of the recommendations from EAB's academic policy audit, structured strategies and tactics throughout the year. Of the fifteen sections of the EAB audit, "*we're too lenient on 13 out of 15 measures.*" The 13 measures were cited in conversations about the work of the initiative and listed as strategies or tactics in several planning documents throughout the year, though they were rarely linked to the EAB audit. This citational omission did not appear to be deceptive in any way; rather, it marked this knowledge of 13 areas of leniency to have become a common sense. This audit provided general justification and specific policy ideas for reforms throughout the year.

Decreasing time to degree: Coordinated curriculum. Decreasing time to degree, the second goal of the initiative at the start of the year, is comprised of shifting strategies and tactics. There are two main reasons for these shifts. First, there is persistent disagreement on what constitutes a strategy or tactic. Second, the desire to know time-to-degree through data is combined with an inability to access data. This section explores these shifting strategies and tactics. Later in this chapter, *The Normalization of Success* details the individuals and flows of this strategy.

Goal vs. strategy vs. tactic. One meta-problem at play in the student success initiative is shifting definitions of goals, strategies, and tactics. The year began with the above two clear goals, and a set of fairly well-defined strategies for each. The work of the first part of fall term was to define and begin to implement the tactics associated with each strategy. By the end of winter term, there were questions about how many goals should be at play (were there actually three goals of the initiative?), and confusion as to what should be deemed a strategy versus a tactic under each. At the same time, the sets of identified strategies and tactics themselves were in flux. Conversations where goals, strategies, and tactics were re-formed and re-ordered became tense:

“Now this... seems like a tactic to me.” / “[They] made the case yesterday for this as a strategy.” / “My brain tells me that this is one part of a much broader strategy that...” / “...okay, now you’re making me crazy.” / “Why?” / “I put [this] on this list as a strategy and you told me it was too vague.” / <a tense discussion ensues> / “Alright. I don’t care. It’s obviously something that is really important, so I don’t care where it goes in the hierarchy.”

This movement could be a sign of an initiative embracing immanent constructions and deployments of energy, but the intensity of these discussions belied this. Rather, this movement signaled the frustration of an initiative in search of a solution in the terms supplied by data-driven control.

A Preview of Entangled Problems

As GSU's student success initiative was defined as a push for a 60 percent four-year graduation rate for the fall 2016 FTFT cohort, the stickiest problems for the initiative come in relation to time. How might the institution be able to know what has worked to help students in the past such that it can structure the ways in which it works with students now to produce the current FTFT cohort at or above 60 percent graduated four years in the future? Or, can GSU know the present so well that it can predict (and capture) the future? The last set of problems structured by GSU's student success initiative concerns how the institution can go about restructuring time into the *chronos* that produces their goal. What follows will remain present for the remainder of this chapter.

Know the future: Prediction. An underlying logic of the student success initiative is that to optimally change the institution to support student success as defined, the initiative must be able to predict which students in the current FTFT cohort are not likely to graduate in four years (plus the trailing summer, if needed). But who would be the most likely to do so with the least amount of additional institutional support. The student success initiative must be able to generate a prediction of the future that not only marks those unlikely to graduate on-time, but also to place those students on a continuum

of easier and harder to get to four-year graduation, and focus institutional efforts on those students easiest to move.

“We need to be strategic about this... If we just bite off a piece here and there, we’re not going to get things to add up to the reform we need.”

<Extended discussion on the optimal composition of senior leadership to include in future meeting.>

“I don’t know how to prioritize these [tactics].”

“Number of students it effects, or impact on graduation rates?”

“Prioritize on two metrics: ease of accomplishment and impact.”

This sorting of students according to need and working with students first who are the most likely to shift the graduation metric was occasionally discussed in terms of population health: *“...and on population health model, being careful that we’re not spending too much time here on students who are going to be fine.”* At times, this was seen to be just the function SSC Campus’s risk level scale was to serve. At other times, such metrics were thought to be components of the larger strategy:

“[Senior leadership] truly believes [they] can solve this problem with data, by [themselves], locked in the room.” This is hubris, and it is not what we need. Instead, *“we are the experts in student success. Here’s what we know. How will you guys set this up?”* An assessment plan? *“It seems the student part is those key retention factors... here’s what we know, our goals are to”* go with those, then develop strategies that follow, then tactics.

“It’s all based in the literature, what we know.”

“Right, it’s what we know. Would it help to start with that? Here’s what we know, here’s what will make a difference?”

The role of prediction, particularly as it relates to time, is covered in greater detail in *Causality and Impact: Student Success Futurity, Redux*.

Capture the future: Data-driven control. Data-driven control is the concept that describes the relationships in American higher education today broadly (see Chapter 4), as well as in GSU’s student success initiative specifically. Data-driven control captures the future, present, and past of the student success initiative. *“We need a model that tells us are we on track to meet the 10 percent increase by 2020... we need something we don’t have now, and we need to be able to say it’s different than what we have now...yield is an important word. What we currently lack is any model that tells us what the yield from our interventions are. So we need a dashboard with key performance indicators that tells us if we’re on target for our yields.”* Data-driven control is expressed in the mundane statements of the initiative at every step throughout the year: *we must assess the impact of advising on student outcomes and student success. “How do we determine that what we’re doing is working? There are specific things.... that if we do them on campus, how do we determine that its effective?”* Once impact is determined within data-driven control, another set of mundane statements places this new dividual within a flow of budget dividuals: *“Our job is to figure out metrics for student success that drive the budget towards them.”* As I noted to myself during a meeting in mid-February, *“How might one escape? These meetings provide no escape from this frame.”* Data-driven control operates through the creation of bounded and discrete dividuals,

through placing these individuals into flows of similar individuals, and through keeping these flows moving in continuous algorithmic variation.

Fight the future: When keeping it control goes wrong.²⁴ What happens when prediction is central to the logic of your initiative, and the prediction begins to foretell your initiative's failure? This is the predicament that GSU's student success initiative found itself in at the first SIS data pull after the winter term census date. This is the point at which the first theorized predictor of four-year graduation, fall-to-winter retention, is calculable. There was some confusion on how to calculate this metric, so multiple numbers went into circulation. The number that circulated first was computed with an incorrect listing of the FTFT cohort. That number was slightly lower than the fall-to-winter retention rate of the comparable cohort a year ago, leading to acrimony that the initiative was having worse than no impact on student success, it was having a negative impact. There was no discussion of this number in relation to a baseline that predicted a 60 percent four-year graduation rate, though that was still the logic behind its use. By the time a proper calculation of the fall-to-winter FTFT retention rate circulated, a rate still lower than the benchmarked prior year but now within tenths of a percent of it, the damage was done.

"So [they] is anxious..."

"...[they] is on the war path..."

"...[they] wants data, and [they] wants it now, so [other they] spent the whole weekend putting together an Excel dashboard, we sent it to [them] and [they] said more, more, more of this."

"When we get an IR [institutional research] person."

²⁴ See "When Keepin' it Real Goes Wrong," *Chappelle's Show* (Brennan & Chappelle, 2004).

“Is it too much to ask that the people around [them] manage [them] up? [They] spins around, and people coddle [them], [they] gets anxious and [they] wants data to make [them] feel better, and people scramble.”

Need for model to predict...

“It would be nice if they have a model.”

Now, in addition to attempts to know the future through prediction and control the future, for the remainder of the year, the initiative would fight the future, and try to regain the goodwill of those at its boundaries. This occurred through the avoidance of the topic in meetings of administrators with advisory folk: *“What are we saying specifically about the ten percent [student success goal]?” / “We say what [advisory] said - working on it.”* This also occurred through the internal reframing of the goals of the initiative: *“So [they] has brought into our group a group of savvy advisors—they all think we can’t do this. I don’t accept that no, but I don’t think that a 10 percent increase by 2020 is realistic.” / “We’ve never told [them] that.” / “[Their] famous two words about this place is ‘paper timesheets.’”* Paper timesheets—as to say, Great State University is anachronistic, so out of time they cannot even get an electronic time system in place. It thus comes as no surprise that the student success initiative will not meet its goals. As discussed more in *Causality and Impact: Student Success Hauntings*, this is the *Great State Way*. This new uncertainty, an uncertainty produced by a calculation that many inside the initiative and on its boundaries did not believe to be an accurate predictor of four-year graduation to begin with, became internalized within the initiative: *“I don’t think we can do this, Laura.”* Again, most people did not believe that a fall-to-winter FTFT retention rate was an accurate predictor of four-year graduation. With this belief, a slight dip in an

improperly-benchmarked rate should not have led to crises of faith, yet a spark traveled near and far on campus, actualizing fears with the idea of a metric that might mean something but probably means nothing. The anxiety of data-driven control, the uneasy feeling that you never have certainty about having the right data combined with a faith that data can do this, was made manifest: *“I thought when they hired me, they knew this problem could be solved.”*

The Shape of the River, Brought to You by Capitalism™

*“Quit these pretentious things and just punch the clock.”*²⁵

Tucked into this student success initiative is a little-spoken motivation: promoting four-year graduation is a way to blunt the per-student impact of rising tuition rates. At Great State University, this state-centered and institution-centered motivation was mentioned once in the major campus rollout address but has since receded into the background. In its place, we have the rhetoric of a student-centered capitalistic valuing of purchasing a bachelor’s degree in as little time as possible, with an overall credit accumulation as close to the minimum number of credits required to graduate as possible. In this student-centeredness lies a rhetoric of care, equity, and proper prioritization. However, the university no longer deals with students. The constituents of the university are individuals. The university admits combinations of individuals within admission applications. It grants financial aid to combinations of individuals within the FAFSA. It grants degrees to combinations of individuals within SISs. In many large-enrollment classes, professors deliver an education to individuals within LMSs. Advisors may see individual students face to face, and when they do, it is increasingly likely that the students they see are the result of outreach campaigns that gather combinations of

²⁵ Arcade Fire, “Sprawl II (Mountains Beyond Mountains),” *The Suburbs* (Arcade Fire, 2010, Track 15).

dividuals together from SISs and LMSs that are thought to determine in/dividual students who are *at-risk*. When dividuals become the interlocutor between the institution and its students, it becomes easier to see how time, money, and education have become fungible university outputs fashioned by data-driven control.

The Normalization of Success

Excellence through averages.

The second component of the student success plan is decreased time to degree. As conceived of at the start of the academic year, this component had three major parts: developing degree paths, removing curricular roadblocks, and implementing the recommendations from an academic policy audit conducted by EAB. The stated animating idea behind these parts was to place *“firm guardrails up that would catch 80 percent of majors, worry with 20 percent later.”* University actions reflect data-driven control when they seek environmental change through actions on dividualized populations. The actions under reduced time to degree all fall on populations of dividuals and flows: either the undergraduate student (ID number) body as a whole, or the entire population of students within specific departments (ID number + major code), or with populations of student ID numbers joined to other specific transcript characteristics.

Degree paths are the first strategy of the goal of decreasing time to degree. First, it is thought that having four-year degree plans for all majors, specifically beginning with majors with high student enrollments, will help students complete classes in a more timely manner and thus be more likely to graduate in four years. This is an idea pushed out from Complete College America (CCA) to institutions across the country. CCA’s degree path graphics are used in several university presentations on this subject. Major

switching issues are the second item under degree path. Optimizing student major selection is considered to be a way to increase four-year graduation rates. Throughout the first months of the academic year, optimizing major switching is presented as a second strategy to decrease TTD. Optimization would occur through nudging or forcing populations of students with certain risk characteristics to switch out of majors from which they are unlikely to graduate or gain full admission to. *I talked to [selective admissions college], they're having their data people talk with campus to get data on "pre-[major] students who don't make it, so we can know more about them, to better understand them, to develop strategies to intervene with them earlier."* The third and final strategy under degree paths is the development of meta-majors for first year students, another CCA recommendation. The idea behind implementing meta-majors is to identify possible meta-majors to develop specific to our institution's major offerings, cluster our majors accordingly, and have incoming students declare first a meta-major and then a major. It is thought that by declaring a meta-major, students can work towards several similar majors at once. When the time comes to select a major, students would be able to make a major decision informed by their direct exposure to different paths, and thus be less likely to stick with major paths on which they are less likely to graduate on-time.

Removing curricular roadblocks is the second strategy of the goal of decreasing time to degree. In the current phase of the student success initiative, the focus of this strategy is on high D/F/W gateway courses, or courses through which many students must pass in order to continue in their major, and whose D/F/W rates are seen as an impediment to the student success initiative's graduation rate goal. There are three tactics

on the table: course redesign, supplemental instruction (SI), and early warning. Incentivizing instructors of high D/F/W gateway courses to redesign them was kicked around throughout the year, the thinking being that they might be able to invent this behavior over the summer with a stipend for some instructors. The money did not materialize, and this tactic did not go anywhere as an action connected to the initiative. SI pre-existed the initiative, and like tutoring, saw no sustained engagement from the initiative in its first year. An early warning system, a best practice on EAB's Academic Policy Audit, was piloted on a small scale in Spring 2017. Its functions were carried out at the borders of the initiative, and as there was little connection and no impact data by the end of the spring term, the success of this intervention remains unknown to your narrator.

Implementing the recommendations of EAB's Academic Policy Audit is the third strategy of the goal of decreasing time to degree. It is important to note this is also a strategy of increasing student retention, and the specific strategies and/or tactics it recommends also fall under other top-level strategies already discussed. The recommendations of this audit occupied the imaginations of the initiative. One of the audit's recommendations is to speed up degree progress through incentivizing undergraduate carrying loads of 15 credits per term. In the year between the announcement of the initiative and the entry of its measurement class, this recommendation was added in red font to the top of an otherwise sparse and muted class schedule page: "*Undergraduate students should enroll in at least 15 credits per term to graduate on time.*" One of the first things advisory folk lobbied for at the start of the first year of the initiative was a modification of this message, not the least because of the real

impossibility of undergraduates securing a schedule of 15 degree-applicable credits given the course credit structure of the university. The initiative was able to change the message to a call for normalization better suited to the particularities of GSU: *“To graduate in four years, most undergraduates take 16 credits per term.”* The tactics discussed within the initiative went past a class schedule page nudge towards 16 credits. EAB audits this nudge as too lenient. In line with that EAB declares a best practice, the initiative supported a tactic of institutional intervention with students not registered for the normalized average load of credits: *“I would like to work toward that students have to get a waiver to register for less than 16 credits.” / “Advisor capacity?” / “It’s automated, other institutions have it... it’s just a pause.”* This is just a highlight of the integration of one of the 13 areas in which GSU fell short on EAB’s audit, most of the other 13 areas are present within the initiative and this chapter. See *“Let Me Reach out to EAB on This:” The Expression of the Student Success Initiative, Continued* for more on the initiative’s relationship to foundations and not-for-profits.

Fleeting Moments of Disorientation

Productive Chaos

It is predictable that there are people and scenarios that Great State’s student success initiative cannot *see*, that are not legible to Great State, that are absurd. In fact, given that Great State’s governing definition of student success is a graduation rate, a molar dividual, this study is looking for just these scenarios and folks, these molecular relations that exceed data-driven control’s capture but that in some way come into relation to the student success initiative. These relations potentially sit at the boundary between data-driven control and chaos; they are potentially enactments of liberal

education. As for the people and scenarios described below, they are absurd to data-driven control *and* they are also absurd to liberal education. They are examples of relations of chaos. What follows are a few situations that fit neither the orientation of data-driven control nor the queer orientation of liberal education as of the chronological time of this writing. They are important to flag if for no other reason than to mark this study as a mess, as all studies are.

As noted previously, tutoring on campus began and ended the year outside the vision of the success initiative. The decentralized nature of tutoring services at GSU make this fact not terribly surprising, but the relationship of the one centralized tutoring service to administrators of the initiative does raise a flag. As of February, administrators said of the need to form a tutoring committee, *“I don’t know who is tutoring.”* And in the same month, when bringing administrators and tutoring-related advisory folks together for preliminary discussions, some advisory folks became curious. Subsets of advisory folks began to ask administrators if their targeting by the initiatives indicated a problem within their unit that the administrators sought to resolve. In one instance, this was answered with a hedge: *“No, no—just want to ‘see’ what’s out there—coordinating.”* In the initiative’s first year, this coordination never went past this form of initial inquiry. As such, even though tutoring was listed in the earliest discussions as an area to address to increase retention, it escaped the vision of the initiative.

Another group escaping the vision of the initiative is a big one: all students on campus who are not currently first time full time freshmen. For students who matriculated as first time full time freshmen in terms other than the one being measured, they came up in some ways--there were discussions about how to work with the

population of seniors in fall term of their fourth year who seemed to be borderline on track to graduate in spring, with the goal of ensuring they take the right combination of classes with the right amount of academic support to graduate on time. This was paired with derision of how this specific category of students (fourth year students who entered as FTFT) were treated in the previous academic year, as the narrative that circulated in the initiative was that a million dollars was blown on completion grants that were not *properly managed*: “*We need completion grants tied to intrusive advising.*” Given that the metric of success here is an increase in the graduation rate, transfer students of all class standings and matriculation terms were excluded from the beginning. This is also not to say that the few times transfer students were mentioned, that the *we* of the student success initiative did not care. However, in many cases where transfer students were mentioned in discussions of strategies and tactics, it was noted that if these strategies and tactics helped them, that was great, but they were not the target group of the initiative’s efforts as they did not count in their graduation rate. It is good that transfer students graduate, but their graduation, and their existence prior to graduation, escapes the vision of this initiative.

One student in the incoming Fall 2016 FTFT cohort escaped the grasp of the initiative for tragic reasons. A GSU student in this cohort died toward the end of their first year of school. After the initiative processed the tragic circumstances, discussion shifted to how this student would count in the cohort’s graduation rate. According to the federal guidelines on the constitution of a graduation rate, as they were a member of the cohort who would not be graduating, they would count against the initiative as a non-graduated student. Efforts commenced on and off to remedy this individual error, especially

as this tragedy aligned with another dispiriting meeting with senior leadership (“*it’s like dealing with an alcoholic father*”) about the trajectory of the student success initiative. This student was disorientated in the most macabre of ways. They were in a very material way no longer a human of this earth, this orientation, and they were also flung out of the retained student pile into indeterminacy as to their constitution within the graduation rate. This was ultimately a fleeting indeterminacy in relation to the orientation of data-driven control. They were quickly acknowledged to be in line with the orientation that the federal government and advisory folks had always known they were in: a non-graduated member of the class of 2020, and thus reorientated as a dividual against the initiative. May this student rest in peace and power.

It is also worth mentioning that there was another major curricular reform task force occurring at Great State U. during the first year of the student success initiative, the same initiative whose second of two goals was curricular reform. This reform effort, a reform of the part of GSU’s general education requirements that mandate undergraduate coursework in multiculturalism, was a response to student protests of individual and institutional anti-Black racism at GSU. Whereas the curricular reform movement within the student success initiative was situated within the orientation of data-driven control (see *The Normalization of Success*), this parallel curricular reform movement located itself and sought with intention to produce students at the boundary of control and chaos. The task force presentation at the end of the year noted the inability to assess successful curricular reform through control: “*Engaging these topics and issues is work that is never finished, it is ongoing, ongoing, ongoing, ongoing...*” The principles of reform laid out by this task force at the end of the year established that they knew of no way to do the

work of anti-racism in a top-down format, and that any one of the items they were proposing in their ideas for reform could have a disproportionate impact in ways that cannot be measured. They labored all year to produce ideas for reform and presented them as a package of items that were necessary even though they escaped measurement, and were worthy of experimentations in classrooms even without the certainty of predictive impact. At last, a hint of liberal education.

This is a study of the institution as a system that creates the conditions of possibility of its people, not of the people of the institution directly. Even so, there are a very small number of people with similar characteristics whose names are mentioned frequently enough in concert with success initiative activities that they bear mention. Let us collapse their stories into one figure and call him Steve Bannon. I gender this composite administrator male because every example Steve Bannon in contact with the student success initiative is male. Bannon is an administrator whose fingerprints are near and far across the institution. Bannon is thought to wield power and is also thought to have terrible ideas. Bannon is a force of disorientation of the decision-making responsibilities, job duties, and offices of others, and a force of reorientation of those duties under his purview. Bannon escapes capture by most institutional forces, but he is firmly orientated within the neoliberal wing of data-driven control, which gives him the strength necessary to release not just lines, but tornadoes of flight across the institution. As he is a creature of neoliberalism, Bannon's value system is one of education as a subset of capitalism, and as such works towards capitalist means to the exclusion of liberal education, from the vantage point of the student success initiative. Bannon is often strong and wrong, using his senior position to do the work that his arguments cannot.

Bannon espouses the values of liberal education in public settings and on social media, and simultaneously enacts education as capitalism. Bannon lurks throughout this study as an intensity in GSU's assemblage, an unnamed force from here on out.

By the end of the initiative's first year, questions began to arise among administrators about the limitations of the orientation of student success that, in this local instantiation, they themselves had defined. Questions began to circulate indicating a desire of administrators to fight the future that was no longer predicted to have rosy results, and in doing so disorientate, or queerly orientate, their own initiative. When discussing possible flight paths for students entering certain clusters of majors, one administrator asked a group to *"also think about limitations - do these clusters around [cluster 1] and [cluster 2] and [cluster 3] just conform to students' instrumental approach? Does it feed into disengagement with courses like [freshman composition]? How does this interact with - is this compatible with the ideals of a liberal education?"* Questions surpassed the level of tactics or strategies in service of the defined problem of student success. As one administrator stated, at a time when most administrators questioned the possibility of attaining student success as the initiative numerically defined it:

"We've begun to think of student success not as a number we want to achieve but how do we help students achieve the goals they have? We believe if we do that, the number will take care of itself."

Intersections of Time and Money

Auditing student success produces a narrower actualization of student success.

This institution's student success initiative is a push to increase its graduation rate by ten percent. It is a push to increase its four-year graduation rate by ten percent. It is a push to increase its four-year graduation rate by ten percent by 2020. It is a push to increase the graduation rate of first time matriculated students who enter as full-time students by ten percent by 2020. It is a push to increase the graduation rate of first time matriculated students who enter as full-time students (FTFT) who enter the university in Fall 2016 by ten percent by 2020, as compared to the four-year graduation rate of FTFT students entering in 2012. It is student success by audit.

This audit of student success is made possible through biopower--through the ability to create and discipline individual students and norm populations. But this is something more than biopower. Biopower has spun between its two axes, and like a tornado, has picked up a host of technologies and social movements along its path. This tornado has produced a new orientation: call it data-driven control, statistical control, a society of control, or neoliberalism... it is the logic of objective data, and its tornado-like ability to break down borders between student records data, economic data, national rankings data, all while retaining the justificatory power of lifting up the historically marginalized and seeking the promise of liberal education.

This audit of student success—at bottom, an audit of student records data—is facilitated through the use of several metaphors from the business world which hail the role of the university into that of a corporation under late capitalism. The first of these metaphors in use at Great State University is a consistent extension of audit logic: key performance indicators, or KPIs. Its circulation indicates both the specific influence of EAB as well as its presumed truth-value within data-driven control's system of visibility.

This term, as used at Great State U., is in reference to EAB's logic of university management. According to EAB, Great State needs to have KPIs in order to *know* if the student success initiative is on track. KPIs are sets of indicators that are thought to demonstrate an institutions' quantitative progress toward their goals. Great State U. begins their student success initiative with a retention czar (as so named by an administrator) in place just one month prior to the start of fall classes, and well into winter term they still lack KPIs. How can progress be known without these KPIs?? Administrators articulate the need for them, even still:

"This is important because when we have a new [senior leadership] and a new budget model... we can go in and say this is what we're doing, here are our measures of student success overall and in the units... I thought we were going to work with the data group on this. We don't even have KPIs yet."

In a system which conceives of student success as a measurable and thus auditable outcome, KPIs are the means by which the achievement of this outcome become auditable across shorter time horizons, giving administrators an objective formula for action.

Related to KPIs is the frequent citation of needed dashboards. A dashboard is a single page or a screen that gives a snapshot of current KPI levels, allowing those with access the information they need to make data-based decisions. "[They] *put it on* [them] *to figure out our dashboard... the idea with* [them] *is that* [they] *would have figured out the dashboard.*" In an orientation made visible through audit, KPIs and dashboards make administrators move.

Administrator: *“So we need a dashboard with key performance indicators that tells us if we’re on target for our yields. What SSC helps us with is to show what interventions students most likely need. Maybe there’s a slide we need - this is good! A slide that says... something like what we need to know, where/when to intervene, what the yield of the intervention will be. SSC Campus tells us the where and when, but it’s not infallible. How comes from best practices and examples from the research... yield, we haven’t figured out a way to do this. What we need to do is KPI-ing these things.”*

Advisory: *“I don’t know if you want to say that SSC is fallible...”*

Neither defined KPIs nor a functional dashboard were in operation by the end of the first year of Great State U.'s student success initiative. This was due in part to confusion and conflict over the use of retention as an important indicator of revenue entangled with the disputed use of retention as a predictor of four-year graduation:

“Sometimes the cart rides the student success horse in ways that aren’t fully productive... Being able to have high-quality data to help us do what we’re doing KPIs... some of this retention information isn’t terribly helpful when we’re in this building year... some of this retention stuff is important for revenue, but...”

Return on investment (ROI) is another metaphor that produced movement at Great State U. Several items were discussed in terms of ROI, including post-college careers, time to degree, and investments in personnel, marketing, and fundraising for student success efforts. An auditable orientation consists not only of measurable goals and their attendant measurements, but measurable inputs (I) and outputs (O) for the attainment of these goals. This measurement codes value into quantifiable data, and the

value-added by the environment (E) is ROI, or yield. This value is conceptualized in several ways by advisory folk, including the value created by the student success initiative in increasing SCH revenue, the entanglement previously mentioned. What follows are a few additional examples of ROI related to...

...careers:

“Back to career - what we’ve learned at conferences, what parents, students, country cares about at this point is a certain kind of outcome - how college connects to career.”

...four-year graduation, generally:

“We’re creating an infrastructure that creates a successful student in four years - that’s an ROI - that’s an outcome.”

...and financial benefits of four-year graduation to students:

“We should have someone do a financial analysis--throughput.” / “Do you think that decreased time to graduation is a financial benefit?” / “Absolutely.” / <Crosstalk on all of the financial costs of students being here past four years: technology, library, advising, recreation center. Decision made to add financial analysis to March to-do list.> / “It’s not urgent, but it gives us a way to talk to donors.” / “It doesn’t change what we’re doing.”

Let us pause here for just a moment at *“it doesn’t change what we’re doing.”* We now have an instance of ROI moving some conversations while having no stated bearing on others. We have a form of evidence that only partially matters. We are generating

evidence so that the value of the student success initiative will be visible to donors *so that work can continue unaffected.*

This series closes with the concept on which it began, its contour now changed through this exploration: on-time graduation. On time graduation is the proxy for student success at Great State U., thus the initiative focuses on its—on time graduation’s—creation. The language of on time graduation pervades the expressions of and around GSU’s student success assemblage. The nomination letters for the winners of a campus award consistently give kudos such as giving *“high quality advice to help aid timely and affordable degree completion.”* Advisory folk at the boundary of the initiative whose positions entailed working with students as persons (rather than students as dividual data), evidenced an ability to see gaps between on time graduation and more capacious views of student success:

Advisory: *“We actually have a number of premed students who don’t know they want to go that route until junior year, and they complete med school requirements as a post-bacc.”*

Administrator 1: *“As long as they get out in four, and then do the post-bacc.”*

Administrator 2: *“Yep.”*

These moments of escape, when in contact with the initiative, were consistently reorientated onto data-driven control. Data-driven control forms flows of dividuals that flow into other dividuals and other flows, and in the ongoing movement of this orientation reshapes dividuals and flows to produce an optimal flow that is the student as a four-year graduate.

“There’s some pressure... on thinking through how... [source of easy classes 1] and [source of easy classes 2] loss impact[s] the curriculum. The bigger question here is whether we want to get into the curriculum development business with an eye to some of the need for credit accumulation.” / “Online options. Yes.”

Along with shaping curricular flows, data-driven control works directly on student flows:

“Is there a protocol or script for advisors - for this [advising] campaign, are they all hitting the same points?”

“Research shows that these students don’t graduate on time - that’s the reason to get them in.”

But you have to have a theory of why they don’t graduate in order to know what to say to them.

<Discussion of why student athletes are removed from advising campaigns>

Because “they don’t have problems graduating, their numbers are better than the university’s. We need to do things more like athletics. Including majoring in [easy major].”

Easy majors are formed from flows of easy classes; these are seen as a solution for students who do not maintain progress in other majors to still graduate on time. The major cited above, in particular, was repeatedly tagged as such a destination major: “[Easy major]: *You can kind of trip over the curriculum and get that [graduate in four years with that degree].*”

The orientation of student success: credit accumulation and transcript management towards the production of on-time graduates. Cheaply.

The “cost/benefit of attendance is that students maximize education by spending as little time as possible on it to get their degree.”

“...and every signal we send them is that that piece of paper is the thing.”

“The product you’re buying is the piece of paper, not the education.”

In this orientation, your humble narrator agrees, with one correction: The product *the university is selling* is the piece of paper, *quickly*--not the [liberal] education.

Causality and Impact

Creation of the new through auditing and prediction.

Student success is the latest attempt to meld the likely and auditable impact of institutional actions with the achievement of a desired outcome. The likely and auditable impact of student success initiatives, as well as the likely and predictive impact, is met under data-driven control with this deeply felt and unrealized need to make the indeterminate determinate -- to move impact from quasi-causal to causal (Wambacq, Ross, & Buseyne, 2016). I name this *deeply felt* to highlight the intensity behind this commitment, or rather its comfortable position within an unquestioned regime of truth (Deleuze, 1969/1990; Foucault, 1979/2008). This is a feeling of the institution, of the collective; it is voiced in every space and combination of administrators and advisory persons at this institution. This is the work of Alexander Astin (1970a, 1970b) in action; here again is a university in search of how best to optimize the environment (E) to maximize its impact on the outcome (O). To *deeply feel* these initiatives through the posts instead is to regard the process of making-determinate not through input-environment-output, or I-E-O, but rather through agential cuts, delimitings of the orientation of analysis that work upon reality, directly intra-acting with it in the creation of determinacy

(Barad, 2007; Deleuze & Guattari, 1980/1987). The orientation of these cuts exceeds the linear time of I-E-O. With this perspective in mind, how then might this collective commitment to auditing and prediction create the reality of the impacts of the student success initiative?

Student Success Hauntings

The push to know impacts of implemented student success tactics and strategies at Great State U. is an unquestioned truth, an unquestioned need of an initiative centering itself on evidence-based best practices. This need for knowledge is a need to know the impacts of efforts at Great State U. as well as similar past efforts at other colleges and universities. Knowledge and data take the same valence; knowledge is that which is published in the institutional student information system, institutional associations, not-for-profit groups, and academic literature. There is no shortage of possible data at GSU, as well as solutions from other institutions. The past hangs over the present--past students, administrators, and advisory folks from this neck of the woods and throughout the country. Administrators from the early part of this decade at the University at Buffalo and Georgia State University are here and now at GSU, in the form of best practices, campus visits, and *Inside Higher Ed* daily emails forwarded within the initiative and from senior leadership to the administrators of the initiative. Students who matriculated at this university in Fall 2000 are reconstituted here in the present in the various attempts at modeling that circulate:

“So this is more evidence to me that this is normal melt.”

<Normal melt has been mentioned several times this week.>

“[They’re] *most concerned about the 161* [fall-to-winter non-retained FTFT students]. *The main thing for all of the campaign piece to put [them] at ease is that we have a plan to pilot this.*”

“*This feels uncomfortably fuzzy to me.*”

“*We have the predictive student success model next, are we going to show [them] that?*”

“*No, just discuss.*”

“[Their] *pushback will be ‘when are you gonna know?’*”

“*We’ve met with [institutional research], our predictive model can only tell us what to expect from historical data, and ours tells us we won’t meet this. We only know what we’ve known. This is where best practices and case studies from around the country come in... draw from these best practices measurable targets, and develop interventions to reach those targets.*”

Past GSU advisory folks who went through similar institutional efforts to write best practices and assessment plans are here, now, even as the physical and electronic trace of their prior reports and associated research is missing. Some of these persons are again on these new reform committees, the present version of the committees from five and ten years ago formed for the same reformatory purposes—these persons are doubled, folded over, their past self as *present* as their present self.

Also haunting the present are knowledges derived from past readings, past conversations, past educational experiences, past meetings, past pasts that hang all around. These knowledges keep the past of data-driven control in the present. These include references to *the research, the literature*, the intonation to “*go back to the*

research,” the common-sense statement that *“More than half of our students stop out for reasons that have nothing to do with academic preparedness and experience.”* These hauntings were present in one particular tactic of the initiative: the development and deployment of an exit survey for students who do not re-enroll. The premise of this tactic was the idea that *“In order for us to fix problems internally, we have to know why they’re leaving... we have to know.”* One implication is clear: *We haven’t known in the past, we must know now.* But what form must responses fit in order for the institution to *know*? There was a mundane discussion between the use of open-ended and closed-ended questions on the survey, a question ultimately mediated by the knowledge requirements of the institution: *“But [with open-ended questions] statistically that’s harder to analyze, if you don’t have a category.”/ “Yeah, we can have categories.”* Ultimately, this knowledge did reference national trends, through and through: the national trends proffered by solutions folks like Complete College America. In planning for a meeting with senior leadership, the haunting of these knowledges became front and center:

“Can we frame this [meeting] around best practices we want to implement? If we frame it around best practices, then we can make those happen.”

“What’s on that list?”

“You know, the stuff from Complete College America.”

“I’ve got that, it’s on my list... tuition affordability though, not sure about that.”

“...And these are some other things not from CCA that I added, but at least we have a frame.”

[GPS] - [administrator] is on [administrator] about it. Most current institutions are community colleges.

“Georgia State has [GPS] - well, meta-majors. They have [GPS] with 25 students each that go through together... each student came into a meta-major and each meta-major developed cohorts of 25 students and they went through together.”

“...I really like your idea of framing this around national best practice.”

We need to adjust this to our internal framing.

These knowledges linger, become crusty, inhibit movement—or rather channel movement. They are the versions of the past that push forward into the present and future.

There are many aspects of the past at Great State that folks would be happy to leave in the past. These knowledges haunt student success as well. These aspects are so well-known that across campus they have their own nickname: The Great State Way. These *dysfunctional* aspects are also what is to be modified by the present and future – and largely, they are aspects seen to be in need of capture by data-driven control. They include the old ways of not recording student meetings in a centrally searchable and countable way, of not tagging those meeting notes so that they are easily searchable by practitioners and administrators, of not making individuals related to success visible and able to be placed in continuous algorithmic variation. An unintelligibility of the past through data-driven control is ever present in the present-day student success initiative.

Student Success Futurity, Redux

If the past must be known, so must the future.²⁶ Weeks and months of discussions in daily student success standing meetings centered on the need for predictive analytics, discussions wrapping in many configurations of administrators and advisory folks.

Predictive analytics are considered to be the next indispensable thing in undergraduate

²⁶ With good sense comes common sense in an image of thought, or regime of truth (Deleuze, 1968/1994; Foucault, 1979/2008).

student success, as they give campuses the information they need to strategically match “limited resources to students who are most in need” (Burke, Parnell, Wesaw, & Kruger, 2017). The hope of scaling interventions (by the end of the academic year, “*The issue now is scaling up interventions*”) is enmeshed within this. Statements of truth on this need at Great State took this general form: the new EAB advising system “*intended to use predictive analytics to facilitate more targeted advising,*” that “*there are a number of categories [to attend to in the student success initiative], the first is impact... what type of impact this will have on student success.*” With an understanding of predictive analytics and impact, then interventions like the following can be designed and deployed:

“My understanding is we have a bunch of people switching majors late in their career who are behind, so if we can funnel them sooner and use analytics to do it... restrict their course selections... decide how heavy-handed we want to be in requiring.”

But which comes first, the algorithm/s of predictive analytics or the I-E-O measurement/s of impact? This was a live question during the first year of the initiative, a question that obscured the fact that both were settled as useful and primary.

“What is our strategic plan? I’m not convinced we start with data.”

“No, no, no! We need to schedule a meeting [of the data advisory group] – now that we have all this data flowing in, what do we do with it?”

We need “the big goals, the tactics, the strategies – we need clarity – we deeply, deeply need this. The data folks are in this – how? We’re not making a predictive model?”

The truth of a predictive model was so powerful that it drove conversation for months, even with no firm idea of what measurements it would involve, or how one would

possibly be constructed with the data and expertise available. The desired outcome was student success as an increase in the FTFT four-year graduation rate by ten percent against the benchmarked class, and the truth of how administrators would shape the present environment to achieve this outcome was in the future, within a single or set of predictive analytics tied to the past, ideally integrated into an administrator dashboard that would shape the relationships of individuals in the here and now.

Statements justifying the capture of the future through outcomes measurement and predictive analytics followed. This was a feature of the assemblage, as the efficacy of the initiative was always in question, and its impact was asked for quarterly at first, and monthly once the prediction of the future outcome began to deviate from the desired outcome. As administrators lacked a clear idea of how to show impact, or how to predict success, their conversations tended to be circular. First, and ultimately consequential, was a belief that retention predicts success. This belief was questioned at the highest levels of senior leadership, and yet, this belief is what placed the first cracks in the initiative, when potentially miscalculated first to second term retention numbers were circulated that showed a drop in that measure from the previous academic year. When the first term to term retention numbers circulated, the pressure to demonstrate the initiative's impact exploded. But again, the initiative did not have a settled way to speak this language. This sparked months of planning, in which administrators and to an extent advisory folks mapped out the strategies, goals, and tactics of the initiative. One such slice of conversation follows, in which the topic of major suitability (a student's selection of a major that will align with their career goal as well as four-year graduation) is on the table.

The question is under which strategy does it go, curricular reform or student support, each of which has its own administrator (A) as the lead:

A1: *“I’m thinking about what are the different ways we can have an impact on that. There’s remediation, fixing the students’ skills, and fixing what we do for them.”*

A2: *“Fixing the course. But the goal for that, the metric is non-complete rates.”*

A3: *“Fix the curriculum, that’s what I said.”*

A1: *“I don’t want to have this battle about where this goes. I want to fill this out.”*

A2: *“There’s no other reason to do tutoring and SI [supplemental instruction] except to improve performance in courses.”*

[Discussion]

A1: *“I don’t know how to deal with this overlapping stuff.”*

A3: *“Things like student support will always be in multiple [strategies].”*

As the push to render the student success initiative fully legible within data-driven control’s grid of intelligibility intensified and lingered, administrators (A) ultimately began to question the system.

A1: *“We presented a plan [two years ago] that said based on our data, this is how we can do this in four years. This [now] is a reset. This is really diving into what our strategy has been all along.”*

A2: ...

A1: *“I don’t have any information that what we’ve done has impact. We need to analyze the data.”*

A3: “[They] *is also limiting student success as four-year graduation. [They] is feeding the narrative that this is just about advising, this is just about numbers.*”

This conversation from April marks the first instance in this academic year in which I observed administrators questioning the measurement of student success under control. This is all the more notable given everyone I observed was aware that the premise of my project was that measurements are incompatible with a capacious view of success, and many would glance my way and say “*Laura, did you get that?*” when capacious statements were made. However, this nascent questioning did not change the demands of accountability to the success measurements in place, and as the year wound down, the eternal return of the same (Deleuze, 1968/1994), of knowledge and practices centering individuals, persisted. The circle of determinacy remained closed in upon itself, and the stakes in the production of certainty of the future through proper measures of present impact were known to all.

“I’m being precise here... this is the only way we can assess the impact of what we’re doing. If we can’t do this, then we’re pretty lame. At that point, [senior leadership] should fire me, right?”

Re/membering the Present of Student Success

When I was a practitioner in the athletics advising office at Oregon State, I inherited a hand-me-down desk adornment from a fellow counselor: a Rubik’s Cube. I had a couple of tchotchkes like this in my office, as do many academic advisors, counselors, and student-facing staff. They came in handy when I had a line outside (and/or inside) my office, when unexpected friends joined in a meeting because everyone

was walking to the dining hall afterwards for food, or when it was a bad news bears kind of advising appointment, and a student wanted something mindless to help process the cataclysm that laid ahead. That second-hand Rubik's Cube had staying power as the most popular tchotchke in my office, even above the wind-up walking beaver toy and the Beaver-themed mini-nerf basketball hoop, a particular statement in the Beaver athletics advising office.

Over the years the Cube began to show its age, as the colors of some of the squares wore off, or as students and student staff colored white squares different colors to trick their friends, or as students and student staff went so far as to swap the color stickers around to cover different squares. All of this tinkering eventually made the Cube unsolvable, unless you knew that the one orange square was really white, or that maybe the green and yellow need to be swapped back. Or maybe not, and you just had the wrong solution. Its structural impossibility never seemed to stop people from playing with it, even those who knew of the manipulations. (That said, the orange-markered white square was hard to miss, even for uninitiated freshmen and new tutors!) Students would try and tackle it, knowing the system was not set up for them to solve it, and held themselves responsible when they failed. They sat there for far too long, given the structural impossibility of it all, endlessly manipulating these squares in different combinations, in different rotations, to no avail—unless there was a handy marker nearby or a few loose color stickers.

Under data-driven control, we make our students as my students and student staff used to make that Rubik's Cube: continuous, endless variations of individuals in search of the pattern of success, with no possible solution. Data-driven control creates an

imperative for the assessment of individual parts in search of a predefined outcome. Knowledge comes through a continuous algorithmic variation of combinations of individuals that mark success in the future as a hoped-for outcome, in the past as the combination of individuals that achieved this outcome at the desired rate, and in the present as the active shaping of individual students through this past and future, in the image of data-driven control.

“Or Does It Explode?”²⁷

The present of student success at the end of the first year of the initiative was as muddled as it was at the beginning of the year. Flows were starting to come into place, channeling devices for proper student success dividend; the individual is almost in a position to be predicted. (See *A Fog of Data-Driven Truth* for an expansion on *almost*.) In the face of the initiative’s tentative progress was a stronger uncertainty about the success of the initiative. Your humble narrator first caught wind of administrator questions in February, and doubts by March. By May this doubt was pervasive and thick, but not total; there remained crucial pockets of expectation that this definition and measurement of student success would still be achieved with the resources at hand – or that the definition and measurement would change. This academic year saw the sweeping of several areas of campus life into flows of data-driven control, the parts of which remained unintelligible being swept away. There is a price of unintelligibility to data-driven control, a price paid by systems, by data, by individuals, and by people.

I have been resolute thus far to write about systems and assemblages to examine the ways in which we are produced, or machined as subjects from the social. All the while, I am *motivated* to take this perspective because I care deeply about the effect all of

²⁷ From “Harlem” by Langston Hughes (1951/2018)

this has on real bodies, real humans, whatever real means in theory, but in practice the people we surround ourselves with and who surround us every day we exist on this earth, and in all the days before and after. I care deeply about all of the people of GSU's student success initiative, the students involved and otherwise machined by the decisions made, the advisory folk on the boundaries of the initiative, some of who must negotiate their professional obligation to remake their judgments in the image of data driven control, and the administrators of the initiative who do this work in hopes of supporting *individuals*, real humans, persons (all, by my observation). The administrators of the initiative generally face only data and other administrators, and are the people who seemingly have all of the decision-making power at their disposal and yet no decision-making power at all. These groups constitute the local people, the flesh, of the student success initiative.

I find it so disheartening, intensely disheartening, an intensity that I cannot put into words, when *people* who become unintelligible to data-driven control are discarded by it. The making and remaking of people is the function of any assemblage, and in this location on the map of data-driven control this machining happened in many ways throughout the year, in all of the slight behavioral modifications advisors were asked to, required to, *motivated* to, take on. This is the problem of all of the ways that we make, as an institution, flesh and blood students, advisory folk, and administrators through the apparatus of data-driven control into individuals, data points, outcomes, rates. We make persons in the image of data-driven control, and when they cannot be rendered intelligible as such, they become nonsense, unintelligible, absented, discarded. And this happened in a very big way at the end of the year, when a flesh and blood person central to the initiative was discarded by a system that could not render this person intelligible to it.

The phrases that circulated enough to reach me are so common as to be cliché: *doesn't strike me as being a leader, doesn't have a vision, not moving in the right direction.*

What, may I ask, is the right direction? There remained no internally understood measure as to how anyone could *know* the right direction such that one could also be headed in the wrong direction. By my account, lower-than-expected term-to-term retention numbers were the spark that lit this discord. And also by my account, many persons did not grant that these numbers meant a damn to four-year graduation. And yet... here these retention numbers are. They were relevant enough to spark a series of angry meetings, of awkward meetings, of months on end of intensified strategic (or tactical?) planning, and ultimately, the removal of a person who *trans-ed* the surface of control and chaos, the very *transit* that produces liberal education for students, advisory folks, and administrators. This is a person who spoke the language of impact, of accelerated impact even, of murky middles and of strategic plans... and also of performance art, of marginalization and of exploration. This is a person who evaded capture, a nomad of sorts, a person who spoke the language of control but did not let it pervade their actions. This is a person who is now absented from the continuing present of student success at Great State U., destined to be replaced by someone who is more intelligible as a leader, who speaks the language of success. This administrator has been discarded by this system; their disposal should serve as a reminder of the *cost* of data-driven control for the students of GSU as well. There are thousands of students re/produced by this same system every day—alongside those who are unintelligible within its grid. To evade capture by this system as a student is to be a failure, or to be nothing at all, a form of nonsense; it is to die an institutional death. To be re/made by the system is to *be the subject of* student success, to be made by

and in the image of data-driven control. Rest in power to all persons *impacted* by control, including all who die an institutional death at its hands.

Molar Melanin

“With unit plans in place, diversity process enters next phase.”

Race was present at and around this site in myriad ways. Donald Tr*mp was in the process of winning the electoral college on the strength of White grievance politics. Black students on this campus presented a list of demands the year before, all coming due during the time of the initiative’s first year, and senior leadership felt the pressure to do something. The lack of black and brown representation in the student body, faculty, and administration ranks was obvious enough to be a constant casual target of scorn amongst administrators and practitioners. *“There are only two of us... one... two,”* followed by a painful laugh and a well-meaning resolve to do right by minoritized racial and ethnic groups. The student success initiative at GSU was within, and thus was itself, a racializing assemblage, an arrangement of race that involves good feelings about non-White folks disproportionate to the number of seats for non-White folks at the table.

The spoken commitment to racial equity and justice was pervasive. I do not doubt the sincerity of folks’ commitment of any person I observed. How can tactics of the initiative work to produce racial justice? From the charge of a group devoted to writing a best-practices-for-advising report for campus:

“Research targeted initiatives for specific populations (underrepresented students by race, gender, transfer, international, first-gen, lower income, abilities...)...

Form recommendations for student centered service, practices, and expectations

that support student retention while being in [sic] degree completion.... These strategies should include specific elements for serving targeted populations.”

This is a sincere commitment to racial justice from the administrator developing these charges to the advisors who gave of their time to participate. By what criteria would targeted initiatives make the list of recommendations?

- 1. Existing research in the field (NACADA)*
- 2. Internal audit (retention rates/satisfaction), compare with advising models across units, factor in unique considerations of each unit*
- 3. Review comparable institution data (student pop, majors, advising models, retention)*
- 4. What resources are needed to facilitate successful advising (space, training, professional development), including adhering to FERPA requirements.*

Racially just action can be known through a flow, a heterogeneous arrangement of individuals placed in variation, the same procedure for knowing best practices writ large: Retention rates-satisfaction-advising models-unique considerations-comparable institutions/student population-comparable institutions/majors-comparable institutions/advising models-comparable institutions/retention-advising space-advisor training- advisor PD. Find the right notes, the right lengths, the right layerings and chord progressions, place in variation. The orientation of the student success initiative was a racializing assemblage, an arrangement of race that operationalizes race as molar melanin, “statistical and gregarious,”²⁸ a problem far exceeding the capacity of

²⁸ Deleuze and Guattari (1980/1987) p. 283.

collections of individuals to solve, no matter how gregarious, no matter in what combination or variation. And yet, this excess gives reason for its molarized study.

Race is individual; race is a multiplicity found as a field in the institutional student information system, or as a field in a survey like the NSSE administered by the institution, and through its inclusion becomes a method of disaggregation of a gregarious arrangement of individuals. Diversity is a metric, is a individual within institutional plans for student success, is a individual within institutional budget metrics to incentivize the three named institutional priorities, including student success (*We're number 2! We're number 2!*).

"[They] has completely changed [their] third goal to diversity... I told you [they] did it with the accreditors, now [they] just did it with the Senate." / <Room explodes in amazement> / *"What was the third one?"* / *"Experience, student experience - now it's diversity."*

Welcome to the campus priority list, diversity. How will GSU institution pursue it? The response cited most often in my presence: the currently-being-drafted new campus budget metrics. One late draft, dated a few weeks prior to the above conversation, begins with:

Primary Metrics:

Defining a unit's contribution toward the undergraduate mission in three categories:

- 1) *Excellence - alignment with research mission*
- 2) *Access - student success metrics*

3) *Experience - co-curricular engagement and “high-impact practices”*

Diversity metrics:

- Breakdown in asterisked performance categories by demographics: residency status; race/ethnicity; gender; first-gen; Pell eligibility.*
- Faculty participating in inclusive teaching initiatives*
- Inclusion/equity in curriculum and teaching —# Courses satisfying ~~Multicultural Requirement~~ [don't want to incentivize more courses] learning objectives at the department level that tend toward diversity, equity and inclusion / and % of courses that align to those objectives...*
- SERU, NSSE climate data*

Flows of individuals, over and over again. Race as a deeply held commitment; race as individual; students as individuals. GSU is *student-centered and evidence-based*.

A Fog of Data-Driven Truth

Is there ever the right data to make data-based decisions?

What is an initiative to do that is built in the image of data-driven control, yet cannot access the data it needs to make decisions? This question ate at the initiative, in more or less present ways, throughout the duration of its first year. Can an initiative premised on a data-based reworking of present practice in service of the attainment of a future measurement ever get the data it needs? How would it know if it was enough, or if it was the right data? Justifications and validations of particular data practices are discussed elsewhere. Here, we explore the *enoughness* of data within data-driven control.

This initiative came across its share of data walls; as it was asked by an administrator in the spring, a year and a half after the announcement of this initiative and half a year after its measurement cohort arrived to campus, *“What’s the definition of what we want to measure - then we need to step back and figure out why we can’t measure it today.”* Is the solution to these walls to be found in more data, or in a flow that digestibly formats data? The student success initiative had a problem on the content side of its assemblage. Did the data management system and predictive analytics need more data, or did they need to shape better flows of data? There were two paths to solving this, and both were deferred all year. Time and again, the initiative was in need of a data analyst and a predictive analytic. Could these solutions ever be enough to clear the data fog?

Dream, Interrupted Part 1: A Data Analyst Is...

...a person who speaks the language of data, or data-driven control.

“First step is understanding the data. We need someone sitting down with us to explain the data. We need an active campaign, we need advisors on the phone with students who aren’t registered...”

...a person who can be trusted by non-data analysts to provide data-driven solutions.

“I’d love to understand students who start in the [selective] major and don’t get in.”

“Yeah, so we could tell them in their first year to move.”

“We need to profile them and understand... we need the data. We need [data analysts] to help us, looking back, what do they look like, what classes are they taking in the first year and performance.”

...a person who can convince non-data analysts to trust their opinions, no matter the sophistications of the statistical analysis performed.

Do we have data on retention by major? Maybe we don't need [college with selective admissions to take part in pilot advising campaign].

"This is week 3... we need to get it done."

"I do have some data... undeclared is higher, its [college lacking advising]... and [college with selective admissions]."

...a person who knows within data-driven control.

"To me at this point, it's really all about retention, and being able to compare close cohorts from this year to close cohorts from last year."

"It would be good to know more, because there are some students who shouldn't be retained." If it's financial, it's different."

"Because again, we haven't determined what our key performance indicators are. The GPA is part of what we want to see, but retention. I hear you that not all students are going to be retained."

Dream, Interrupted Part 2: A Predictive Analytic Is...

...an algorithm that places relevant individuals in proper combination to produce a presently-understood-to-be accurate prediction of the future.

"Can I go back to this idea of a proxy? ...I would suggest that we design some other kind of a proxy [not retention], a student-oriented proxy, an individual student proxy... I was thinking it would be wise to track something like progress toward degree."

"Right now, we don't have the infrastructure."

<Room explodes>

“It’s not a rabbit hole - if we don’t go down this, we lose.”

...an algorithm that provides a promise of the future.

“That was the meeting with [them], it turned into an argument, [they] just wanted the number... I finally said no, I reject the premise that this can be a number.”

<Crosstalk: with lots of resources, we can have a [predictive analytic that provides a] number>

“I don’t know where it gets us, except helping [them] sleep at night.”

“If that’s what [they] needs, someone get [them] some numbers so [they] can shut the fuck up.”

...an algorithm that grants security for present-day decision making.

“Maybe we need to define a predictive model—it’s a model that tells us if we’re on track or not. SSC is a predictive model. We need a predictive model that tells us time to degree - we need [it] to be able to us that if we [get a student to] see an advisor, it takes four months off time to degree. We need a model that tells us are we on track to meet the 10 percent increase by 2020. Is this possible? We need something we don’t have now, and we need to be able to say it’s different than what we have now.”

...an algorithm that marks college environments (E) as presently impactful (O) in remaking inputs (I) in the proper image.

What Happens to a Data Dream, Interrupted?

Can data-driven control produce what it promises, namely, data-driven truth? This question forms its own paradox, as it is only through a framework of truth provided by data-driven control that one could evaluate if a given set of data is enough. In accepting knowledge within data-driven control to be produced by articulations of data management systems/predictive analytics and cultures of data, then inferential statistics provide properly scientific ways to determine enoughness. These determinations fix student success into flows comprised of individuals. Data-driven control bounds its knowledge of student success, shapes its messiness into individuals, and forms these individuals into visible flows. GSU defines success as a function of a captured, bounded time—in *four years*, success is graduation. In doing so, GSU defers success definitionally to a point in a bounded, linear future. The question of enoughness at GSU is unanswerable even if they had access to the most sophisticated predictive analytic, or a veritable army of data analysts. How would you *know* that the solution the analytic tells you to implement now will pay off in the future? *“After talking with you, thinking about the lifecycles of our students, what we do in year 2, 3, 4... become the milestones that become the benchmarks of campaigns...”* As there is never a way to capture a linear future, data-driven control produces impossible scenarios of want for and lack of data. After the first year of their student success initiative, GSU still had no part of any FTE at the institution dedicated to data analysis for the initiative, and it still had no predictive analytic specific to the initiative. This feeling of lack is what led it to contract with EAB to purchase its SSC Campus platform:

“We are also investing in a new data analytics program that will help us identify which students are at risk academically and financially so that with new and

existing advisors we can step in, we can get to them, we can connect them with tutors and other resources. We can help them remain students here, flourish, and graduate.”

GSU could know how to structure its advising services through other structures of knowledge. When the student success initiative at GSU is situated within (and by and through) data-driven control, data-driven control cannot *know* what to do apart from seeking more data, or proper data, or data combined in visible flows: “*I’ve heard nothing from [advisory] about this dashboard, I’ve followed up, you’ve followed up...*” When data-driven control never *knows* what to do and makes that limit an explicit problem (one must know what to do in order to produce a ten percent increase in four-year graduation by 2020), institutions reach toward solutions. EAB sells such a solution in its SSC Campus platform and related products for millions of dollars in annual payments. Other sources provide such solutions as well, some that directly or indirectly cost money to acquire. Regardless of their monetary cost, in their implementation, the institution pays a price in its remaking in the image of data-driven control.

“Let me reach out to EAB on this:” The Expression of the Student Success

Assemblage, Continued

An institution of public knowledge creation in search of private corporate knowledge

Before we enter this series in full, a reminder on a few tenets of assemblage theory might be helpful. First, this series explores the ramifications of considering reality as the product not primarily of individual persons (substances) but of assemblages. When assemblages construct reality, they machine truth into content (taking both form and substance) and a collective assemblage of enunciation, or an expression (taking both form

and substance). We experience expressions as originating in a specific person or a not-for-profit, but this is a major attribution error under assemblage theory. In assemblage theory, these expressions come not from persons but are machined from the social, or the assemblage. A standard sociology of student success might explore why it is that GSU leaned so heavily on not-for-profits like Complete College America and EAB for knowledge. A molecular sociology of student success looks at these common statements by GSU, CCA, and EAB as machined from a shared assemblage, data-driven control. What follows is an exploration of the expressions of student success, cultures of data (see Chapter 4), and the forms and substances they took.

The question of the previous chapter, put differently, is *how do we know what we know about student success?* The provisional response: the truth of student success comes from the orientation of data-driven control. This finding of the national currents in higher education holds true at Great State U. The question of this series further interrogates the topology of this orientation: what are the forms and substances of the expression of student success at Great State U.? This was a live question throughout the first year of the initiative, as there was never a decided-upon set of student success knowledge, of strategies and tactics and individuals and flows in play. At a student success planning meeting in April, one administrator asked: *“Do we need to step back from the 2020 goal for a minute and go back to the research, to what impacts retention?”* *“The research”* was a phrase invoked throughout the year; it was a specter of affirmation hanging over the day-to-day minutia of such a large organizational undertaking. The research put into use most frequently by administrators came from white papers, conferences, and emails produced by foundations and not-for-profits. Traditional academic literature came into

the initiative from time to time, but the literature generated by foundations and not-for-profits most swiftly moved practices within the initiative. The contours of the assemblage of student success expressed by the gray literature better aligns with student success as operationalized at GSU:

“Access, progression, retention, completion - those are the four [strategies]. We’re mixing categories... those were what are the categories in the research that tell us what leads to retention. I think we also need to make sure best practices are on there. We have to include best practices.” / “Those are tactics.” / “The specific ones from Complete [College] America, from EAB - those.” / “Can you put a red one [tactic] under there for increase credit accumulation?”

The assemblage of student success in operation in the gray literature and at GSU, data-driven control, produces expressions (cultures of data) and contents (data management systems and predictive analytics). The forms these contents take include both GSU and these solutions-oriented not-for-profits. The expressions of student success, in circulation are all expressions of the assemblage, some actualized by GSU, others actualized by the gray literature. One substance and several forms of the expression of student success, cultures of data, are explored below.

A Substance of Expression: Guided Pathways to Success

The expression of the student success assemblage produced the statements of not-for-profits like CCA and GSU. Accordingly, it was difficult to hear about some aspects of the initiative and know if the utterances were generated by an administrator within the initiative or directly by CCA. Guided Pathways for Success (GPS) was one of the many

solutions offered by CCA that became directly integrated into the work of the initiative.

In CCA's framing of the problem that GPS solves,

For decades, American higher education has worked to expand choices for students: hundreds, if not thousands, of course offerings at our institutions; classes at all hours of the day and on weekends; majors in every possible discipline. The goal behind these efforts was to give students options. But this process of unguided exploration and discovery too often means that students wander the curriculum and rarely graduate on time. Behavioral economics tells us that too much choice — especially uninformed choice — leads to indecision or poor decisions. We also know that a substantial number of people accept — even welcome — a default choice designed by informed professionals. (Complete College America, 2014, p. 14)

The language of the initiative was in alignment, as GPS was billed as solving the problem of students *declaring majors early and hitting “psychological barrier[s]” to changing.*

GPS at GSU was a component of the goal of decreasing TTD through removing curricular roadblocks. GPS was a means to *“get students better information so that they can make better decisions,”* and part of a strategy identified at one point in the year as *“enhance accountability/constrain choice.”* GPS was one way GSU attempted to *“build better guardrails, that’s about academic policies, we need to build better academic policies that encourage better progress toward degree.”* While these exact utterances differ from CCA's, the statement is the same. This is the statement of cultures of data that aim to produce optimized structured choices for students in order to produce the successful student.

This solution was also translatable into terms of institutional revenue; the individuals and flows to be created by GPS as a form of content were in relation to the individuals and flows of USD. The GSU initiative tried to get traction with development officers to fundraise for the initiative using GPS as a relatable selling point. The foundation was slow to act, so administrators developed a pitch to get them to take up the cause of student success with donors by framing a

GPS that meets graduation and liberal arts goals by tying together academic and career advising - student success [graduation] + accelerated impact [liberal education]. "GPS that accelerates the impact of their liberal education by tying together their work in the classroom with real-world experience."

The explicit goal here was to *take the measurement focus of GPS and broaden it with liberal arts* in order to sell student success to donors. The flow of student success individuals that includes GPS and donor USD was believed to be blocked without mentioning liberal education. This flow of student success individuals, GPS - donor USD - liberal education, was directly analogized within the initiative to Fordism: *"Ford's vision for the Model T was to democratize the automobile." / This sets you up to measure it. / You're right, it becomes the new measurement.* Through utilizing a justification of democracy (or liberal education), the assembly line of measurable car production (or measurable graduation production) flows. This flow is the result not of a CCA with undue influence on GSU, or a GSU that uncritically lifts solutions from CCA. This flow is produced by student success as data-driven control, which machines both the form of contents of GSU and CCA as well as the substance of expression of GPS.

Forms of Expression: Flows of Information from EAB and Elsewhere

EAB’s influence and direct financial arrangements with GSU have been noted extensively in previous series. Above, we explored the machining of not-for-profits from the same source as GSU: student success as data-driven control. To say EAB and GSU are entangled is a bit imprecise: EAB and GSU are forms of content produced by the student success assemblage. The successful student (the four-year graduate) is the form of expression of this assemblage. This form of expression relates flows of information, many of these coming into contact with EAB. Here, let us explore the flows of information connected to EAB that re/create the successful student. EAB distributes a wide range of content, from white papers to a steady stream of quotes to higher education media outlets, to institutional reports for member institutions (paying customers, flows of USD-universities-quasi-corporate entities) with strict non-disclosure statements. EAB also emails solutions provocations once daily during academic terms, and sometimes two to three times daily. These emails include listicles, a la BuzzFeed clickbait articles, of student success and generic corporatist solutions (“How to work 3 times faster in admissions,”²⁹ “5 problems with your open door policy”³⁰), clickbait subject lines (“4 job skills students should focus on—and one they shouldn’t,”³¹ “Because 80 minutes per student isn’t enough”³²), invitations to webinars (“Laura, collaborate with faculty to source big ideas,”³³ “[Webinar] Tomorrow: How to scale student success through mobile technology and analytics”³⁴), infographics (“100 principled, sustainable ways to reduce

²⁹ (EAB, personal communication, March 15, 2017)

³⁰ (EAB, personal communication, March 21, 2017)

³¹ (EAB, personal communication, March 7, 2017)

³² (EAB, personal communication, February 15, 2017)

³³ (EAB, personal communication, February 21, 2017)

³⁴ (EAB, personal communication, May 10, 2017)

costs,”³⁵ “The 3 things today’s donors want to see before investing in your institution”³⁶) and solutions galore (“Learn how effective student communication can translate into increases in graduation and retention,”³⁷ “How to improve online student retention (Yes, it can be done),”³⁸ “How academic policies can help (or hinder) student success,”³⁹ “How one university created data-driven change on campus,”⁴⁰ “Maximize the graduation impact of summer enrollment,”⁴¹ “Increase faculty participation in your student success initiatives with these 3 strategies,”⁴² and “FW: Analytics and benchmarks your team needs make [sic] smarter decisions,” a subject line for an email inviting the recipient to the following webinar: “Eliminate the Guesswork in Academic Planning”⁴³). The sets of relations reinforced over and over in these emails, day in and day out, are those formed through data-driven control and the successful student. When an administrator casually references that “*We’re stuck in the 90’s in EAB’s timeline,*” it is an indication not only of EAB’s effectiveness in disseminating the referenced infographic (*The Evolution of Student Success*; Venit, 2016), but also of their alignment with GSU as forms of content produced by data-driven control. All of this information is shared face-to-face at EAB’s annual CONNECTED conference for student success leaders, free (already paid) for SSC member institutions. Several GSU administrators attended the conference in fall term,

³⁵ (EAB, personal communication, March 1, 2017)

³⁶ (EAB, personal communication, February 3, 2017)

³⁷ (EAB, personal communication, June 14, 2017)

³⁸ (EAB, personal communication, March 29, 2017)

³⁹ (EAB, personal communication, March 23, 2017)

⁴⁰ (EAB, personal communication, December 15, 2016)

⁴¹ (EAB, personal communication, March 9, 2017)

⁴² (EAB, personal communication, March 13, 2017)

⁴³ (EAB, personal communication, February 26, 2017)

and the lessons they brought back lingered in meetings throughout the year, including this instance from April:

One of the things that was neat at the CONNECTED Summit was to hear universities who were doing 25 things, and then the expert comes in and says, “do 5 things.” How might we narrow our focus? So what details do we need to attend to moving forward? And for this piece about tracking, what are you looking at and how are you capturing it? ...it seems like you have some things from [institutional research] that say these are the KPIs we’re looking for... we need some crispness about what we’re messaging.

EAB’s solutions for producing the successful student are everywhere at once, an overwhelming enunciation of data-driven control.

An additional item of note regarding EAB is the myth they (and others) have built up about Georgia State University, another form of content produced by data-driven control. Georgia State was an early user of EAB resources, and for a variety of reasons, they have experienced large increases in their retention and graduation rates. Georgia State is frequently cited as a success story in EAB resources. For example, the lede to the previously mentioned article titled “Learn how effective student communication can translate to increases in graduation and retention” begins: “Read stories that highlight accomplishments like an additional \$3M in tuition revenue at Georgia State University...”⁴⁴ Georgia State also appears with frequency in newspaper articles where EAB representatives are also cited (Treater, 2017). Georgia State is cited frequently at the other GSU, Great State University: “*They’re held up [by senior leadership] as: This is*

⁴⁴ (EAB, personal communication, June 14, 2017)

the place that's turned it around. They've done it." Georgia State operated as a dividual of aspiration. They were given as the example institution in several meetings where the GSU student success initiative sought to implement the same tactics:

Georgia State: imagine you have major 1, major 2, major 3 - they just have students come in as majors, and then behind the scenes, they cluster... students, and a major may fit more than one cluster, and then deliver advising and other services to clusters... then they are able to have conversations with students starting at orientation, and maybe if they're not in the right major, we can funnel them into something else.

Georgia State was referenced within the initiative as a favorite example of senior leadership on student success. There were lingering doubts by some administrators and advisory folks as to the comparability of the institutions. Specifically, Georgia State was thought to be able to experience such gains because they had a terrible graduation rate to begin with, and their non-Research I, non-AAU status allowed their senior leadership to make heavy-handed reforms: *If we want to be excellent, why are we comparing ourselves to Georgia State?* This disparity, ultimately, did not stop the comparisons: Georgia State was the form of content machined by the assemblage of student success that Great State U. hoped to be. As such, Georgia State was in constant circulation at Georgia State and within the initiative.

A class of information, a source of solutions one step even further removed from the primary policy documents or white papers of the gray literature are the higher education-specific news sources. At GSU, the Daily News Update email from Inside Higher Ed in particular moved into and around and among initiative email inboxes. These

emails allowed for quick comparisons between idealized forms of content of student success and Great State U. Occasionally, morning student success planning meetings would start not with the scheduled topic but with a discussion of the Inside Higher Ed article, and the referenced university, forwarded to all by senior leadership early in the morning: *“You saw the thing this morning about Indiana? ...Why don’t we count 15 as full time, Indiana does?”* (cf. Smith, 2017) Outside of Inside Higher Ed and EAB, a forward of an APLU email linking to an article on “Using Data to Increase Student Success” also moved conversation, as senior leadership wanted to know how GSU compared to the institutions (forms of content, individuals) profiled in this article’s case studies (cf. APLU, 2017). At this time, administrators had an important meeting with senior leadership on the direction of the student success initiative coming up, a meeting already anticipated to be tense. They decided to add these case studies into the flow of their prepared remarks: *“One of the reasons to discuss the case studies to me is 1) to say we read them, because [they] sent them, and 2) to have a way to talk about these challenges without sounding defensive.”* Flows of information like this make a commonplace, mundane statement like *“Research has shown that a student will be retained and will graduate if they are engaged”* possible, valid, and sensible at GSU. In data-driven control, solutions promising the production of the successful student shape the substances expressed.

Liberal Education, The *Trans-ition* Connecting Control and Chaos

When student success escapes representation, how can we know it happens?

One Great State University group consistently worked at the boundary of data-driven control and chaos: mission: Designing Liberal Education, or mi:DLE.⁴⁵ This group was connected to the student success initiative - of it, in terms of membership, but not in it, in terms of coordinated actions. One articulation of the connection between the student success initiative and mi:DLE focused on their links:

“What doesn’t come through in the report is that all of these things [mi:DLE and the student success initiative] link up... another approach is us beginning to think about the degree paths for students and building on top of our majors better models. We have students coming in declaring certain majors and we know what happens to them... can we get to those students earlier and get them elsewhere... clustering majors... help them see the connections between majors.”

mi:DLE’s broad goal was to explore new possible directions for GSU’s GenEd.⁴⁶ Its persons, who occupied faculty, staff, and administrative positions from around campus, were all advisory to the student success initiative in their capacity in this group, as this group itself was located at the initiative’s boundary. Statements about this group made by the student success initiative occurred when the initiative needed a way to reference conceptions of student success outside of measurement (see *“Let Me Reach Out to EAB on This:” The Expression of the Student Success Initiative, Continued*), or skepticism about data-driven control. Name-dropping this group was the boundary of the possible articulation of liberal education values possible within the initiative.

⁴⁵ This is a pseudonym.

⁴⁶ This is a pseudonym for the campus-specific naming of general education at Great State University.

mi:DLE actively discussed the need to stay outside the vision of some campus persons, an articulation of the need to remain outside the vision of data-driven control. It follows that this group needed to stay tangential to the student success initiative; to be understood within the orientation of data-driven control would be its death. They described themselves as rogue. Even so, they utilized meaningful orientated handholds, centering the structuring ideas of *“human-centered design”* as a way to leverage change in GSU’s GenEd requirements: *“We start with the design principle that everything takes place within a human-centered, evidence-based community.”* mi:DLE spoke frequently of *“transformation,”* and whereas desired change inside the initiative was a reference to bringing GSU into data-driven control, change here at the boundary was without explicit predetermination. As a group, mi:DLE used design principles like those advanced by Burnett and Evans (2016), a book all members of mi:DLE received, as a starting point but not as a totalizing structuring device. They kept the goals of their efforts open, and they kept their flows and processes mostly open as well. There was a mutually reinforcing desire to convince people that the *“work is meaningful, valid in some sort of way,”* and sit with the intensity of their location on the boundary: *“I think that’s what I enjoy the most, is that I’m looking forward to seeing where it goes, to it continuing...”* / *“That’s the great thing about the design process, is that you don’t know where it’s going.”* Their working question for the previous year was *“How might we create an educational ecosystem that encourages being rather than doing?”* One mi:DLE member’s articulation of the goal for this year:

“To me... I almost see this as... how [do] my courses help students to ask, to reach... and how do my courses help students invite students to ask, to reach...”

it's the two side of the responsibility piece that [they] talked about. To me, this works because it works at every level. It's fractal..."

Fractal as an operating principle and goal breaks apart the work of data-driven control, using it and discarding it in endless folds, endless creation (cf. de Freitas, 2016). Can mi:DLE live up to this promise?

The Multiple Ontologies of GSU Persons

The work of mi:DLE gives a helpful frame through which to explore the implications of our initial distinction between administrator and advisory as fluid groups of persons. In describing content and expression as the primary articulations of the student success assemblage (rather than form and substance), persons exist as substance within content doubled over and over again. There are persons of GSU who are central in mi:DLE as well as in the student success initiative. By our initial naming in *Allow Ourselves to Introduce... Ourselves*, these persons exist in multiple. These persons exist both as administrators and advisory, both at the center of the initiative and at its margins. This is described as a guerrilla status: "...it's been a small guerrilla team, off the radar." Persons who exist in both groups exist both in the orientation of data-driven control and in its queerings where it mixes with chaos. As such, to understand these persons as fully constituted by data-driven control or fully constituted at the boundary is incomplete; they are both/and. Persons who uttered statements of data-driven control within the initiative uttered statements like this that escape data-driven control in mi:DLE: "*Student comments were transactional... professor comments were aspirational. I wonder if we're setting up a system that's too transactional for students.*" In mi:DLE, we see content and

expression shift as the assemblage shifts from data-driven control towards chaos. mi:DLE is an ontological multiplier.

Liberal Education as Profane

Whereas the spoken link between mi:DLE and the student success initiatives was in the work of creating degree paths, or GPS, the expressed link between the two became expansive definitions of student success, or liberal education. An expansive definition of student success is what the student success initiative fumbled toward, haltingly, as doubts of progress toward the 10 percent goal intensified. An expansive definition of student success, one that includes values that are in excess of measurement, is profane within data-driven control. Profanity is relational, there is no essence of liberal education that is profane. Given data-driven control is the referent, liberal education is irreverent, it does not play within the rules of the orientation of data-driven control, it is not molar and cannot be contained in flows of individuals. Liberal education profanes data-driven control and is profane within it. It is not that liberal education does not co-exist with data-driven control — it lives on in the interstices in mi:DLE and countless other nooks and crannies at GSU outside the vision of the initiative. When liberal education comes in contact with the initiative — as the initiative lies within data-driven control — it is profane to it. Fleeting mentions of expansive student success within the initiative come and go: “[senior leadership] *has framed student success in terms of economics, but it’s also related to excellence, improving experience in and out of the classroom.*” The work of the student success initiative was to bring what are elsewhere generally categorized as academic affairs and student affairs at GSU into data-driven control through the initiative’s two initial goals: coordinated curriculum (academic affairs) and coordinated

advising (student affairs). Expressions of student success out of alignment with this orientation are profane when in contact with the initiative. Doubt about the achievability of the 10 percent goal inside of the initiative sparked some change in utterances, yet the utterance that physically lingered over the student success initiative toward the end of the year was rarely spoken. It subsisted, insisted at the top of the whiteboard in the initiative “War Room” - the dedicated initiative planning room - for the last two months of the academic year. It was placed there with the caution that *“we have to pay attention to our definition of student success—everyone should read this.”* The message was written as follows:

STUDENT SUCCESS = HELPING STUDENTS IDENTIFY AND ACHIEVE
THEIR GOALS. “Retention rates and time to degree... are important..., but surely they are not the proper ends of an undergraduate education.” THE
UNDERGRADUATE EXPERIENCE: FOCUSING INSTITUTIONS ON WHAT
MATTERS MOST⁴⁷

The message, one which calls into question GSU’s operationalization of data-driven control at minimum, and likely calling for a tipping of the student success assemblage away from data-driven control, was rarely discussed for the remainder of the year. It was a manifestation of the boundary too profane to verbalize. Liberal education is a profane minor tug at the sacred major language of student success.

Though liberal education was profane within the initiative, it flourished in mi:DLE, and it was in mi:DLE and in relation to mi:DLE that utterances of liberal education occurred regularly:

⁴⁷ This is a reference to Felten, Gardner, Schroeder, Lambert, and Barefoot (2016), p. 12.

“I’m always struck at how curriculum is about courses and about movement, students moving through courses. Change doesn’t happen from a top-down big idea - trying to create a structure that allows us to center gurgling, bottom-up change. It’s going to be a true work-in-progress. This is focused on process.”

mi:DLE-related statements also at times went one step further and critiqued the foundations of data-driven control such as the individualization and flow of time and money:

“We’ve capitalized this experience so thoroughly. For them, they need a job... ‘I can’t even afford to be in this class...’ and ... the more we shift this burden of economy back on to students, the more they’re going to have to be transactional, and that’s a disaster, especially at a liberal arts institution.” / ... / “...one analogy that I’ve had on the back of my mind... this sounds like MBA students for decades... especially executive MBAs. We’re getting those same dynamics particularly because of the economic demands over the last decades. This is a function of time and money, because it has to be. How do we get to a value added, this work is worth my time? I think that financial pressure is pushing the undergraduates... but they’re not in a place where they can articulate what they want, or even when they want the right things.”

This statement, a statement addressing student and faculty concerns presented to mi:DLE over and over again, was a statement made impossible within the initiative in its very first introduction to campus (see *How Does One Become a Student Success Problem?*). To change practices with students in experimentation with these questions is to profane a data-based approach; it is to practice liberal education.

Liberal Education as Promiscuous: Speculative Campus Programming

mi:DLE, GSU's group of guerrilla liberal education gurus, embraced their interstitial status. It was this location that granted them the ability to think and act experimentally. They interacted with parts of campus outside of the internal group meetings in several ways this term, all but one as rogue and invisible to senior leadership as the group was. mi:DLE did in fact shed their camouflage to produce one big campus event this year with the goal of leading persons from across GSU in "*reimagining undergraduate education through theater and dialogue.*" This event was a test in mi:DLE's—and liberal education's—ability to operate outside of the shadows. What would happen in an experiment on this level, a burst of liberal education in a university environment where undergraduate education is dominated by data-driven control? This event was a test of the extent to which mi:DLE could profane data-driven control, and exactly how promiscuous liberal education could be. Could this event cross boundaries of power and persons in the light as well as it did in the shadows? What kind of reaction would this promiscuous liberal education elicit from campus?

The event itself was a performance of fractured narratives of students' thoughts to professors and professors' thoughts to students: "*I want people thinking they're hearing a community speak, and respond to that, not individuals.*" The practical work of this event was to "*launch [the] campus drive to redesign the core curriculum.*" The aspirational goals for this event were neither technical nor determined. After the performance, there were to be facilitated small and large group discussions on what everyone just experienced as well as related ideas for GenEd reform. Generally speaking, the advisory folk of mi:DLE wanted

“people to come to this and stop thinking they know the answers... we are average, and our four-year graduation rates reflect that...to me something very huge, very big I didn't know... I still want something to throw them a curveball, so the conversation at the tables doesn't get stale.”

The performance and discussion was to provide persons with a common experience and access to a range of personal experiences at GSU, and a photo elicitation exercise in small groups after these was designed to provoke thought one step further:

“...I want to get people out of talking in ways that are familiar... talk about immediate reactions, and then think on how to build a Mack Truck with bananas, something more [mi:DLE]. A different way of thinking... to feel like its embedded in something more experimental.”

Liberal education was left as the statement of the event that did not require a direct utterance. Its experimentation and desire for difference was everywhere. Conditionally present here (on the condition of escaping data-driven control), crossing boundaries and borders of intelligibility and nonsense—liberal education sauntered promiscuously throughout the event's planning and the event itself.

In the end, the event, for all appearances, provided the shock to thought (Massumi, 2002) that its organizers desired. Here, on the boundaries of the student success initiative and physically in a large room at the boundary of GSU's campus, GSU persons discussed the complexities of student success that escape dividualization. By one account, the performance

“was all and, and, and, and. And we saw the respect the students had, you know they had compassion, and the faculty had compassion, and I sensed that

everybody was open and really asking for and crying for a way to bridge these simultaneously coexisting realities.”

The experimental thinking engaged in by the roughly 100 people in attendance, mostly faculty and staff but also including graduate student instructors and undergraduate students, addressed some areas left out of the charge of the student success initiative:

“The idealism of this exercise feels really out of place with the structure of our students’ realities.” / “We all want to be aspirational, but it felt necessary to acknowledge the structural barriers that people feel that make change difficult.” / “This could turn towards social problems.” / “Maybe that’s the elephant in the room.”

While large-scale social problems like rampant income inequality and racism feel important to discuss in relation to the undergraduate experience but hard to solve, so does a much more local problem, the classroom: *“Are you saying if every professor did this in their classroom, there’d be no need for curricular reform, for top-down?”* While the GSU classrooms are local, the reach of either mi:DLE or the student success initiative into each of them to do the work brainstormed as necessary is not practical under data-driven control: *“empathy is hard to scale.”* And still, to the continuing question of *“How do we concretize this?”* the classroom provided one such path: *“Something that I think that’s important... if we define a large scope, it gets overwhelming very quickly. When you talk about what happens in my classroom, it gets grounded.”* Discussions in small and large groups at this event weaved back and forth between intelligibility and chaos, between needed concretizations and Mack Trucks made of bananas. In the end, amidst the various policy and faculty development ideas generated and shared, this event’s

contribution to not just GenEd reform at GSU but to and through all of the folded and multiple connections to the student success initiative was movement—promiscuous movement. The embrace of a movement of ideas was at the heart of the planning for this event, and this emphasis was articulated explicitly by persons during the event. During the photo elicitation portion, described by advisory at one point as included to shape ideas to be “*solution-focused*,” one person expressed the possibilities of a revitalized GenEd as follows: “*To me, this is movement... that’s why I picture it as a water slide. To me, there’s motion in how a class, or even a single class period, is formed.*” Ultimately, movement comes to be mentioned as an alternative to data-driven control: “*In a way, this is a response to the learning outcomes approach. It may very well be that I need to write well and speak well, but you get there through the [movement].*” In this alternative, outcomes are not achieved through data-driven control, but rather through movement. This movement, this promiscuity in the shadows of data-driven control, is liberal education, and this event released liberal education’s utterances at the boundary of the initiative. Would the initiative latch on to these expressions and shift? The interstitial space gained intensity from this event. As administrators stated in their debrief of this event in the next morning’s student success standing meeting, “*I think we’re doing the right things, and [senior leadership] is wrong. We need to keep doing what we’re doing.*” / “*And pull others on board... when the curriculum can engage students, that is a success piece.*”

Molecularizing Counterproductive Chaos

Seeking student success through order and structure.

Counterproductive chaos, at first glance, appears duplicative — is not all chaos counterproductive? When student success is understood through assemblage theory, this is not the case. Chaos in contact with a system of power dislodges it and creates the space for the new. This contact loosens stasis and supports experimentations and open futures. Chaos in contact with student success as data-driven control creates the space for liberal education. At this contact point, the *trans-ition* connecting chaos and control, is becoming. If *trans-ing* the surface is desirable, why not just take a leap into full chaos? This — chaos unhinged from order, movement lacking all structure or channeling — is what this series takes up as counterproductive chaos. A few sites of counterproductive chaos in the institution were in need of some molecularizing, or contact with an orientation enough to produce something identifiable, but not enough contact so as to create a dividual, or molarize. The initiative's quest for assistance interpreting data (in May, still: "*If we can get some help on the data...*") is one such example explored in *A Fog of Data-Driven Truth*. The molecular assist here would not be in generating more dividuals into more flows, but assistance for administrators to enter into experimentations with many formats of knowledge. Two additional areas of the initiative were spaces of chaos in need of contact with power: advising in a large undergraduate-serving college and the student success standing meetings.

The most immediate advising space in need of coordination that came to the minds of many was the lack of consistent advising available to students in the college with the supermajority of all undergraduate students at the institution, the College of Undergraduate Students (CUS).⁴⁸ Some departments in this college provided their

⁴⁸ This is a pseudonym.

undergraduate students consistent access to faculty advisors, and some provided consistent access to professional advisors, but many provided no consistent access to either, making advising a tiny fraction of existing professional or faculty positions, or counting advising as a service obligation for faculty. In practice, these formal designations resulted in undergraduate students from CUS crowding into the advising office for undeclared students for help, with no clear institutional pathway for this to occur. Bringing order to advising in CUS was the first priority of the student success initiative. From the start, this priority was elusive. No one quite knew who was advising and how much of their job was devoted to it, so the initiative launched a campus survey at the beginning of the year to take an informal accounting. Still, come the very end of the academic year, this knowledge gap was at issue in prompting change:

“We really need to find a way to quantify (senior leadership will respond to this)... to firmly get a number or percentage around the number of students who are here for advising... this is the information we can take to [CUS] and say ‘this has to change.’”

As no administrator of the initiative held a position inside CUS, all changes in CUS made through their contact with the initiative were the result of this type of finessing. This problem was outside of the scope of solutions like SSC Campus to solve. Other forms of content produced by the national student success assemblage, including Georgia State University, were seen to have different campus structures that supported this kind of change: *“I don’t think you can overstate... their [Georgia State’s] ability to do top-down reform.”* The solution to the problem of CUS advising at GSU, as articulated within the initiative in April, was that *“we need to centralize [CUS] advising with an additional 10*

FTE on top of what we can pull from departments.... We aren't going to get [this] in the next two years... maybe eventually." The initiative was left to molarize around the margins in the meantime. Maybe most students two years from now would still lack access to academic advising, but when they have it, their advisor will be trained in data-based strategies to support four-year graduation. This chaos ate at the initiative all year long, and with no easy resolution to this enormous problem in sight, it was hard to see what data-driven control might be able to do around the margins to produce the 10 percent increase. Late in the year, this tension surfaced in planning meetings for the presentation of initiative progress: *"Do we need to make sure they know the big picture around issues of coordinated advising? That most of our students are [CUS] majors, and they have the most unreliable advising on campus?"* There is a void here in the double articulation of content and expression. The expression of the successful student as known through four-year graduation is clear. The inadequacy of the content of CUS advising to support this expression is clear. The chaos that ate at the initiative was how to translate these expressions to the production of the content necessary (in the form of a CUS-wide approach to advising or additional advisors) to support this? This problem of chaos and double articulation was present in one other major way within the initiative. It was present within the initiative itself in its most regular and mundane setting, the four-times-a-week student success standing meeting that began in winter term.

Beyond problems of defining and sorting goals, strategies and tactics (*"Are the points on the board yesterday our starting points?"* / [Hesitantly] *"We go down paths... we've done a strategic plan about 12 times"*), the student success standing meeting was the site where all the disparate interactions of administrators on behalf of the initiative

were shared, problem-solved, and Gantt charted (*“Gantt chart the fuck out of it”*). By and large, these meetings were standard fare adventures in bureaucratic planning amongst administrators who genuinely seemed to enjoy each other’s company. These meetings also became a site where the tensions within the initiative became visible. Perhaps this is to be expected, especially as a malaise over the attainment of the 10 percent goal set in. Where this tension was notable was in its increasing intrusion into, or statement of, the ability of administrators to complete the identified tactics necessary to achieve student success.

“I got this, I got this, don’t worry, I got this.”

“Let’s close our computers for a second [signal for attention]. What I think you’re hearing from me is a lot of work... we’re all at capacity, and we’re doing all of this ‘extra’ work and crossing our fingers, our toes, all of our digits... this is why, [administrator], ‘I got this’ isn’t satisfying to me. How...”

“...We will have a picture by Monday. We need the time to put this together. We will have this by Monday. We’re already in the process of getting things scheduled this week, and we’ll know by Monday.”

“I’m not [them], I’m actually more interested in process than outcomes.”

These meetings were an unproductive chaos where the clear articulation of the expression of the student success initiative (the successful student) did not affect a corresponding articulation in content (here, the substance of content in functioning administrators) to support the expression.

“One last thought: what we want to be able to do for [them] is we want to be able to give [them] a hell of a lot of detail, and that’s what we’ve been missing up here at the administrative level. And that’s what we need.”

This is a very different articulation problem than that facing the initiative’s relationship to CUS, as this was the initiative’s relationship to itself.

“What do we need to do? What’s the one main goal for [you] and [you]?”

“Centralize advising... and centralize tutoring.”

“It’s a little messier... what’s the one thing? I don’t understand why you’re confused, we need to incentivize behaviors, guardrails for our students, and...”

“It feels scattershot.”

“But there’s not a silver bullet in one of these.”

“But your energy is always going to be going in a thousand directions...”

“...Yeah...”

“...unless we focus your energy. What’s the most important thing?”

<tense back and forth>

“I appreciate your frustration, I’m frustrated with me too. We have to put aside ‘what’s the magic thing that will make [senior leadership] happy?’ We have to do the foundational work to say, ‘Look, this foundational work ties into this tactic.’”

The chaos here marks the re/making of the persons of the initiative, our administrators, (one of) the assemblage’s substance of content. When the initiative appeared to deviate from the achievement of data-driven control’s expression (the successful student), our content doubled down on their efforts to make themselves in the image of data-driven control, so as to produce the successful student. With no roadmap for this other than the

images of content elsewhere (EAB, CCA, Georgia State, et al.), our administrators worked as best as they could to match these images. In doing so, their meetings were a form of content also in need of transformation, and their low simmering chaos as the academic year came to a close intensified. The stakes were clear for all persons and content of the initiative: *“Let’s be real, if we can’t do this, we’re actually fucked. If we can’t present a strategic plan, we’re actually fucked.”*

How Does One Become a Student Success Problematization?

How do you solve a problem like student success? How do you hold a grad rate in your hand?⁴⁹

Framing this study through problematization allows the naming of the chronological time period of this study, the first academic year of GSU’s student success initiative, as one of many false boundaries at play. We start with the beginning of the first academic year of the initiative, well after the initiative’s parameters were set and after the selection of our czar. We also end well before this initiative’s most important year - the senior year of this incoming class, the 2019-2020 academic year. Bounding this study within the first year of the initiative is one of the many ways we “lodge [ourselves] on a stratum...” (Deleuze & Guattari, 1980/1987, p. 161) to experiment with and explore the assemblage.

Framing the student success initiative through a 10 percent increase in the FTFT graduation rate for the class of 2020 also creates false boundaries. This was designed with the input of persons who at times constituted the inside of the initiative in order to hold Great State U. accountable to doing right by its students. As we have explored, by

⁴⁹ The problematizations of this section are entangled with the very problematizations the nuns of Nonnberg Abbey had of Maria’s spacetime-mattering in *The Sound of Music* (Wise, 1965).

the end of the first year of the initiative, these particular false boundaries came into question by persons inside the initiative. In public spaces, however, the boundaries of the goal remained stable:

“And we’re landing [in the 21st century, with the acquisition of SSC Campus] just in time, in the context of our audacious student success goal — [a] 10 percentage point lift in 4 year graduate [sic] rates. 10 percentage points means roughly 400 students in every cohort will graduate on time. 400 more students relieved of some of their debt burden. 400 students departing our campus buoyed up in their dreams for a brightly flourishing future.”

Internally, there was movement towards changing the boundaries of the initiative. Some of this was a spark of movement to develop a different set of boundaries for the student success goal within data-driven control. Perhaps the movement needed was not so promiscuous, perhaps

“we just need to set [them] up for the fact that there are a couple of strategies here, and [they’re] going to have to choose. We can keep it at 2020 or change it to 2021... is it worse for [them] if we change it to 2021 and we still don’t do it, or we keep it at 2020 and not do it? [They] can’t walk it [the student success goal] back - this is one of the three pillars of [campus-wide goals].”

There was also a spark of movement to shift the initiative from a problem towards a problematization, from a defined problem space that also defines its outcome to a questioning of the defined problem space itself; power is never absolute, chaos is always present in some form. This was movement that could result in a shift of the initiative being lodged in its definition of student success through data-driven control to the

initiative lodging itself “on a stratum, experiment[ing] with the opportunities it offers...” (Deleuze & Guattari, 1980/1987, p. 161) and becoming otherwise. How could this be possible within an initiative formed in the image of data-driven control? In late May, the initiative still articulated that “*Our strategy in these times is to help our students get out as fast as we can to help lower their bill.*” Even still, the initiative showed the possibility of tipping the assemblage of student success at GSU away from data-driven control and towards chaos by the end of the first year. In doing so, the question on the distant horizon within the initiative, and much closer at its borderlands, was how can Great State U. problematize student success? In other words, how can GSU question the actions, experiences, and realities associated with the concept of student success such that they enter into a constant experimentation towards it?

Expansive Statements, Explorations of the Virtual

By the end of the first academic year of the initiative, advisory folk had been pressuring administrators on the initiative’s success for nearly six months. In these six months, When the initiative looked less and less likely to be solved from within, the first statements of changing the structure of the problem the initiative was designed to address itself came into being. There were some parallel examples of change in circulation on campus in spaces shared by the people of the initiative, as in this related to GenEd: “*How can we do assessment on our campus that’s meaningful for us, that’s not just a box to check or something to do for compliance reasons?*” There was also a haunting of the chronological time before the determination of the problem of the initiative, as its numerical target was conceived years ago as a moonshot and not as a strict accountability metric:

“We’re refining the work this summer... so our data team [the dream, interrupted, still] can refine the goal we can achieve. But I want to reiterate that in order for it to be a goal, there has to be a moonshot element to it. I think striving for 10 percent is a beautiful thing. It’s gotten us to do some wonderful things.”

The initiative had to manage the gap between a moonshot and an accountability metric taken so seriously that the initiative believed their jobs to be on the line, a belief grounded in future reality and stoked by words administrators recalled from meetings past and made present: *“You’re going to make me fail at this, and I don’t fail at things.”* This gap between moonshot and accountability was increasingly perceptible, it was the virtual—that which is real and not (yet? now? here?) actualized.

While this virtual was palpable (literally, able to be palpated, Mol, 2002) at times and increasingly so as they year wound down, the gap that was never bridges was that between the palpable and the actual. GSU had the makings of a promiscuous initiative, an initiative set to go rogue: *what [they] doesn’t understand is that “data’s great, but it’s not the answer - and this is a university, not a corporation. You don’t get things done via mandate.”* Sparks like this belied the potential of the initiative and its administrators to unleash themselves from accountability through tipping the assemblage toward chaos and liberal education:

*“We’ve done this [a strategic plan] already - 5 times, 12 times? We need to be able to say this in a way that [senior leadership] can hear...” / “...and we need to redefine student success for [senior leadership] to *their goals,* and away from [senior leadership’s] 10 percent definition.”*

The quote referenced verbally here (“their goals,” Felten, et al., 2016) lingered silently above/within initiative meetings for months. Administrators genuinely believed in the good that would come to students if the student success goal was met, yet given “*I don’t think we can do this, Laura,*” they were increasingly open to exploring other ways to achieve this value and remove themselves from their data-driven predicament:

“[They] *could reframe this as a moonshot.*”

“[They] *could...*”

“*Of course it’s a moonshot, that’s leadership 101, why set a goal you can reach?*”

“*I don’t know if we can get [them] there. [Advisory] could get [them] there, but [advisory’s] said that’s a non-starter.*”

“*I didn’t sign on for this, so I have to be careful—I think this is silly.*”

“*I came here to do the work—10 percent yeah, but the work is what’s cool for me.*”

“*It never occurred to me that [they] meant the 10 percent goal.*”

In the first year of the student success initiative, the chronological stratum on which we are lodged, there was no major escape from the boundaries of student success or from student success as data-driven control. Student success remained a problem. Vices of all types (promiscuity, profanity, rogue tendencies) lived on in the War Room, in offices scattered across campus, on the inside of the initiative and in the interstices of data-driven control.

The Wall of Data-Driven Control

Time and again, rogue impulses towards problematization within the initiative were met with the wall (cf. Ahmed, 2012) of data-driven control - and occasionally, a wall in the figure of Steve Bannon (see *Fleeting Moments of Disorientation*). Data-driven control orientated the initiative in ways that it could not queer. Just in the chronological time period focused on above, the last few months of the academic year mired in a crescendo of doubt, the initiative continued to live the work of data-driven control. In this time, the initiative doubled down on the search for the right measurement(s) of flows of individuals that is a formula to calculate the degree progress of every member of the FTFT cohort: “*Our thinking has really evolved this year to focus on degree progress.*” The general direction of the initiative’s goals, be they the original two or now three, remained stable: “*Progress toward degree, removing curricular barriers, coordinated advising. These are the pillars we’ve been talking about.*” Students continued to be known as a mass, discernible through individuals, optimizable through the right series of flows: “*60 percent of students graduating in fall of their 5th year take 12 or fewer credits... If we could just get them to take one more class a year...*” Statements about the need for students to be able to graduate in four years continued: “*Student success is really important. We have the belief that if a student is admitted, they should be able to graduate in a timely manner.*” Crucially, these were still conceived of as problems in need of a solution because individuals showed them to be, and these were needs proper flows of individuals could solve: “*Our campaigns have been focused on student success issues - carrying load, grades, credit loads...*”. If a reconfiguration of current individuals could not solve the issue, then perhaps the initiative needed to create more:

“We’ve co-opted a [CUS] initiative to pay faculty to develop online courses, as we’re interested in ways in which online education might help our student success goals. For instance, developing short courses offered at the end of the term to help our students pick up credits, which is particularly needed with the loss of [easy department] courses.”

The first words of a student success meeting in spring term: *“What can we do to increase retention in the next eight weeks?”* These are the words of an initiative trying its hardest to make student life at GSU better, and these are the words of an initiative shaped in the image of data-driven control to do so. The initiative worked to spread this ethos (of care for students, of data-driven control, of retention and graduation as success) throughout the institution in order to will the promise of the initiative to *tear down the institutional barriers* to on-time graduation: *“Did they not get the memo? Have they not heard [about the 10 percent promise]?”* The year ended at the wall of data-driven control, much as it began. For all of the cracks and folds in its interstices, the truth-value provided within data-driven control had no substitute. Even when its grip (or the grip of its instantiations) were questioned, there was never an alternative regime of truth considered possible for the student success initiative. Instead, the work of data-driven control would soldier on: *“The issue now is scaling up interventions.”*

Speculative Procedures for Going Rogue

Given the path the actualizations of this year took, what options did the initiative have for making itself otherwise? To say the pressure to meet the 10 percent goal was intense would be an understatement (see above, as well as *Causality and Impact: Or Does it Explode?*). This is the question of this dissertation: how might higher education

make itself otherwise in the face of not just subjects and organizations, but of power? This question will be explored in more detail in Chapter 6. For now, I, your humble narrator, offer a provocation for you, the reader, to sit with as we near the end of this chapter. There is no way out of power, there is no outside to it. There is no way for our administrators to escape data-driven control: *“No, we’re calling next year the first year.”* There is no pure beginning for them possible: *“Well starting with the current freshman class is ridiculous. Take that part out... we can’t contradict the [senior leadership]. I don’t know how we mean to that without knowing what [they] wants to do.”* There are only negotiations; escape comes through the foldings of power, the deterritorializations from data-driven control that bring the possibility of creating a new Earth, a different power: *“What needs to begin to inspire us is what do we want... in what are aspirational energies are.”*

Creating a Culture of Student Success: More on the Production of a Flow

Be yourself, be the institution.

Concepts spark flows of relations. There were several concepts used in this first year that seemed to have the intent to signal, or spark, new flows of relations. *“The [Great State] Way,”* for example, was a concept mentioned a fair amount by persons across campus. It signaled series of relations that were stuck, immobile, and had not moved for decades. General education (GenEd) reform was described variously as providing *“a way to wade through the 800+ gen ed courses,”* and stuck where *“we can rearrange the courses and structures all we want, but if we don’t change what’s happening in the classroom it won’t work.”* GenEd reform took two paths in the first year of the student success initiative. It was beginning a public path without many individuals

attached to its production in comparison to the way that the dividual of retention hung like a sword of Damocles over the student success initiative from the beginning. Its early stages were comprised of the mi:DLE event and a campus visit by a national research center on liberal education, and a faculty senate working group was to be convened the following year. The structure of its problem as open-ended allowed for this fluidity, even though its early path through mi:DLE “...can sound to faculty a little fuzzy and woo woo.” The coordinated advising flow was a sea of dividuals whose contents were at many times opaque but were in circulation nonetheless: SSC Campus training - campus advising mission, vision, values - Advisors Leadership Group (ALG)⁵⁰ - ALG subcommittees - best practices report - report on the assessment of campus advising - targeted outreach of at-risk FTFT - advising syllabus pilot - SSC Campus Training 2. Each one of these dividuals was complex and messy internally. They were not dividuals because they were without complexity, they were dividuals because they functioned as discrete pieces of a solution puzzle within the initiative, each (and others) taking on a part of a problem to be solved through adding these dividuals up. Unlike the structure of the general education problem, which was attached loosely to the initiative and also lived outside of it, coordinated advising was a goal wholly in service of the student success initiative, a problem with a defined solution, a number, a rate, a sturdy wall of data-driven control. Does this organization form all flows that run through the initiative? Will all such flows come into line, straighten, with the orientation of data-driven control? Here, we explore a nascent flow in the initiative in search of structures and chaos within:

⁵⁰ A pseudonym.

the desire to produce a culture of student success at Great State U. as four-year graduation.

One tactic towards the production of a culture of student success that was initially discussed in winter term and started to form in spring was a campus Traditions and Spirit Committee. Representatives from offices across all major campus units were invited to join. The stated purpose of this committee was to *“bind the students together so they come together and leave together.”* The idea of traditions and spirit binding students to the university is not groundbreaking; in fact, GSU had several pre-existing campaigns in place. One pre-existing program involved the distribution of the first-year common reader with a bookplate containing the logo of the program, a line for the student to write their name, and “Class of 2020” typed underneath. Also included inside the book was a temporary tattoo with the same logo and #Classof2020, thus allowing this one meaningful cohort of students to this initiative to inscribe their status as four-year graduates upon their flesh. Other pre-existing cohort campaigns designed outside the scope of the initiative but active within its first year include posters around campus exclaiming *“We want YOU... to graduate in four years”* with the school mascot placed in the middle as a stand-in for Uncle Sam. Another marketing campaign involved a giant banner on one of the university’s administration buildings, imploring students to *“Save time, save money, finish in 4.”* The connection of traditions and spirit to four-year graduation may not be novel either, but it does particular work in this context. Traditions and spirit inside the initiative are conceived of as *“cohort branding,”* as binding students not just to the university but to each other, and to the normalization of four-year graduation. The status of this committee inside the initiative was tenuous, as it was

viewed to both take energy away from beginning work on coordinating tutoring as well as falling under the job responsibilities of other campus persons not inside the initiative. Nevertheless, it persisted. One pre-existing cohort-building tradition was discussed within the initiative at the beginning of the academic year. It is the tradition that takes place between move-in and the first day of fall classes in which all first-year students convene on a large field and take a class photo having formed the school logo with their bodies and performing the hand gesture associated with GSU's athletic programs. A description of this photo within the initiative? *"It looks like Nazi propaganda."* Alas, for that period of time, the class of 2020 was bound together.

In spite of this initial drive to convene this committee, the committee itself did not come together in the first year. This flow remained in/formation at the end of the first year, without many practical details determined at the initiative level. What follows here is an exploration of indeterminacy. The Traditions and Spirit Committee, much like several other named priorities and many unnamed coherences, did not see the amount of initiative-level determinations made in the first year that coordinated advising did. Which path might these determinations take in future years? Are these paths indeed radically open, or by virtue of their contact with data-driven control, is their shape in fact already determined? Using a few tools we have developed thus far, let us speculatively explore the production of this flow.

Control, Open, Channel

While within assemblage theory nothing is predetermined, even within systems of power, data-driven control seeks to do just this. A Traditions and Spirit Committee governed by data-driven control will be governed though the continuous algorithmic

variation of flows of individuals. As the measurement that enacts the continuous algorithmic variation is impact, determinations of present committee actions are based on their prediction to produce future outcomes given past individuals, which will adjust present actions based on new past knowledge (the old present) of the new future. These committee actions would contain the hauntings and futurities of the coordinated advising flow and other flows of control shaped by the initiative's goal. As this goal is organized in pursuit of a metric of individuals (a 10 percent increase, roughly 400 more student ID numbers), the use of individuals to determine the effectiveness of tactics of the initiative such as a Traditions and Spirit Committee would connect the flows of the committee to the existing flows of the overall goal.

An initiative that would produce radically open futures does not mean that future will be free of power, but rather that negotiations of power. This would be a future produced *trans-ing* the surface connecting data-driven control and chaos. Flows produced by a Traditions and Spirit Committee at this surface would show the constant movement of data-driven control without the proceduralism attached to finding the solution, and without the shaping of all irruptions into individuals. This flow would be a site of constant experimentation. Flows like this are always present, they produce the spontaneity present within even the most strictly channeled flows of data-driven control. Working in favor of the likelihood of this flow is the near-absence of cultures of data expressions in relation to the Traditions and Spirit Committee.

What data-driven control does within the student success initiative is not to make things hopeless (data-driven control or bust, only one possible outcome) - it is to govern the set of possible outcomes in its image. This also is not to say that there are no other

possible flows shaped by other forms of power present at Great State U. The which path speculation here gives the illusion of free choice and open futures, as the future is not fully determined. The which path of data-driven control, from the point of view of the past, is a channel, giving the illusion of freedom and shielding data-driven control from view. Data-driven control does not overdetermine the future, it axiomatizes it. It structures the paths through which it will most likely flow; it provides a guided pathway, if you will. It promotes the idea of individual freedom and centers the individual student while channeling choice and centering individuals.

Homogenization by Dividualization

We want you to have a choice; here's your option.

Below is a fractured narrative of “*direct quotations*” and *paraphrasings of conversations as documented in field notes* relating to the public mission of the university.

“GenEd reform and course offerings... this seems to be the overall point on this: do these courses pay for themselves?” / “In narrowing the number of course offerings, [we] also get the bonus side effect of fewer instructors to train in pedagogy, which is the current focus of GenEd reform thinking.” / “What these do?” — constrict choice. / “Because students make terrible choices.” / “There’s stuff that we do that gives students the information they need to make good choices, and there’s stuff that we do that constrains students from making bad choices.” [List of each follows in notes.]

Our new advising software is “*intended to use predictive analytics to facilitate more targeted advising.*” / So “*are you using data to determine...? So what’s the...?*” / “*That’s our IPEDS data — the incoming class of 2020 — that’s what all of our numbers*

refer to, that's what our policies are designed for." / "We only care about the students admitted in the fall - I'm kidding, of course!" <room laughs> / "It feels a little bit like cohort-building follows from infrastructure building." / We need an "articulation of the moonshot that isn't just about a metric - this is the issue with many big campus talks/messages – need aspirational, mission/vision content." / To the faculty senate: "And this is again, part of a broader conversation about undergraduate educational experience. I've been working with [them] on our Student Success Initiative. That, in terms of graduation rates, is about raising our four-year graduation rates. But it's also about the undergraduate educational experience. How do we make sure that students not only get out in four years, but that they have a really rich experience while they're here?" / Post-conference update: "Everyone is saying the stuff we're saying - is everyone doing it? No." / "What does it mean to say student success is a priority if we don't fund it?"

"We have a public mission as a public university." / "We've got a system now that provides too much choice to students." / "In my mind, as we're moving toward a bit more constrained curriculum, we'll be limiting exploration." / "Our culture is to tell students to explore, but times have changed." / We have a "student working on gathering four year plans from campus websites – [the] work there is in milestones – imagine the most common path... say to students this can be done in four years, [and] this is the most common way to do this." / "We need to stop managing for the exceptions and manage for the majority."

Management of in/dividuals for a homogenized majority: the orientation of student success.

"The Goal is a Student-Centered Approach."

What exactly is a student within data-driven control?

Two central concepts were present throughout the first year of GSU's student success initiative, running in parallel to each other: student-centered and evidence-based. This combination of concepts appeals to the form of a student, their physical body, and is paired with a knowledge of that body through data and prediction. However, the subject produced by data and prediction is the individual, not the student. These concepts are uttered in combination enough in slightly different ways as to belie a form of knowledge: "...everything that we [now] do is evidence-based, student-centered, [and] grounded in best practices..." There are three parts to this phrase: cultures of data ("evidence-based"), data management systems ("best practices"), and their justification ("student-centered"). Under assemblage theories, subjects are produced by interactions of knowledge and power and do not exist prior to it. There is no originary student to which the student success initiative can appeal; student-centered is a word "we must therefore break open" (Deleuze, 1986/1988, p. 52). The undergraduate student produced by data-driven control is the in/dividual, a flow of individuals channeled by cultures of data and data management systems, including predictive analytics, under the justification of enacting student-centered practices. The student success initiative saw its innovation as bringing data-driven control to the concept of student success at GSU. The coordinated advising goal was conceived and promoted as existing to create a culture of data, or "...to elevate advising - we haven't been used to seeing advising through a student success lens." Through a student success lens, predictive analytics are employed to ensure "...that faculty are spending the most time with the right students." Through a student success lens, universities develop in-house solutions or partner with solutions providers

to acquire these “...*predictive analytics to deliver more targeted advising.*” These goals for coordinated advising, as well as parallel goals for a coordinated curriculum, re/produce individuals. They do this not through advocating for individual-centered practice, but for student-centered practice:

“Regardless of where a student interacts the interaction is student-centered, evidence-based, there’s care for the student.” It shouldn’t matter what office or advising model [is] in use locally; coordinated and consistent. [We are] Probably one year out from this being in place... [We] Need to change models that aren’t student-centered... “The goal is a student-centered approach.”

GSU needs to change to ensure student-centered interactions for all students, as “*All of our students are all of our students and we need to get there together.*” GSU needs to reform the institution (E, *need to change models that are not evidence-based*) in the image of data-driven control (*evidence-based*) to produce proper individuals (O, the successful student, *coordinated and consistent, “The goal is a student-centered approach”*). Centering the student of data-driven control does not create the successful student as one with open futures, it instead creates the successful student in the image of data-driven control. We need another way forward to produce a version of student success that tips towards the production of radically open futures.

Machining Students Differently

Repetition of molecularized student experiences enhances the individual student experience.

To mark the creation of students at Great State U. as a function of data-driven control is incomplete. Both data-driven control and contact with chaos shape students in

relation to the student success initiative. Chaos has the power to make students differently, both by changing data-driven control and opening the possibility for the creation of a new orientation of the assemblage, a new form of power to govern student success.

Liberal Education for a Different Data-Driven Control

The year closed with resolutions to engage differently over the summer and into the next year of the student success initiative. Not only did the administrators in the initiative feel the pressure to make changes to better pacify senior leadership, they also felt the grind of the last year contained pieces that they wished to reshape. They felt that *“We set this [four year, 10 percent] goal, and it was aspirational, inspirational... and then it turned into get ‘er done, a key performance indicator.”* They wished for an initiative somewhere in-between the aspiration to do right by students and a KPI. In this in-between, student success as (retention and) graduation and student success as liberal education are not in conflict, but rather in tension. In the upcoming year, *“Part of our job will be more strategic than it’s ever been, more frustrating than it’s ever been... but as a community, we move forward.”* Major structures of the student success problem remained in question within the initiative. Could they shift the measurement cohort for the 10 percent increase to the class of 2021, or the incoming FTFT cohort of Fall 2017? Could they shift the 10 percent measurement to a moonshot aspiration rather than a strict accounting? Could they round the 10 percent increase differently such that they would be evaluated against a 59 percent graduation rate goal rather than 60? Could they remove the deceased student from the cohort so they would not count against the goal? These open questions were not shifts of data-driven control, but rather shifts of the problem as

defined within data-driven control. Any combination of these shifts would still produce the in/dividual student. What movements might take on data-driven control itself?

Liberal Education for a Different Orientation

Throughout the year, the actions that might produce a tipping of the student success assemblage away from data-driven control and towards chaos surrounded and infiltrated the initiative in the work of mi:DLE. mi:DLE was the largest site of contact between the initiative and chaos. With the work of mi:DLE comes the possibility of the production of a radical relationality at GSU, a relationality that shifts connections from flows of dividuals to flows, webs, loops and lines of any manner of messy and impermanent irruptions. mi:DLE is the actualization of this possibility of a different way to re/configure the community of GSU toward a continuous [non-algorithmic] variation of the student, of data, of methods, of practice, and of ways of knowing and being (cf. Springgay & Truman, 2017). This statement was actualized in fleeting moments within the initiative, only to be reconfigured into the flows of data-driven control. These statements carry the potential to spark content that tips the assemblage; they are weapons against data-driven control (Deleuze, 1992). The intensity of one such utterance stopped your narrator in her tracks. What follows is a beautiful utterance of a tipped assemblage, one of many possible weapons to use in the formation of liberal education:

“Education is about unlocking potential, the full potential of each student; it takes place, fundamentally, in community. We don’t come together to teach and learn in schools, in universities, just because congregating together is convenient. We come together because we humans need to work and grow and learn in community — from and with each other — if any of this is going to work.”

Liberal Education for a Different Student

Liberal education, as used throughout, describes a way in which individuals can engage with power and change its contours. This engagement is not limited to students; in fact, in order for students in an institution to access a liberal education, educators of all stripes must too engage with power and change its contours. Being student-centered, if that means opening up worlds and possibilities for students, requires faculty, staff, and senior leadership to work on themselves. I have attempted to be productively vague about the naming of open futures for this reason—in order to produce students with open futures, the community of persons and actants of the assemblage must also open their futures. The weapon to produce a different undergraduate student is constituted in coming together *“to work and grow and learn in community.”* The liberal education that will produce a different student is a liberal education of the university, of GSU and of all its persons and relations. This is not a student-centered practice, but rather a *trans-ition-*centered practice, an experimentation-centered practice, a practice that *“works because... its fractal.”* The weapons necessary to re/create and re/center such practices exist in the interstices that permeate the initiative. We exit this chapter and this mapping of the GSU initiative with another such weapon toward the creation of a different student, an extended exchange from the end-of-the-year student success retreat.

“We want to nourish a sense of self-efficacy... these kinds of values... here... what we’re trying to do throughout is we’re trying to cultivate a growth mindset so that students become... self-directed... a non-cliché way of saying that.”

“So a student success mission...”

“Our mission isn’t a percentage, that’s bullshit.”

“You get that Laura?”

“It’s the quote at the top of the board.”

“Maybe not growth mindset, that term will be gone in five to 10 years.”

“For me it means inspired by challenge, resilient...”

“I mean you can imagine a way in which you could infuse pedagogy with that, you could have faculty doing this.”

“So this is something we could say, a revitalized [GenEd] meets the goals of student success when it produces...”

<new chart paper: mission for student success>

“We don’t want to graduate folks out who are just sheep.”

“Does it go back to the reflection piece?”

“The question is... this doesn’t necessarily capture any learning outcomes... this might just be our conception of student success.”

CHAPTER VI

LIFE IN THE MOLECULAR INTERSTICES

It is the work of a molecular sociology to gently tip the assemblage, making it pass over to the side of the plane of consistency. It is only there that the [assemblage] reveals itself for what it is: connection of desires, conjunction of flows, continuum of intensities. You have constructed your own little machine, ready when needed to be plugged into other collective machines. (Deleuze and Guattari, 1980/1987, p. 161)

In Chapter 4, we tipped the assemblages of undergraduate education to reveal their (genealogical) connections of desires—or, their combinations of power/knowledge. In Chapter 5, we tipped the assemblage of undergraduate education as student success at Great State University to show the conjunction of mostly molar flows of student success, with the occasional burst of molecular liberal education. Molecular thus operates in two different and complementary ways. First, it marks the examination of the assemblages of power/knowledge that create us (currently) as in/dividuals. Second, it also marks the hope for making ourselves otherwise as becoming-molecular, the hope I lodge in my reading of liberal education through assemblage theory. We conclude here by exploring these two operations of molecular, starting with the second.

What is the Conclusion to a Paradox?

This study irrupted from the following research paradox: *In what ways can universities support conceptions of undergraduate student success that escape measurement?* I explored this research question through two analytic questions: *What do*

the orientations of student success in the American higher education literature produce?
and *What does the map of student success at Great State University produce?*

To highlight the paradox here, another way of asking this question is: in what ways can institutions support conceptions of undergraduate student success that are “a field of unreachable” concepts without a making-straight, or a making-institutional (Ahmed, 2006, p. 15)? The use of paradox as a queer concept (Ahmed, 2006; Deleuze, 1968/1994) to frame this study is designed to resist easy recourse to answers, or Arithmetics, or making-straight, and instead provoke an extended exploration and experience in these social fields.

The significant findings of this study are the different contents and expressions that hang together across these assemblages. Deleuze (1968/1994) has a vivid way of describing the findings of inquiry that centers paradox:

Paradox is the pathos or the passion of philosophy. There are several kinds of paradox, all of which are opposed to the complementary forms of orthodoxy - namely, good sense and common sense. Subjectively, paradox breaks up the common exercise of the faculties and places each before its own limit, before its incomparable: thought before the unthinkable which it alone is nevertheless capable of thinking; memory before the forgotten which is also its immemorial; sensibility before the imperceptible which is indistinguishable from its intensive. ... At the same time, however, paradox communicates to the broken faculties that relation which is far from good sense, **aligning them along a volcanic line which allows one to ignite the other, leaping from one limit to the next**. Objectively, paradox displays the element which cannot be totalised within a common element,

along with the difference which cannot be equalised or cancelled at the direction of a good sense. (p. 227, emphasis added)

I present the findings of this study in a similar manner. If the work of the previous chapters was to determine the orthodoxies of student success (Chapter 2), break up their common exercise (Chapter 4), and align now disorientated faculties (Chapter 5), here (and now, this moment of spacetime Chapter 6) contains the line of irrupting limits, the experiences from the middle of this study that hang together in their contacts with the outside (Deleuze, 1968/1994, Law, 2004; Mol, 2002). The line created by these irruptions is a line of flight from the assemblages mapped in Chapters 4 and 5. This line of flight contains possibilities for future/past experimentations with student success as liberal education.

From the Limit of Determinacy to an Irruption of Indeterminate Outcomes...

Anachronistic student successes, as historical formations shaped by class unity and student-centered biopower, did not rely on the measurement of determinate outcomes for its sole knowledge of students. This reliance—this motivation to embrace cultures of data (Deleuze, 1992; Kuh et al., 2015)—becomes the format of the truth of student success within the assemblage of data-driven control. Data-driven control constitutes knowledge outside its limits as less effective, less efficient, and less protected from bureaucratic inquiries (Culp & Dungy, 2012). Knowledge inside of its limits is marked by the placing of determinate outcomes into continuous algorithmic variation. Be it success, learning, engagement, or something else, an institution's outcome of choice is interchangeable; new outcomes become one more exchangeable addition to the algorithm. Thus, for researchers and practitioners concerned about the completion

agenda's ability to reengineer the contours of academic regulations and practices across the country in the image of Georgia State University, or student success as four-year graduation achievable through data-driven control (cf. Blumenstyk, 2015; June, 2017; King, 2016; Kirp, 2018; Managan, 2017; McPhate, 2017; Supiano, 2018; Treaster, 2017; Wisniewski, 2018), there is no substitutable outcome to choose that would disorientate the assemblage from data-driven control. As we have explored, the power of data-driven control to orientate practice is as present as any other assemblage of power/knowledge in Chapter 4. While its power is exercised neither through the unity of a university-wide schedule nor the disciplining of the elective system, it is present in force in data-driven optimizations. Data-driven control renders the world into determinate chunks that can be defined, measured, and placed into continuous algorithmic variation.

An indeterminate student success, as explored in several sections of Chapter 5, is an exercise in radical educational experimentation. mi:DLE was "*a small guerrilla team, off the radar,*" formed for the express purpose of promoting liberal education through experimentation. mi:DLE was not pure indeterminacy, as design principles guided much of their experimentation: "*We start with the design principle that everything takes place within a human-centered, evidence-based community.*" The interstices are not marked by purity, they are marked by a "*center[ing] of gurgling, bottom-up[or from the middle] change.*" To center the gurgling is to seek a queer disorientation, and perhaps another queer concept: an indeterminate outcome. Liberal education, much like paradox (see Chapter 3), was that queer concept for mi:DLE, and holds promise as a queer concept for other institutions ensconced in data-driven control and seeking difference.

From the Limit of Data-Driven Control to an Irruption of Liberal Education...

Data-driven control is our naming of the assemblage of student success marked by societies of control as its mode of power (Deleuze, 1992) and data as its knowledge. If neoliberalism is defined by the marketization, or exchangeability, of all aspects of life, data-driven control comports, without the originary emphasis on the market. Under data-driven control, persons are known as collections of dividuals placed in a Student Success Arithmetic, or continuous algorithmic variation. This flow of dividuals, or continuous algorithmic variation, is to be optimized through cultures of data organized by data management systems. This flow is channeled through predictive analytics ranging from the use of impact research in forming future programming to the variation of supports provided and course and major pathways available to students based on the outputs of risk assessment and predictive algorithms, with advanced dividual technologies on the horizon (de Freitas, 2016b; Harcourt, 2015). Data-driven control is sustained not only by the usual targets of neoliberal invective such as the corporatization of the university and the valorization of personal responsibility and entrepreneurship (cf. Giroux, 2014), but also by impact studies and other forms of research that take dividuals as its subjects and places them in continuous algorithmic variation.

Liberal education requires a different commitment to continuous variation. Liberal education requires that we, as educators, researchers, students, faculty, staff, and community in relation to universities, make ourselves “*fractal*,” irrupt from the middle of how we know ourselves to be, and enter into a continuous variation with other persons and multiplicities of all kind without the channeling of that variation through algorithms, and without bounding our personal multiplicities into defined, measured, and fixed dividual identities. Liberal education is realized in environments where the molecular

components that constitute our being can fold the chaos of queer concepts, as non-sense in data-driven control, into the power/knowledge that produces us as persons *without recourse to a homonormativity*. Only then can we become differently; this is the condition of possibility for a radically open future (Barad, 2003), the future that student success evokes, and liberal education holds in tension.

From the Limit of Critical Topics to an Irruption of Critical Methodologies...

Data-driven student success is often justified on the grounds of equity, including appeals to the basic need for AHE to close racial graduation gaps (Finley & McNair, 2013), the even greater impact of HIPs on student success for minoritized students (Kuh & Schneider, 2008), and a “delicat[e] balance[e of] the jobs they need with the education they desire” (Complete College America, 2018b, para. 2). In these cases, equity becomes an additional justification for data-driven control, with the implication that if you care about minoritized students and are ready to take responsibility for their success or failure, you will become motivated to come into cultures of data. Cultures of data are the solution for student success, and especially so for minoritized students, even in research named as critical (Terenishi & Bezbatchesko, 2015).

Equity through control is as much of a dream forever deferred as is success through control. Data-driven control produces valuable but incomplete knowledge on equity. Racism, the condition of society premised on a fixed understanding of racial categories, cannot be overcome through the use of fixed racial categories (cf. Lorde, 1984). Again, both halves of that sentence are faulty. To the latter half, to seek the end of -isms is to seek a solution, a form of problem posing that requires a beginning and end.

To the former, fixed racial categories carry the problematics evident in all dividualization, including violent and colonizing histories/presents/futures.

The desires of these critical topics—equity—is spot on. The critical topics this research addresses are better fulfilled through critical methodologies. Equity cannot come through control; the minoritized undercommons thrive *in the break* of a broken social, in *queer disorientations* (Ahmed, 2006; Harney & Moten, 2013). In order to create this explosion of interstices, the *we* of higher education must value knowledges in the interstices of data-driven control. To paraphrase Jack Halberstam (2013), the goal of an equitable student success “is not to end the troubles [of inequitable educational systems] but to end the world that created those particular troubles as the ones that must be opposed” (p. 9). Critical aims pursued through molar dividuals chases solutions that are out of line and thus out of reach of our current social field (Ahmed, 2006). Critical aims pursued in the break through queer disorientations (Ahmed, 2006), molecular sociologies, minor inquiries (Mazzei, 2017), procedures without proceduralism (Springgay & Truman, 2018), and myriad critical methodologies that connect and flow through these, present the possibility of ending the worlds that produce inequity, and producing worlds anew.

**From the Limit of Student-Centered to the Limit of the In/dividual Student to an
Irruption of Multiplicities...**

Leap of faith, leap of faith...

Only thing to do is jump over the moon.

— Maureen Johnson/Idina Menzel, “Over the Moon,” *RENT*
(Larson, 1996b, Track 22)

I do not know what student-centered *means* in undergraduate education. I gather it is a signal to potential consumers of education (students, families, communities) that students are number one in the eyes of the university. The *student* is always right, or something like that. I gather it is also a signal to governmental and non-governmental organizations that a university is serious about their mission as an institution of learning, a seriousness linked to the motivation to be held accountable for these students' (definable and measurable) success (cf. Sugar, 2017). These thoughts are nothing more than informed musings. Our work as practitioners and researchers is in mapping how student success works, and student-centered provides one theory often foregrounded by institutions. Student success works by centering students in all of the work of the university, and in doing so, being institutionally responsible enough to take accountability for their outcomes. The oft-repeated aim of the student success initiative at GSU provides us more insight: *student-centered and evidence-based*. In student success assemblages organized through data-driven control, *student-centered and evidence-based* are inextricably linked. The former provides the justification for the centering of the latter. *Student-centered and evidence-based* is the signal phrase for the flow of individuals produced by data-driven control: the in/dividual student.

This leads us to perhaps the stickiest stuck place embedded in critical methodological explorations of our social world: if we are made, materially and discursively, in content and expression, through assemblages of power/knowledge, how might we ever be able to make ourselves and our worlds differently? Assemblage theory's disruption of agency through prioritizing content and expression as productive of subjects disrupts the assumption of simple individual living agency as well as the

assumption of simple material inertia, as if the two can exist as separate in the first place (Alaimo, 2016; Coole & Frost, 2010). Agency in assemblage theory broadly, and in data-driven control specifically, cannot be a function of individual or dividual responsibility towards other bounded and discrete bodies. Given we are comprised of elements both measurable and elements that escape measure, and all of these elements exist prior to their expression in subjects, any separation we have is a function of the power/knowledge that determines us. The student in student success is a creation of data-driven control. There is no student to appeal to who can take responsibility to make themselves⁵¹ differently. How can students get themselves to the surface connecting control and chaos in order to trans/gress/form its borderlands?

The agential move towards liberal education in a control society comes through a queer orientation towards a superfold (Deleuze, 1986/1988) or a fractal fold (de Freitas, 2016a; 2016b). Agency understood as a fractal fold asks us to get to the surface connecting control and chaos (we are already there) and fold, fracture/fractalize... make difference. Make ourselves and our social worlds into multiplicities whose measurements are incommensurate. In a world that “*works because... it's fractal,*” the subject produced is no longer the dividual, bounded and recombinable, placed in continuous algorithmic variation. The fractal fold contains complex topologies that resist bounding and exchangeability. We do not need to be fractal as if we are not already. We are already fractal; there is no need to make it so. What is needed is a queer orientation toward the fractal, or molecular, or the excess of student success. Queer orientation is a more productive concept for assemblage theory than agency. We gain the promise of a liberal education when we, in whatever capacities we have (we know not what a body can do;

⁵¹ This is a singular, gender-inclusive pronoun.

Deleuze, 1981/1988; Spinoza, 1677/1992), orientate ourselves toward a fractal fold, toward the molecular, toward the student success in excess of measurement, and repeat. We multiply. The whole world returns to us, curvilinear and fractal, molar and molecular, measurable success and success in excess. Orientate to the molecular return and repeat (Ahmed, 2006; Deleuze, 1968/1994). Hold on to *amor fati* and leap in place (Deleuze, 1968/1994; Deleuze & Guattari, 1980/1987). In a molar and molecular world, there is no knowable causal link between our actions and a liberal education. Orientate toward the excess, hold on to *amor fati*, and take a leap of faith. Repeat *ad infinitum*.

...And Back Again: Becoming

In orientating ourselves toward the excess of student success, the whole world returns, both measurable and excess. We *trans* the surface connecting control and chaos. We enter into a becoming, a movement in both of these directions, a movement outside of linear time, a transcorporeality of the subject of data-driven control, the individual, and chaos, that creates us as students, staff, faculty, and administrators—persons in but not of the university, with no clear separation between us, the institution, and our material worlds. This, finally this, is our (never) final definition of liberal education. Student success requires both the molar, determinate, Student Success Arithmetic movement of structured pursuit of measurable outcomes and the molecular indeterminate movement of liberal education. Outcomes are not the measurable proxy of liberal education, they are determinate ends of their own, a territorializing of higher education. Liberal education is the queer, fractal movement between this territory and chaos and back again. The exclusive pursuit of a molar student success—the very thing required of a culture of data—is not a path to liberal education, is a path to stasis, fixity, death. Liberal

education—becoming—comes from movement that gives lie to the fiction of a boundable and measurable world. Liberal education is the movement that crosses over from the territory of student success to unformed chaos and back, trading elements of each with the other in unending movement. Student success as liberal education is a promiscuous student success indeed. Student success as liberal education irrupts from the interstices of data-driven control in molar and molecular directions at once, transgressing and transforming the boundaries of both *students* and *success*, immanently tipping and re-assembling our modern assemblages of student success, creating the conditions for re/forming control to re/make our worlds.

Molecular Re/orientations

Student success, as currently assembled at Great State University and in the higher education literature, is in need of tipping toward the molecular. We close by exploring three areas of molecular re/orientations suggested by this study: theory, practice, and policy.

Theory

The first half of this chapter makes a case for the use of assemblage theory in experimentations with student success. In what follows, I discuss the possibilities of assemblage and posthuman theories for both higher education organizational theory and higher education research methodologies, as well as the possibilities a diffracted assemblage theory offers to empirical research and theoretical explorations broadly.

Organizational theory. I would be remiss if I failed to mention this study's resonances with organizational theory in higher education. This study is a performance of what a poststructural, posthumanist higher education organizational theory might

produce. I view this work as deeply relevant to organizational theory, and yet its relevance does not match up well with existing literature, producing a citational paradox. How should I reference organization theory in a study illegible to much existing organizational theory? Chapter 5 is a deep dive into the organization of Great State University as it relates to the first year of their student success initiative, and produces a poststructural frame, if you will, for understanding the organization of student success: data-driven control. Assemblage theory gives us a method by which we can assess the themes that allow organizations to hang together through analyzing the conditions that produce contents, expressions, and subjects as such. An assemblage organizational theory allows for the exploration of the creation not just of the university organization, but of its seemingly-individual people. If existing organizational theory is “a field of unreachable objects” (Ahmed, 2006, p. 15), Gildersleeve and Sifuentez (2016) provide queer concepts through which we might re/orientate organizational theory.

There is one strong connection point between this study and organizational theory, and this connection highlights a possible path forward. Gildersleeve and Sifuentez (2016) provide a bridge between organization thinking and posthumanism, naming organizations as “situations produced through power relations” (p. 56) that in turn also produce the ontoepistemologies in contact with them. This definition takes up postmodern organizational theory in a new direction, providing a radical shift from modern theories or even cultural theories such as the New Institutionalism (see Gonzalez & Terosky, 2016, for a summary of New Institutionalism on this point). Gildersleeve and Sifuentez (2016) queerly orientate to a transcendental empiricism from the simple empiricisms of [other] organization theories as well as Astin’s (1970a; 1970b) I-E-O

framework and the Student Success Arithmetics that flow from it. It is this molecular re/orientation from the simple to the transcendental empirical that this study exploits. Gildersleeve and Sifuentez (2016) provide a queer connection between this study and organizational theory, and with this connection possibilities for “new patterns and new ways of making sense” (Ahmed, 2006, p. 171) emerge.

Methodological experimentations. The ambiguity of the referent of *student success* on first listen leaves it open for queering. It is the overwhelming truth that student success is operationalized as completion, often retention and graduation. And still, higher education uses the language of student success. The gap between success—the term *du jour*—and graduation—its operationalization—begs to be explored. Our methodological orientation determines the questions we ask and the answers, or problems, we receive (Ahmed, 2006; Deleuze, 1968/1994; Jackson & Mazzei, 2012). When we study student success through Student Success Arithmetics, the gap between success and its operationalization becomes a distal outcome to be reached through the attainment of definable and measurable outcomes. Poststructural and posthuman theories and research methods give researchers the tools needed to theorize this gap as something other than a distal outcome. Assemblage theory treats this gap as excess to the orientation of the assemblage to be engaged through queer re/orientations. The excess does not disappear with an orientation towards Student Success Arithmetics; interstices, or queer openings to chaos or difference, are a feature of every assemblage. An orientation towards Student Success Arithmetics reduces the frequency and intensity of the interstices within its straight lines, orientating every space in reach towards the molar, enrolling *motivated* administrators, staff, and faculty in this work. This is what a culture of data as the

knowledge that defines the assemblage of data-driven control demands. Cultures of data are not simply promotions of the use of Student Success Arithmetics in higher education, but the colonization of all evaluative spaces of institutions by data-driven control. Assemblage theory gives us an alternative way to foster the excess of student success: re/orientation toward the interstices. In doing so, researchers and institutions can paradoxically attain both the goals of Student Success Arithmetic and the goals of a liberal education. A re/orientation towards excess does not produce pure molecularity, or chaos, but rather produces both a molar and molecular student success. This theoretical intervention carries the potential to create new forms of experimentation and being in higher education research and practice. Higher education research in particular has been dominated by Student Success Arithmetics for a long time, a logic that promises solutions that have not come to pass, dreams continually deferred (see Chapter 4 in addition to Wells et al., 2015). Assemblage theory and related poststructural and posthuman theories carry the promise of a re/orientation of research and practice that produce, at unpredictable points in the future/past, the very outcomes Student Success Arithmetics seek.

Another critical tool provided by poststructural and posthuman theories is the means by which to explore the construction of persons and things we take as individuals. A molar sociology is a sociology of the interactions of presumed-whole objects, including individuals. A molecular sociology explores the construction of the objects we take for granted as whole and individual, opening up different avenues for exploring the problems of our times, including how university communities can foster liberal education. As this study has discussed, the uneasy reality of our times is that the subjects

our current assemblage produces, dividuals, move in ways that resemble molecularity (see also Deleuze & Guattari, 1972/2009 on axiomatics). Poststructural and posthuman theories provide the tools by which we can explore the work of dividuals and molecularity, and in parsing their differences, better work for the promotion of the molecular. It follows that such work, viewed outside of these theories, might appear mighty similar to promoting cultures of data. Parsing the dividual and the molecular is the difference between promoting “*Data informed decisions for student success—now that’s a good idea!*” (Morris, 2016, p. 185, emphasis in original) and promoting “ethical algorithms” (de Freitas, 2016a, p. 233) or the idea that “we must study the way that dividuals come together to form assemblages without producing a rigid structure” (de Freitas, 2016a, p. 229). Dividuation, to include the Student Success Arithmetics that place dividuals in continuous algorithmic variation, appears molecular given its matter is not individual persons. However, it is decidedly not pre-individual (e.g. GPA), and it is bounded, determinate, exchangeable... *rigid*, thus molar. Poststructural and posthuman theories seek the continuous variation of the molecular, or the non-rigid flux of interconnected, indeterminate webs of being that affect becomings. Poststructural and posthuman theories provide the tools to affect these becomings, and it is in these that we remake ourselves, others, our communities, universities, and the Earth.

A profane assemblage theory. A final theoretical intervention of this study is in its boundary-pushing of assemblage theory, a practice I take to be wholly consistent with assemblage theory itself. Some debate over the exclusivity of high theory takes up the possibilities foreclosed when folks are told their work is “not very Deleuzian” (Strom, 2018, p. 109). This study provides two provocations for such debate.

First, there is an inescapable reality here: there is a wrong way to do assemblage theory. If there were not, then everything could be assemblage theory, and the term would have no meaning. I agree with Ian Buchanan (2017) that poststructural work utilizing something named assemblage theory should cohere with the structure of the concept as developed in primary texts from Deleuze and Guattari. This is not to say that work in assemblage theory needs to utilize a pure Deleuzoguattarian structure. This is an impossibility, as there is no pure Deleuzoguattarian structure, and as that would be a tracing, itself not pure (Deleuze & Guattari, 1980/1987). Even if there were a pure Deleuzoguattarian mapping available for use, this type of deployment of assemblage theory would be a molar deployment, or an orthodoxy, itself not Deleuzoguattarian. Purity is not possible; an attempt to do so would be to do assemblage theory wrong. It also seems to me that to map an assemblage as if it were a simple empiricism of presumed discrete bodies would be an incorrect way to do assemblage theory. Assemblages are associations of pre-individual singularities—the molecular—that *produce subjects and social fields as such*. Assemblages are not compositions of subjects, subjects are their output. A becoming, or a line of flight – a shift in quality produced by a re/orientation of an assemblage – is named an *incorporeal transformation* for just this reason. Incorporeal: not of the body. A becoming is a leap in place. Work that uses the figuration of the assemblage to discuss compositions of presumed discrete bodies fails to gain the utility assemblage theory has to provide, and thus incorrectly puts the theory to work. If and where my work does this, the same critique lands on me. This is perhaps endemic to theories that center experimentation. To quote the beginning of the passage

from which this chapter's framing quote is pulled, the task of this molecular sociology, and of those working within assemblage theory, is to

Lodge yourself on a stratum [or: in the molar], experiment with the opportunities it offers, find an advantageous place on it, find potential movements of deterritorialization {or: disorientation}, possible lines of flight, experience them, produce flow conjunctions here and there, try out continuums of intensities segment by segment, have a small plot of new land at all times. It is through a meticulous relation with the strata that one succeeds in freeing lines of flight, causing conjugated flows to pass and escape and bringing forth continuous intensities for a[n assemblage]. Connect, conjugate, continue: a whole “diagram,” as opposed to still signifying and subjective programs. We are in a social formation; first see how it is stratified for us and in us and at the place where we are; then descend from the strata to the deeper assemblage within which we are held; gently tip the assemblage, making it pass over to the side of the plane of consistency.

Connect, conjugate, continue. Sometimes our experimentations do not leave the strata. Our task is to keep experimenting. And with this ethic of experimentation comes my final theoretical provocation.

Assemblage theory theorizes the profane—excess, the outside of reason, sense, common practice. It demands connections to concepts from other theorists who add texture, understandings, knowledges to our work. Again, some of those connections can be wrong – Deleuze (1986/1988) himself places phenomenology outside of his (and Foucault's) work on the grounds of its simple empiricism. And, and, and there are many

connections to be made that are not wrong. Concepts do not have to be isometric in order to connect with assemblage theory; again, that would be to sustain an assemblage theory orthodoxy. For example, while connecting phenomenology to assemblage theory is wrong, many parts of Ahmed's (2006) queer phenomenology connect well, as does Mark Vagle's (e.g. Vagle & Hofsess, 2016) work on post-intentional phenomenology. To explore the range of possibilities assemblage theory specifically and poststructural and posthuman theories broadly open up, execute a wild profusion of connections (Lather, 2006). Profane them. Get in there and fuck them up. From the authors who begin their first coauthored book with an extended discussion of shitting and fucking and continue on to advocate for plugging assemblages into each other to create lines of flight to new worlds – profanity is what is requested, and required (Deleuze & Guattari, 1972/2009; Jackson & Mazzei, 2012). Make all sorts of promiscuous connections. Sometimes we will do it wrong. We always do it right when we keep learning, keep connecting, stay in the middle, and keep queerly oriented.

Practice

Student success pursued overwhelmingly through molar prescriptive outcomes or metrics denies our students a liberal education, and accordingly the open futures they deserve, and our world so desperately needs. I have no set of prescriptions for practitioners to get outside of this; prescriptions are the problem. In what follows, I offer a few provocations and experimentations for student affairs educators interested in re/orientating their students, departments and universities towards molecularity.

Refusal. I am willing to bet that new student affairs professionals know that their students are more than their measurements in short order of the start of their first graduate

assistantship. I am also willing to bet that those with years of experience in student-facing student affairs positions recognize that the measurements that shape their work do not fully capture the students with whom they work. From my own experience, I realized both as a graduate assistant and a supervisor that student-level measurements were insufficient sources of knowledge about the students with whom I worked. However, without another language of valid practice, I centered student-level measurements of success—or risk—in my time as a practitioner. One possible way to center success as liberal education is to refuse such measurements and honor our knowledge that something is not quite complete with the depiction of our students that measurements provide, or the worlds that measurements re-shape in our institutions. Eve Tuck and K. Wayne Yang (2014) name the importance of refusal in ending the reproduction of settler colonial futures in education, contending that “refusal is a generative stance, not just a ‘no,’ but a starting place for other qualitative analyses and interpretations of data” (p. 812). Refusal in student affairs practice can open up the space required to practice student success differently. Programs that refuse to use predictive analytics or standard student information system data to gather their participants take a step towards seeing their offices’ constituents and communities differently. For example, career services educators who refuse to use tagged student interest data to target outreach open space for students to see themselves differently within potential career fields. One strategy to begin to create student success differently is to refuse its molar, dividuating operation.

Embracing alternative ways of knowing. To grant validity only to knowledge produced by scientific or quasi-scientific studies within data-driven control is to subordinate the knowledges contained within communities of practice as well as Chicana,

queer, Black, indigenous, and borderlands ways of knowing (Anzaldúa, 1987). This subordination of knowledges is dismissive at best, and profoundly racist, sexist, and cisheteronormative at its core. Scientific knowledge created queer folks as deviant and produced scientific racism through the eugenics movement. In fact, founding student affairs documents explicitly connect our field with scientific racism, stating that the dual responsibility of those in student affairs to the individual student and the scientific study of the student was in fact a “dual responsibility: to the welfare of the individual as well as to the culture and learning of the race” (Lloyd-Jones & Smith, 1938, pp. 38-39). Scientific data collection and production shaped our modern understanding of nationality as well as nationalism and xenophobia (Ngai, 2004). We recognize these shortcomings of scientific measurement, yet we continue to let science dictate which students are most in need of advising support, which students are most likely to graduate with a microgrant from the university, and what co-curricular changes will best support student success as four-year graduation. A focus on student success as liberal education might draw upon queer theory’s treatment of identity as fluid, as opposed to the fixed and measurable frameworks of identity prevalent in I-E-O impact studies, to design programs that support the student transition to university (cf. Butler, 1990). A practice of student success as liberal education might include knowledges from ethnic studies in organizational decision making instead of implementing suggestions from EAB policy audits (cf. EAB, 2016; Ferguson, 2012).⁵² Practices of student success as liberal education would experiment with ways of knowing student achievement outside of grades and credit accumulation. None of these suggestions are codeable within university databases; none create knowledges that are easy to extract from their environments and distribute to offices

⁵² Ethnic studies is my colloquial approximation of Roderick Ferguson’s (2012) interdisciplines.

around campus. This is precisely the desired outcome, if you will, of a fractal fold. Data-driven systems will chug along, feeding neoliberal imperatives for data-informed decision making. In their interstices, student affairs educators who engage students with knowledges and practices that resist extraction as data points engage in the practice of liberal education.

The imperative to go rogue. To begin a student affairs practice outside of measurement, practice outside of measurement. Utilizing alternate ways of knowing and being will render you invisible to data extraction in the most productive of ways. To produce students capable of creating our world differently, go rogue; enact an “ongoing experiment with the informal” (Harney & Moten, 2013, p. 74). Other ways of stating this: go fractal, queerly orientate. If you work as an advisor, find ways to know which students are most in need of your time outside of at-risk metrics. Center your community-building with students, practitioners and faculty across campus, and come into your advising loads through these relationships. If you work in cultural centers, work with your communities in ways that are occasionally invisible to administrators who treat your work as data points to include in marketing materials. If you currently work alongside cultural centers, ask around. Chances are your colleagues’ offices already engage in such rogue conduct as a means of survival and resistance, or survivance (Brayboy, 2006). If you work in student conduct, try restorative justice practices outside of your university’s academic honesty procedures and deny the data points of failure in student records. This flies in the face of what administrators likely want or require of you; as such, rogue practices place you in a precarious position. Those who occupy bodies, identities, and positions of power hold the largest responsibility to go rogue. For those who occupy bodies and identities that already

render them precarious, lean on coalitions of practitioners to co-create rogue spaces. Going rogue does not require that you confess your rogue transgressions. Going rogue means capitalizing on the invisibility of practices outside of data to create university environments, and the students who come into relation with them, differently.

Our systems of measuring student success create the conditions necessary for institutions of higher education to become credentialing factories, or producers of successful in/dividual flows. We believe in graduation as an outcome because of its association with all sorts of positive outcomes (cf. McMahon, 2009). However, in the rush to produce graduates and other definable and measurable values of higher education, we sideline those values that carry the potential to create students capable of making our world differently. If you think that what makes a student successful exceeds what we can possibly measure, then go rogue.

Policy

Policy, as a making-molar of ethics, contributes much to the orientation of student success towards data-driven control. Cultures of data hope to molarize both institutional policies as well as the parts of the institution outside of the reach of policy. Policy in the form of academic regulations that charge additional fees for ‘excess credits’ past the minimum number required to graduate (Wisniewski, 2018) and outcomes-based funding (Lumina Foundation, 2018d) prevents institutions from possessing the temporary and non-replicable coherences of success that are required to produce student success as liberal education. A proliferation of university policies renders institutions ill-equipped to revel in student success as the excess of measurement. The spread of best practices student success policies from NGOs such as Complete College America (2014), EAB

(2016) and the Lumina Foundation (Wright, 2016) into university policies and academic regulations around the country compounds this problem.

Can there be a policy of the interstices? Molecular policy? If policy is considered to be an unyielding tool of accountability and legal protection, then no. I cannot conceive of a policy that adheres to any common definition of the term that produces unyielding experimentation. Policies are an orientation to the molar. The goal of a re/orientation of university policies, and state, federal, and NGO policies that effect these, is not chaos, or pure molecularity, or the lack of coherence to name an institution. The goal is a reterritorialization onto a new, more perfect Earth (Deleuze & Guattari, 1972/2009). A molecular sociology asks us to experiment in the interstices of policy such that we can imagine and enact new policies that are more just, more affirming of our ethics – and repeat. There is no such thing as a policy solution in a molecular sociology—there is no such thing as a solution. This said, there are ways to lodge ourselves in the molar of policy and experiment. One set of interventions would promote and strengthen university polices that permit exploration. These would include policies ranging from opening possibilities for internal accountability report formatting to rethinking Carnegie units and grade point averages to robust employment protections for minoritized groups most vulnerable within disorientations. These tweaks solve nothing, but perhaps at a critical mass they “*create a structure that allows us to center gurgling.*” At a critical mass, they enact continuous experimentation in the interstices, or queer orientations, and open the possibilities for a line of flight to a new Earth.

What this molecular sociology demonstrates strongest in regard to policy is not even that universities should kick their NGO habits—although that is most certainly a

finding. This molecular sociology shows the narrowness of solutions that data-driven control provides, and how wholly inadequate they are for the problems they construct. My policy takeaways are that academic regulations to require (or default) students at 15 credits are not the solution to student success. Getting the deceased student out of the denominator of the graduation rate calculation is not the policy that produces student success. A re/orientation would redirect policy attention from I-E-O meddling to the structural issues that create the university and our students as such. This is precisely the point produced in mi:DLE's theatrical experimentation with liberal education:

“The idealism of this exercise feels out of place with the structures of our students’ realities.” / “We all want to be aspirational, but it felt necessary to acknowledge the structural barriers that people feel that make change difficult.” / “This could turn towards social problems.” / “Maybe that’s the elephant in the room.”

The elephant in the room: social problems. This elephant is also a queer concept to disorientate higher education from narrow solutions.

The narrow solutions sold to institutions by governments and NGOs broadly, and by the assemblage of data-driven control, keep our social formations intact. Policy recommendations from this molecular sociology would be to enact policies that dismantle the social formation that produces students as unsuccessful. It costs too much to go to school. Policies should be in place that at minimum cap a student's tuition relative to their family's expected financial contribution. Drastic income and wage inequality leaves too many well-qualified people fighting for too many low-paying jobs, thus orientating universities towards crude vocationalisms. Policies should be in place that reinstate the

top income tax brackets in this country for individuals and corporations, penalizing at rates upward of 90 percent corporate and CEO grifting of profits into their pocketbooks. This is money that will go back to workers either directly by the companies that no longer grift as much, or by direct governmental redistribution. Reduced income and wage inequality will make educational experimentation and liberal education more palatable to those who see a choice born out of social scarcity between liberal education and vocation. Finally, decades of public disinvestment in public education cannot be filled by tuition or philanthrocapitalism without significantly remaking our institutions. Great State University introduced its student success initiative by first directly citing this public disinvestment, then declaring that it is not a worthwhile pursuit for the university to request the money it needs from the state, and finally framing student success as a means by which GSU could fill this monetary gap. The reinstatement of the top tax brackets, in conjunction with other changes in state and federal fiscal policies, can reduce the funding gap that philanthrocapitalism fills, thus reducing the influence of these NGOs on university policies. This does not address the fact that universities seek these policies in part because of economic scarcity, but overall because these NGOs and universities trade in information formatted by data-driven control. The policy ‘solutions’ from a molecular sociology should move us toward a new earth. Current policy solutions from within data-driven control affirm data-driven control, within which there is no solution for student success as liberal education.

Policy is determination. Life in the interstices—queerly orientated—is where liberal education as becoming can thrive. One day, this work will create a new system of

determinations, or new straight lines of power/knowledge, within which liberal education will live on in its molecular interstices.

tobeginagainwithoutend

The mapping presented in these pages is a little machine that is *ready when needed* for student services practitioners looking for a queer dis/orientation to both (molar) student success measurements and (molecular) irruptions of liberal education values in discussions of student success. There was never a beginning here, and there is no end. And yet here we begin again. There is no solution to the paradox of student success, an outcome best produced by systems that re/orientate away from both students and success outcomes and towards the ineffable. Orientate toward the excess, hold on to *amor fati*, and take a leap of faith. Repeat *ad infinitum*.

APPENDIX

A LEGEND FOR OUR MAPPING

Please also use the lists of *GSU Dividuals* and *GSU Flows of Dividuals* in Chapter 5, *Seeing Student Success Like an Institution: An Overview of Dividuals in Continuous Algorithmic Variation* for further exploration of many of the acronyms below.

AAC&U	American Association of Colleges and Universities
AAU	Association of American Universities
ACE	American Council on Education
ACPA	ACPA—College Student Educators International (formerly the American College Personnel Association)
AHE	American higher education
ALG	Advisors Leadership Group (pseudonym)
API	Application programming interface
APLU	Association of Public and Land-Grant Universities
AY	Academic year (the calendar year beginning with fall term and excluding summer)
CCA	Complete College America
CUS	College of Undergraduate Students (pseudonym)
D/F/W	D/F/Withdraw, shorthand for unsuccessful grades in courses.
EAB	During fieldwork, this was the acronym for the Educational Advisory Board. Today, this company goes simply by EAB.
FTE	Full-time Equivalent

FTFT	First-time, full-time
GenEd	General education (pseudonym)
GPA	Grade point average
GPS	Guided Pathways to Success, a Complete College America innovation
GSU	Great State University (pseudonym)
HIPs	High-impact practices, a term associated with the work of George Kuh
I-E-O	Input-Environment-Output
IPEDS	Integrated Postsecondary Education Data System
KPI	Key performance indicator
LEAP	Liberal Education and America's Promise, an AAC&U initiative
LMS	Learning management system
<i>LR</i>	Learning Reconsidered, a 2004 NASPA and ACPA joint publication
<i>LR2</i>	Learning Reconsidered 2, a 2006 NASPA and ACPA joint publication
mi:DLE	mission: Designing Liberal Education (pseudonym)
NASPA	NASPA—Student Affairs Administrators in Higher Education (formerly the National Association of Student Personnel Administrators)
NGOs	Non-governmental organizations
NSSE	National Survey of Student Engagement
PTD	Progress toward degree
ROI	Return on investment
SCH	Student credit hour
SIS	Student information system
<i>SLI</i>	<i>Student Learning Imperative</i> , a 1996 ACPA publication

SSC	EAB's Student Success Collaborative. When spoken, often a shorthand for this group's <i>Student Success Management System</i> platform, SSC Campus.
SLO	Student learning outcome
<i>SPPV</i>	<i>The Student Personnel Point of View</i> (see context to discern reference to 1937 or 1949 publication)
TTD	Time-to-degree
USD	United States dollars

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