

Abstracts

Day 1. Part I. General Frameworks.

1. Nothing in biology makes sense but in the light of evolution. Really?

Eric Baptiste (Department of Evolutionary Biology, University Pierre et Marie Curie, Paris)

First, I will assert that indeed the theory of evolution by natural selection has a broad explanatory scope. Specifically, microbial evolutionary studies have shown that ENS could explain the evolution of units of selection beyond monophyletic lineages. However, does this mean that ENS is relevant to explain each and every biological phenomenon? I will consider ecosystems and ageing to propose that, i) in some cases, systemics explanations and phylogenetic explanations can be conjugated in a phylsystemic framework to further enhance the explanatory scope of the evolutionary theory, although ii) in some cases, such integrated approaches might show the limits of adaptationist explanations of biological phenomena: a biology of which evolution does not make direct sense.

2. Is Evolution Physical?

Sylvain Charlat (Biometry and Evolutionary Biology laboratory (LBBE), Université Claude Bernard Lyon 1)

Thomas Heams (AgroParisTech)

Olivier Rivoire (Collège de France)

The question of whether the principle of natural selection may apply beyond its original field can be subdivided in two: (1) can it apply to life-derived objects that do not readily fit in a biological framework, such as languages, economics or computer programs; (2) can it apply to non-life-derived objects, falling in the scope of physical sciences. Here we focus on the second question. We start by discussing in what sense the principle of natural selection differs, in its epistemic status, from physical principles, and how these differences preclude the identification of a formal equivalent of natural selection in physics. We then ask whether this principle, despite its specificities, could be used to describe the dynamics of some physical systems, and argue that answering these questions will require the development of more formal and cross-disciplinary definitions of core underlying concepts such as inheritance, fitness and individuality. We finally describe the challenge of understanding how life emerged as a critical example of the difficulty of conceiving how natural selection may take place without invoking biological notions that, paradoxically, cannot precede biological evolution, such as the metabolism / genotype distinction. We advocate a continuous, as opposed to categorical, perspective, to try and approach this problem, where the degree of evolvability through natural selection, provided it is sufficiently formalized, could constitute a relevant descriptive variable.

3. Generalized Evolution Theory: Ontological and Dynamical Foundations.

Gerhard Schurz (Department of Philosophy, Heinrich Heine University Düsseldorf, Germany)

Section 1 introduces generalized evolution (GE) theory. Here, the three core principles of the theory of evolution – reproduction, variation and selection – are detached from their biological basis, abstracted and extended to other domains, in particular to the domain of cultural evolution

(CE). Section 2 investigates the ontological foundations of GE and CE theory. They consist in entities and structures that must be realized to get the three modules of evolution running. These entities include self-reproducing systems with variation and populations of such systems in environments with limited resources. A major difference between the reproductive units of BE and CE consists in the fact that genes act as constructors of evolutionary systems, while memes play the role of modifiers. Section 3 is devoted to the *abductive justification* of GE and CE theory that proceeds in three steps: First, CE theory is justified, second, based on the first step GE theory is abductively justified as the common core of BE and GE, and thirdly, the fruitfulness of GE theory is demonstrated by its applicability to further domains.

4. From Games to Graphs: Evolving Networks in Cultural Evolution

Karim Baraghith (DCLPS, Department of Philosophy, Heinrich Heine University Düsseldorf)

Since the time of the modern synthesis it is common to distinguish microevolution from macroevolution, and biologists are generally able to explain these two evolutionary levels in terms of each other. Macroevolution thereby describes long term evolutionary events and such as speciation or extinction. Microevolution on the other hand deals with investigations concerning the precise mechanisms of biological inheritance, like genetic transmission or epigenetic regulation. What exactly is it that constitutes the micro- and the macrolevel in cultural evolution? This is a question not so easily answered. In this paper I am going to offer a new interpretation. I will assume that the first is given by a description of cultural agents, their behavior and decisions, whereas the latter describes the dynamics on population structure and in particular population boundaries in social networks (since we are not really able to identify something analogous to 'species' in cultural evolution). In this paper, I am going to offer a specific mathematical model, that makes use of game theory for representing the cultural microlevel and graph theory for the cultural macrolevel. It has to be shown, how both can formally be linked in a synthetic attempt.

5. Is a non-evolutionary psychology possible?

Daniel Nettle (Population Health Sciences Institute, Newcastle University, Newcastle)

Thom Scott-Philips (Population Health Sciences Institute, Newcastle University, Newcastle)

The last thirty years has seen the emergence of a self-styled 'evolutionary' paradigm within psychology (henceforth, EP). EP is often presented as a distinctive, contentious paradigm, to be contrasted with other accounts of human psychology. However, little attention has been paid to the sense in which those other accounts are not evolutionary, or at least evolutionizable. We distinguish between a commitment to evolution, and a more specific commitment to adaptationism. We argue that all formulatable accounts of human psychology are evolutionary in a real sense: non-evolutionary psychology is impossible. Not all psychologies are explicitly adaptationist, but those that are not still draw on informal notions of organismal function, and thus implicitly require at least a weak version of adaptationism. We argue that the really distinctive and contentious feature of EP is not its commitment to evolution, or even adaptationism. It is the commitment to domain-specificity and the associated multiplicity of innately specialized psychological mechanisms. This commitment entails a narrow parsing of what an adaptive problem is, and has the consequence that the science of psychology ends up consisting of many narrow proximal explanations, rather than a few broad ones. We illustrate this thesis by examining a range of paradigms that can be seen as competitors to canonical EP: social role theory; cultural evolutionary psychology and dual inheritance theory; Bayesian cognitive science; and Giddens' social theory. Narrow versus broad functional specialization emerges as the central locus of difference between the different psychologies we review.

6. The objectivity problem in evolutionary social science.

H. Clark Barrett (Department of Anthropology, University of California, Los Angeles)

A longstanding problem in evolutionary social science and evolutionary science more generally is the problem of objectivity. This problem was captured in Gould and Lewontin's famous critique of adaptationism as "just-so stories:" stories that can be postulated but rarely proven, and that might reflect the expectations of the researcher as much as the world itself. Much has been written about facets of this problem, such as whether evolutionary social science is especially susceptible to it, and whether evolutionary stories are more dangerous than other kinds. Here I ask, from the perspective of an evolutionary social scientist, how our research practices might introduce subjectivity into our work in ways that matter for whether we get the facts right about evolutionary phenomena. I ask how our evolutionary parsing of humans and human affairs into entities, categories, mechanisms and processes might sneak in our own hunches, preferences, and biases, projecting them onto the phenomena in question through the research designs we choose. As case studies, I consider two areas of research: the study of domain specificity in cognition, and the study of psychological differences across cultures. In each case, the data that constitute the phenomena we are explaining are created by methodological choices of the researchers. While this is unavoidable, the power of those choices to determine the set of hypotheses we choose between is rarely recognized or explicitly addressed. Crucially, this does not (necessarily) mean that resulting data are false, only that they constitute a preconstructed window onto the phenomena in question. Through exploring these cases, I ask how our conclusions might have differed if we had set up our questions and research designs differently. I conclude with suggestions for how increased reflexivity at the design stage in evolutionary social science might help in our quest to get the evolutionary facts about ourselves right.

7. Evolution and Ecology of Organizations and Markets.

Randall Westgren (Division of Applied Social Sciences, University of Missouri)

Organization theory has grappled with evolutionary theory for decades without notable success. In large part this is due to the confluence of two phenomena: (1) a slavish insistence on universal or generalized Darwinism and (2) a failure to discern whether the evolutionary process occurs at the system, population, firm, or sub-firm level. Often, the theorizing and the empirics rely on a phenetic (taximetric) approach that walls off truly evolutionary or phylogenetic information from the models and analysis. Finally, despite increasing interest in the ecology of innovation, the use of inter-firm *qua* interspecific relationships is attenuated and a theoretic.

Using G. E. Hutchinson's *The Ecological Theater and the Evolutionary Play* as a foil, we assess the historical and potential application of a systemic approach to evolutionary processes in markets. Ironically, one of the prominent literatures in organization theory, population ecology, has been touted as an evolutionary approach despite comprising a single, stable population whose only dynamics are in population density and degree of isomorphism; and rudimentary ecological connections without any interspecific relationships. Contrary to this approach, we consider evolutionary change in the organizational populations that are connected vertically and horizontally in networked markets and in the nature of the connections between them. Illustrations are drawn from the relatively rapid evolution of local and regional food systems in the US and Europe.

Day 2. Part II. The perspective from applications of evolutionary thinking outside biology.

8. Pluralism and Epistemic Goals: Why the Social Sciences Will Not Be Synthesized by Evolutionary Theory.

Simon Lohse (Institute of Philosophy & Centre for Ethics and Law in the Life Sciences (CELLS), Leibniz University Hannover)

This article discusses Mesoudi et al.'s suggestion to synthesize the social sciences based on a theory of cultural evolution. In view of their proposal, I shall discuss two key questions. (I) Is their theory of cultural evolution a promising candidate to synthesize the social sciences? (II) What is the added value of evolutionary approaches for the social sciences? My aim is to highlight some hitherto underestimated challenges for transformative evolutionary approaches to the social sciences that come into view when one looks at these questions against the backdrop of actual scientific practice in the social sciences.

9. What is Cultural Evolution Anyway?

Ruth Mace (Department of Anthropology, University College London)

Alberto Micheletti (Department of Anthropology, University College London)

The term cultural evolution has become popular both with researchers in the evolutionary human sciences and with the general public, but it is often unclear what is meant by cultural evolution. We suggest that the term is being used to identify both a phenomenon – culture changing through time – and a theory to explain it – the suggestion that cultural transmission biases are the key drivers of this change. This generates confusion that is hindering progress in the field. One source of confusion is the claim that human behavioural ecology, a highly productive evolutionary approach to the study of human behaviour, disregards cultural evolution. We first argue that the term cultural evolution is best reserved to identify the phenomenon of cultural change, whereas approaches centred on cultural transmission should be referred to with another term. We then show that human behavioural ecologists have studied cultural evolution all along, even though they have not focussed on social learning. We discuss several difficulties with cultural transmission approaches and highlight how the human behavioural ecological view of cultural evolution sometimes diverges from them. We conclude by arguing that the framework offered by Tinbergen's four questions is still relevant to explaining why and how these two approaches can fruitfully coexist and complement each other.

10. The Generalized Environment.

Hugh Desmond (IHPST, CNRS, Paris)

In systematic analyses of generalizations of Darwinism, considerable attention has been given whether core biological concepts have been legitimately generalized: inheritance and individuality (e.g. Gabora 2011), selection and fitness (Ramsey and De Block 2015; Lewens 2012), or populations (Reydon and Scholz 2015). However, one core concept has received relatively little explicit attention: that of the environment.

Yet it is not automatically clear what the environment should mean in generalized contexts. In what institutional or social "environment" does the natural selection of science take place (Smaldino and McElreath 2016; Mesoudi et al. 2013)? What is the "market environment" of a corporation (Hodgson 2019)? The cultural environment of a member of a hunter-gatherer tribe?

In this paper I flesh out the importance of examining how the environment concept can be generalized, and I propose a positive account by distinguishing between two broad types of environment concept. In the first, the environment assumes the metaphorical role of the breeder: the environment is what “selects” what should survive and what should not, what should reproduce and what should not. This is closest to how Darwin himself saw the role of the environment in evolution: as the source of selection pressures. Drawing on Desmond (forthcoming), it is argued that a second environment concept should be distinguished, termed the “exploitable environment”. This environment concept refers to ensemble of resources that can be exploited by the evolutionary individual, and it can give rise to adaptation but without fitness differences being involved (over time-scales on the order of generation time).

This distinction is then used to help understand how what role environment concepts play in generalized applications of Darwinism. As a case study, different meanings of the “cultural environment” are disentangled, and it is argued that these different meanings of cultural environment help individuate distinct processes of cultural evolution. In this way, a more precise understanding of the environment can help a more precise generalization of the Darwinian logic.

11. Evolutionary Economics: Ontology and Metaphorics.

Ulrich Witt (Max Planck Institute of the Science of Human History (formerly of Economics), Jena; University of Jena; Griffith Business School, Griffith University, Gold Coast, Qld.)

While the expansion of the human economy – now raising serious concerns about its sustainability – is undoubtedly part of the evolution on this planet, this fact is only addressed and reflected on at the heterodox fringes of economics. “Evolutionary” economics belongs to these heterodoxies, but is itself not a coherent body of thought. From an ontological point of view the evolution of the economy is part of the overall cultural evolution. However, a connection to cultural evolution and its dependency on the evolved human faculties and motivations is rarely made in evolutionary economics. Instead, the sub-discipline elaborates on a set of special theories of modern economic development particularly in industries and organizations. They are considered “evolutionary” theories because of the use made of selection metaphors and models for analyzing the development. The situation is complicated in addition by the fact that some basic ideas, going back to Schumpeter, draw on the elder non-Darwinian diffusionist theories of societal evolution. The paper briefly discusses the problems arising from the heterogeneous interpretations. It will be argued that despite the incongruence in the understanding of evolution and the neglect of the motivational issues much of the research offers valuable complement to the theory of cultural evolution in modern economies.

12. Unlike Agents: The Role of Correlation in Economics and Biology.

Hannah Rubin (Department of Philosophy, University of Notre Dame)

While there are many important similarities between evolution in biology and learning in economics, we should be cautious when importing ideas from one evolutionary context to the other. I will argue that there is a lack of caution behind the tendency to think of measures of correlation (e.g., ‘relatedness’) as akin to attitudes of economic agents (e.g., as capturing how much an organism or agent ‘values’ or ‘cares about’ a social partner), leading to use of unreliable heuristics and misunderstandings in biology, as well as to misuse of biological results in economics.

13. The Price Equation in Cultural Evolution.

Tim Lewens (Department of History and Philosophy of Science, University of Cambridge)

The Price Equation gives us a valuable, highly general way of representing all forms of selection, that makes no specific commitments to mechanisms of inheritance. For that reason, it has been of interest to theorists of cultural evolution. But while the Price Equation has a valuable role to play in these debates, there are specific features of cultural change, and general limitations of the Price Equation itself, that mean we should not have unrealistic expectations of how much light the Price Equation might shed on disputes around cultural evolution.

14. Tinbergen's Fifth (or Sixth): Should Human Ethology Include Phenomenology and Agency?

André Ariew (Department of Philosophy, University of Missouri)

Karthik Panchanathan (Department of Anthropology, University of Missouri)

Why did the chicken cross the road? To get to the other side, obviously! Sure, that was the chicken's goal, but what caused the chicken to cross the road? Niko Tinbergen argued that questions like this were not as simple as they might appear, that behaviors result from four distinct yet complementary kinds of explanations covering mechanism, development, function, and evolution. Tinbergen's framework is comprehensive in its integration across different research disciplines, but is it complete—especially if we want to include humans? Humanists often object to scientific explanations like those in Tinbergen's framework in one of two ways. First, science can only offer 'objective' explanations and do not capture the 'subjective' experiences of actors. Second, science objectifies the actor and reduces motivations to considerations like 'fitness' and 'self-interest' and thereby denies agency. In this talk, I would like to explore the prospects of a human ethology which explicitly includes phenomenology and agency as something like fifth and sixth questions in a Tinbergen framework and whether such considerations might in some small way bridge the divide between the two cultures of science and the humanities.

Day 3.

15. Darwinian/Hennigian Systematics and Evo-Devo: The Missed *Rendez-Vous*.

Guillaume Lecointre (Institut de Systématique, Évolution et Biodiversité, Muséum National d'Histoire Naturelle, Paris)

EvoDevo aims at understanding morphological complexity of organisms through comparing genes involved in development across species. Interest is not only devoted to model species, but also to "minor phyla". Doing so, EvoDevo used to map "genetic controls" of development onto pre-existing phylogenies constructed from a phenetic comparison of sequence data, tending to highlight evolutionary origins of "body plans". Homeotic genes are called "architect genes" because they "control" "body plans". Using ordering causative factors such as "genetic control", "genetic program", "architect genes", EvoDevo stayed outside Evolution, in spite of its own name. Indeed, in Biology, order or regularity, or similarity is not explanatory. It is what we need to explain. This is what Darwin did with natural selection: explaining the rise of an apparent order from disorder. There is neither architect nor body plan (outside mnemotechnics used to learn its zoological lesson). But EvoDevo continued to use the platonician body plan, and tried to justify it in the realm of ontology with the notion of "phylotypic stage" by which they use an underlying taxonomic realism. In biology, order is not the cause, it is the consequence. We, biologists, must explain order from disorder. Genes do not control anything, they just impulse. Variation, transmission and

constraints are found within the developing organism, then natural selection. Phylogeny also entered into the somatic development: in the recent years phylogenies of cells from a same organism have been published. The two pillars of evolutionary theory — descent with modification and natural selection — do occur into the organism itself and the name for it is ontophylogenesis. It should have been EvoDevo. We propose a hierarchical analysis of ontogenetic time using a set of species. With a parsimony analysis of a matrix where “operational taxonomic units” are species at a given ontogenetic time segment and characters are organs or structures which are coded present or absent at this time, we show that the hierarchies obtained have both very high consistency and retention index, indicating that the ontogenetic time is correctly grasped through a hierarchical graph. We consider such graphs as real phylogenies, and then to be part of real EvoDevo. This allows to formally detect developmental heterochronies and might provide a baseline to name early life stages for any set of species (where terminologies previously used were different across species). The present method performs a phylogenetic segmentation of ontogenetic time, which can be correctly seen as depicting ontophylogenesis.

16. Evolutionary Aspects of Language Change.

Johann-Mattis List (Department of Linguistic and Cultural Evolution, Max Planck Institute for Evolutionary Anthropology, Leipzig)

While it has been known for a long time that human languages can change in various ways, it was only in the early 19th century that scholars realized that certain aspects of language change proceed in a surprisingly regular manner, allowing us to reconstruct historical stages of languages which have never been documented in written sources. The findings led to the establishment of historical linguistics as a scientific discipline, devoted to the investigation of how languages change and why. Although evolutionary thinking plays a major role in historical linguistics, practitioners often have the tendency to emphasize the peculiarities of language evolution rather than the commonalities with other kinds of evolution. In part, this seems to be justified by some phenomena for which it is difficult to find counterparts in different disciplines. In part, however, this may also be due to a communication problem that is characteristic for interdisciplinary research, since scholars lack a common terminology. As a result, it is difficult for linguists to explain their particular evolutionary views on language change to practitioners from other disciplines, while evolutionary terminology from disciplines such as biology is difficult to grasp for linguists. In the study, I will try to present some important evolutionary aspects of language change for which it is hard to find counterparts in other disciplines and then point to current challenges of evolutionary studies in historical linguistics which have to deal with these aspects.

17. Blind variation.

Arnaud Pocheville (Laboratoire Évolution et Diversité Biologique, Université Toulouse III - Paul Sabatier)

18. Teaching Evolution as an Interdisciplinary Science.

Dustin Eirdosh (Department of Comparative Cultural Psychology, Max Planck Institute for Evolutionary Anthropology, Leipzig)

Susan Hanisch (Department of Comparative Cultural Psychology, Max Planck Institute for Evolutionary Anthropology, Leipzig)

Evolutionary theory in the 21st century has been embraced, albeit with varying degrees of controversy and consensus, across wide ranging disciplines. From biology and anthropology, to medicine, psychology, economics, sustainability science, computer science, and many more, core concepts of heritable variation and selection have been utilized by scientists across academia to understand change in the natural and social world. Evolution education, however, remains largely a disciplinary endeavor of biology education, where evolution is often conceptualized even more

narrowly from a gene-focused perspective. Educators and students are currently left with little guidance on interpreting the broader interdisciplinary applications of modern evolution science discourse. In this chapter, we argue that this pedagogical myopia and inertia of evolution education may be problematic in numerous ways, including in relation to evolution understanding and acceptance. We highlight core areas of learning potential and educational design regarding the teaching of evolution as an interdisciplinary science across traditional school subjects. We also highlight the need for an open and networked evolution education research approach in the service of modernizing K-16 evolution education.

19. Modeling Kafka. Humanities Approach to Cultural Evolution.

Carsten Strathausen (Department of English, University of Missouri)

This paper proposes a digital humanities approach to bridge the two cultures and offer a model for the study of cultural evolution. It combines insight from two distinct fields, evolutionary studies in the sciences and adaptation studies in the humanities. The collaboration between these fields, I argue, has been hampered by neo-Darwinian reductionism and the false meme-gene analogy, on the scientific side, and the rejection of computational or statistical approaches to culture, on the humanities side. Instead of a hierarchical approach that looks for core-units of culture (i.e., memes), I propose a relationist approach that defines cultural adaptation as a dynamic network of interrelated products, processes, and receptions by which artistic material is continually refitted into different forms for new audiences. At the very least, “Adapting Kafka” will provide an empirical foundation for the capture of basic empirical data on Kafka to answer the core questions of Adaptation Studies: “Who? What? When? Where? How? Why?” (Hutcheon 2002, 3). Ideally, “Modeling Kafka” will develop and use machine learning to categorize and/or classify the captured data along multiple dimensions and serve as a prototype for similar projects across the humanities.

My paper is divided into three parts. The first part introduces scientific theories of cultural evolution, while the second part switches perspectives to practical questions from the field of Adaptation Studies. The third part, finally, provides technical details and methodological reflections on the Kafka data-corpus we collected, its various forms of digital representation, and its broader theoretical and disciplinary significance for evolutionary studies. Throughout the paper, I use a series of theses to advance my argument.

20. The Epistemological and Ideological Stakes of Literary Darwinism.

Alexandre Gefen (THALIM/Équipe Écritures de la modernité, Université Paris 3 – Sorbonne Nouvelle, CNRS)

Proposing to produce « new humanities, » the literary Darwinists affirm the failure of the humanities in the face of modern scientific demands. Literary Darwinism promises to naturalize literary aesthetic practices, both poetry and narrative. It justifies the human need to produce fiction and proposes to interpret its contents. By confronting cultural studies head-on, as well as previous paradigms, from psychoanalysis to historicism, evolutionary theorists have opposed postures defending the insularity of art and the differential character of artistic practices. Such a position has been exposed to virulent criticisms (reductionism, conservatism, utilitarianism, essentialism, scientism, etc.) to which I would like to return, as they seem to me to hinder a serene examination of the disciplinary proposals put forward, in all their richness and epistemological ambitions.

21. Bringing Evolutionary Perspectives into History and the Historical Social Sciences.

Theodore Koditschek (Department of History, University of Missouri)

Why are historians and historical social scientists so often hostile to evolutionary perspectives? After all, the introduction of ‘evolution’ into the life sciences brought history into domains of enquiry

that had hitherto been conceptualized outside its terms. In fact, historians and historical social scientists had not always responded in this hostile, dismissive way. The nineteenth century witnessed the emergence of several robust programs of evolutionary social science and historical analysis, but almost all of them ran aground during the twentieth century. Criticized for their Eurocentric bias, racist or sexist assumptions, and western imperial complicity, they were all disparaged for their meta-empirical assumptions and their teleological pretensions, as they were dismissed by a new breed of academic specialists who retreated to the safety of narrowly siloed university disciplines. In this paper I will explore the prospects for reintroducing evolutionary perspectives into twenty-first century academic history and the historical social sciences. I will consider the extant barriers to re-starting such programs, and I will offer some suggestions as to how these barriers might be overcome. In the first part, I will survey many of the ways in which contemporary practice in today's evolutionary science (in biology, paleontology, psychology, anthropology, economics, human behavioral ecology, population genetics, and computer modeling) are different from – and advances over – the older nineteenth century evolutionary and social Darwinist traditions that historians and social scientists have rightly repudiated. In the second part, I will explore how the advances in contemporary evolutionary science might provide a foundation on which new traditions of evolutionary social and historical science might be raised. Which of the conceptual and research tools from these evolutionary sciences might be imported into the currently non-evolutionary social science fields? What new theoretical concepts and empirical approaches will have to be crafted to render evolutionary thinking amenable to the needs of social, historical analysis and explanation? In the final section, I will propose some of the ways in which such novel programs in evolutionary social and historical science might help to surmount some of the current intellectual impasses in which the contemporary social and historical science disciplines currently find themselves enmired.

22. A Community Science Model for Evolution Education

Susan Hanisch (Department of Comparative Cultural Psychology, Max Planck Institute for Evolutionary Anthropology, Leipzig)

Dustin Eirdosh (Department of Comparative Cultural Psychology, Max Planck Institute for Evolutionary Anthropology, Leipzig)

A generalized conceptualization of evolutionary processes allows for a view of the cognitive, behavioral, and cultural variation in our everyday lives to be seen as elements of diverse evolving systems. Such a view encourages questions about how cultural selection pressures may favor or hinder the expression of variant thoughts and behaviors, any of which may be more or less valued by any given community. From an educational perspective, this implies an untapped potential for engaging students in understanding the cultural evolutionary dynamics of their everyday lives, schools, and broader communities. As a strategy to engage this potential, the Community Science Lab (CSL) at the Max Planck Institute for Evolutionary Anthropology offers a unique model for inter-institutional collaboration at the intersection of evolution education and applied school improvement efforts. Using advances in teaching for conceptual understanding and transfer of learning, the CSL model empowers students to clarify, investigate, and democratically influence the cultural evolutionary dynamics of their own school and surrounding communities. The relationship between students' evolving intuitive theories of school improvement, and the evolving scientific theories of school improvement experts and researchers, provides a framework for understanding the development of student conceptions of cultural (and, perhaps, biological) change more generally. This chapter argues that engaging students in reflecting on the cognitive, behavioral, and cultural evolutionary processes in their everyday lives provides new opportunities for interdisciplinary evolution education. Additionally, the practical and systemic challenges of this approach are clarified.