How Do Introductions Frame Problems to Engage Readers?

Introductions provide a site for assessing how disciplines genre/lize to construct knowledge. The conventions of introductions are formalized in ways that document the guiding assumptions and purposes of a discipline. For insiders, such methodological assumptions are a given, but for students and scholars working across disciplines, the conventions of a discipline's modes of inquiry can be mysterious, even counterintuitive. Analyses of introductions offer insights into how a field defines, positions, and explains problems. Such analyses can help students and interdisciplinary researchers make use of the interpretive schema of disciplines.

1. **Problems: What questions, issues, and uncertainties define your discipline?** How does the field pose problems and set about solving them? How does the discipline answer such questions as these:
   - **a.** Questions of fact: What happened or how did it happen?
   - **b.** Questions of definition: How should this phenomenon be characterized or interpreted?
   - **c.** Questions of evaluation: What are the optimum ways of responding to this issue?
   - **d.** Questions of Procedure: How can a method, treatment, or discovery be improved or applied?
2. **Evidence and Assumptions: What qualifies as a proof, and what goes without saying?** Disciplines rely on shared assumptions to determine what qualifies as evidence and what qualifies as a compelling proof. Such assumptions may not be obvious to those who are not versed in the field.
3. **Claims to significance: What do people in the field look for in assessing whether a proof or solution is noteworthy?** How does the field evaluate the importance of a solution, a contribution to the research, or a new discovery? What constitutes significance?
4. **Framing: How do writers in the field position issues in broader contexts?** Disciplines frame problems in ways that offer insights into how the field builds on prior studies, addresses public issues, and relates its work to broader developments. The framings that are used to position issues can provide insights into a field's interdisciplinary relationships, practical applications, and socio-political engagements.
5. **Forecasting: How much of the argument do readers expect to get up front?** Introductions generally provide a sense of the argument. Some disciplines expect the conclusions to be laid out in the introduction, while others expect introductions to create anticipation, even uncertainty about how the inquiry will unfold. Such differences offer insights into whether disciplines understand writing as a nuanced process of inquiry or as simply a matter of writing up results.
6. **Leads: How do writers in the field appeal to audiences in their opening statements?** While "hard sciences" often take a "just the facts" approach that does not openly appeal to readers, more explicitly interpretive fields employ various leads such as challenging a common view, using a case study, or making a topical reference to a broader social problem. Leads are good points for assessing how writers connect with readers in differing ways in differing disciplines.

Strategies for Improving Emphasis and Clarity

1. You should put actions in verbs, and agents in subjects.

Who	Is kicking	What
JOHN	HIT	BILL
Agent	Action	Object

2. Whenever possible, keep the agent-action-object core of the sentence intact by putting other information before or after it.

Other Information	Agent	Action	Object	Other Information

3. Put information that is repeated, expected, or familiar in the topic position, leaving new, important, or striking information in the comment position to create emphasis.

Topic	Comment
Repeated	Important
Expected	Striking
OLD Information	NEW Information

THE AMERICAN NATURALIST

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INTRODUCTORY

In laying before our readers this first number of a popular scientific monthly, we commence a publication in which we shall endeavor to meet the wants of all lovers of nature.

The rapidly increasing interest in the study of the various departments of Natural History invites the establishment of a journal which shall popularize the best results of scientific study, and thus serve as a medium between the teacher and the student, or, more properly, between the older and the younger student of nature.

If the reader, however slight his intercourse with nature may have been, shall find something in these pages to stimulate his zeal, and direct his mind to the right methods of investigation, and also teach him new facts concerning the haunts and habits of his favorites of the wood, the lake and the seashore, the great aim of this journal will be accomplished. Should it do no more than to bring naturalists, both young and old, into an active cooperation and sympathy, and promote good fellowship and amity between the great brotherhood of enthusiasts, as all true naturalists are, we shall gain a most important object. The value of our Magazine will depend more on its power to awaken the absorbing interest invariably excited by the contemplation of nature, and of illustrating the wisdom and goodness of the Creator, than on any adornment of style, or cunning devices of the artist.

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Eco-Evolutionary Dynamics Enable Coexistence via Neighbor-Dependent Selection

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Online enhancement*:* zip file.

abstract: Recent studies suggest that selection can allow coexistence in situations where ecological dynamics lead to competitive exclusion, provided that there is a trade-off between traits optimal for interacting with conspecifics and traits optimal for interacting with heterospecifics. Despite compelling empirical evidence, there is no general framework for elucidating how and when selection will allow coexistence in natural communities. Here we develop such a framework for a mechanism that we term "neighbor-dependent selection." We show that this mechanism can both augment coexistence when ecological conditions allow for niche partitioning and enable coexistence when ecological conditions lead to competitive exclusion. The novel insight is that when ecological conditions lead to exclusion, neighbor-dependent selection can allow coexistence via cycles driven by an intransitive loop; selection causes one species to be a superior interspecific competitor when it is rare and an inferior interspecific competitor when it is abundant. Our framework predicts the conditions under which selection can enable coexistence, as opposed to merely augmenting it, and elucidates the effects of heritability on the eco-evolutionary feedbacks that drive coexistence. Given increasing evidence that evolution operates on ecological timescales, our approach provides one means for evaluating the role of selection and trait evolution in species coexistence.

Keywords*:* competition, coexistence, neighbor-dependent selection, intransitive competition

Introduction

Elucidating the mechanisms that allow species coexistence is one of the most vexing problems in ecology (Gause 1934; Hutchinson 1961). Classical explanations for coexistence focus on niche differences between competitors, including differences in resource use, frequency-dependent interactions with specialist consumers, and species-specific re- responses to environmental variability (Chesson 2000). Niche differences allow for stable coexistence by increasing the strength of intraspecific competition relative to interspecific competition. Although theory is unambiguous about how niche differences enable coexistence, empirical demonstrations of such differences among coexisting species in real communities have proven difficult (Silvertown 2004; Adler et al. 2007; Levine and HilleRisLambers 2009; Siepielski and McPeek 2010). This mismatch between theory and data suggests that ecological factors alone may be insufficient to explain coexistence in many natural communities.

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THE ERA OF SOCIOLOGY.

SOCIOLOGY has a foremost place in the thought of modern men. Approve or deplore the fact at pleasure, we cannot escape it. Examination of the fact in a few of its relations will properly introduce a statement of the aims of this JOURNAL.

1. *In our age the fact of human association is more obtrusive and relatively more influential than in any previous epoch.* Modern men are made aware in more ways than former generations that their lot is affected by the existence of other men. Wherever the proportion of laborers in the extractive industries is diminishing and. the proportion of people occupied with intermediate processes of production and consumption is correspondingly increasing, it would be surprising if the change were not accompanied by some modifications in men's views about the relative importance of the physical and the social elements in the conditions of human existence. As industries become diversified, as division of labor and competition become territorial and international, not less than individual, as occupations are more visibly affected by the actions of distant persons, as communication becomes accurate and rapid between groups of men industrially related though geographically separate, perception of dependence upon physical conditions ceases to be the dominant factor in human calculation. . . .

II. *The distinguishing mental trait of our age is undisciplined social self-consciousness.* Men are more definitely and variously aware of each other than ever before. They are also more promiscuously perplexed by each other's presence. . .

III. *This inevitable contact of man with men has produced confident popular philosophies of human association.* Social self-consciousness formulates itself as guiding assumption or as controlling Dogma. Modern men are not merely aware of these contacts with compatriot and alien, official and civilian, wage-earner and wage-payer, capitalist and landlord and tenant, union and nonunion laborer, brain-worker and brawn-worker, industrial and criminal, rich and poor seekers of employment and shunners of employment. Men of all ranks and stations think over these contacts, they listen to arguments about them, they acquire opinions, they accept beliefs.

IV. *Popular social philosophy has its counterpart today in a social gravitation or "movement"* in the line of certain sympathies and assumptions begotten and fostered by reflection on contemporary societary conditions. . . .

"737-Cabriolet": The Limits of Knowledge and the Sociology of Inevitable Failure

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This article looks at the fateful 1988 fuselage failure of Aloha Airlines Flight 243 to suggest and illustrate a new perspective on the sociology of technological accidents. Drawing on core insights from the sociology of scientific knowledge, it highlights, and then challenges, a fundamental principle underlying our understanding of technological risk: a realist epistemology that tacitly assumes that technological knowledge is objectively knowable and that "failures" always connote "errors" that are, in principle, foreseeable. From here, it suggests a new conceptual tool by proposing a novel category of man-made calamity: the "epistemic accident," grounded in a constructivist understanding of knowledge. It concludes by exploring the implications of epistemic accidents and a constructivist approach to failure, sketching their relationship to broader issues concerning technology and society, and reexamining conventional ideas about technology, accountability, and governance.

> If you can meet with Triumph and Disaster
> And treat those two impostors just the same . . .
> —Rudyard Kipling

INTRODUCTION

"The more human beings proceed by plan, the more effectively they may be hit by accident." Or so wrote Friedrich Durrenmatt, the late Swiss playwright. The line is memorable for its counterintuitiveness. Modern societies invest heavily in the belief that good plans will protect them from accidents. Nowhere is this more true than with complex and potentially dangerous systems, such as nuclear reactors and civil aircraft. Such technologies cannot be allowed to fail, and so we plan them meticulously and invest enormous effort in testing and analyzing those plans. Then, when accidents come, as they invariably do, we revisit our drawing boards to find the flaws in our blueprints. More significantly (at least from a sociological perspective), we also look beyond the drawing boards to reflect on the practices that surrounded (and constituted) the system that failed. For, as Hutter and Power (2005, p. 1) put it, there is a widespread public and academic understanding that accidents are, in an important sense, *organized*. This is to say that accidents are, to some degree, *allowed* to happen, albeit unintentionally: they slip through our defenses, evincing deficiencies in our organizational practices.

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Types and Definitions of Publicly Engaged Scholarship

Publicly Engaged Research and Creative Activities

Type 1. Research—business, industry, commodity group funded. Sponsored research or inquiry supported through grants or contracts from businesses, industries, trade associations, or commodity groups (e.g., agricultural or natural resources groups) that generates new knowledge to address practical problems experienced by public or practitioner audiences.

Type 2. Research—nonprofit, foundation, government funded. Sponsored research or inquiry supported through grants or contracts from community-based organizations, nonprofit organizations, foundations, or government agencies that generates new knowledge to address practical problems experienced by public or practitioner audiences.

Type 3. **Research*—unfunded or intramurally funded applied research***. Community-responsive or community-based research or inquiry that is not funded by a community partner but instead is pursued by faculty through intramural support or as financially unsupported research or inquiry.

Type 4. Creative activities. Original creations of literary, fine, performing, or applied arts and other expressions or activities of creative disciplines or fields that are made available to or generated in collaboration with a public (non-university) audience.

Publicly Engaged Instruction

Type 5. Instruction—for credit—nontraditional audiences. Classes and instructional programs that offer student academic credit hours and are designed and marketed specifically to serve those who are neither traditional campus degree seekers nor campus staff.

Type 6. Instruction—for credit—curricular, community-engaged learning. Classes and curricular programs where students learn with, through and from community partners, in a community context, under the guidance and supervision of faculty members.

Type 7. Instruction—noncredit—classes and programs. Classes and instructional programs marketed specifically to those who are neither degree seekers nor campus staff.

Type 8. Instruction—noncredit—managed learning environments. Scholarly resources designed for general public audiences that are often learner-initiated and learner-paced (e.g., museums, galleries, libraries, gardens, exhibits, expositions).

Type 9. Instruction—noncredit—public understanding, events, and media. Scholarly resources designed for the general public that are accessible through print, radio, television, or web media.

Publicly Engaged Service

Type 10. Service—technical assistance, expert testimony, and legal advice. Provision of university-based knowledge or other scholarly advice through direct interaction with non-university clients who have requested assistance to address an issue or solve a problem.

Type 11. Service—co-curricular service-learning. Service-learning experiences that are not offered in conjunction with a credit-bearing course or academic program and do not include reflection on community practice or connections between content and the experience.

Type 12. Service—patient, clinical, and diagnostic services. Services offered to human and animal clients, with care provided by university faculty members or professional or graduate students, through hospitals, laboratories, and clinics.

Type 13. Service—advisory boards and other discipline-related service. Contributions of scholarly expertise made by faculty, staff, and students at the request of non-university audiences on an ad hoc or ongoing basis.

Publicly Engaged Commercialized Activities

Type 14. Commercialized activities. Translation of new knowledge generated by the university to the public through the commercialization of discoveries (e.g., technology transfer, licenses, copyrights, and some forms of economic development).

Doberneck, D. M., & Schweitzer, J. H. (2012). *Disciplinary Variations in Faculty Expressions o f Engaged Scholarship during Promotion and Tenure*. IARSCLE Conference.

See also: http://facultyaffairs.arizona.edu/promoting-inclusive-view-scholarship