From Theory to Practice: Foundations of An Evolutionary Literary Curriculum

The Need for a Prehistory of Literature

A pivotal moment in my graduate career occurred when a colleague confided that he saw literary study as the study of human behavior, and all study of human behavior as the study of human biology. Thus, he continued, literary study ought properly to be a sub-field of the biological sciences (Constable, personal communication). On this view, English programs would be housed in Biology Departments — as would programs in Psychology, Anthropology, Linguistics, History, Economics, Political Science, and so on. To date, of course, this has not happened and is unlikely to do so. But what if literary study were taught as the study of human behavior? What if English Departments were suddenly faced with the prospect of designing an emphasis or program in biology-based literary study? What would such a curriculum look like? Anyone who teaches specific literary texts or authors from an evolutionary perspective must eventually confront these questions because, even for a one-semester course, he/she must determine what students need to know in order to understand and apply this approach. Moreover, evolutionary literary scholars must show students why it is useful to examine storytelling in broad, biological perspective: they must demonstrate what this critical approach offers that others do not.

One major advantage of evolution-based literary study is that it enables us to frame out the prehistory of literature and the cognitive architecture that scaffolds narrative. This, in turn, lends great insight into the possible functions of storytelling. Reconstructing the conditions under which storytelling first emerged enables us to generate hypotheses regarding the role(s) it played in ancestral human environments, as well as those it plays in modern life. Identifying the cognitive structures involved in narrative processing enables us to generate hypotheses regarding the selection pressures that led (directly or indirectly) to its emergence. These are not trivial questions. The study of literature is required at all levels of education, from grammar school to college, presumably because such study has been deemed important.
or useful by persons endowed with the authority to make such judgments. Thus, literary scholars ought to be able to provide an intelligible, sensible answer to the question: Why is the study of literature important? Understanding why humans tell stories is critical to answering this question. In turn, understanding the ecological and cognitive wellsprings of literature is critical to understanding why humans tell stories.

A comprehensive view of the conditions under which storytelling emerged demands an understanding of our species’ ecological niche, known as the foraging niche. This in turn requires a basic understanding of evolutionary theory, hominid evolution, hunter-gatherer studies, and human life history. A comprehensive view of the cognitive structures that scaffold storytelling behavior demands a basic understanding of the evolved design of the human mind, which requires forays into the realms of developmental psychology, cognitive psychology, and comparative ethology. Incorporating this material into a literature class with room to spare for reading and discussion of literary texts is a daunting task. Yet a working familiarity with this research is critical to understanding specific periods, genres, authors, and/or texts from an evolutionary perspective.

One possible solution to this problem is to cover this material in an introductory course, as a prerequisite to more advanced evolution-based literature courses. English departments often offer a general-education, introductory-level literature course of some sort, intended to present an overview of the subject matter and its first principles. Such courses provide ready-made vehicles for teaching the fundamentals of evolutionary literary study. For example, the UCSB English Department used to offer a course called The Art of Narrative, which the instructor was entrusted to teach as he or she saw fit. In 2006, I decided to design my own introductory literature course at the University of Oregon, entitled Origins of Literature. This course covers concepts, theory, and research critical to a biology-based understanding of what literature is, how the mind generates it, and how humans use it. As such, it offers a means of giving students a comprehensive grounding in the theory and research upon which evolutionary literary study is based.

Origins of Literature also fills a major gap in the discipline. Whereas the study of art history typically begins with an examination of the earliest human aesthetic artifacts and their generative context (e.g., the cave paintings and female statuettes of Upper Paleolithic Europe), literary study does not. Yet, as with painting and sculpture, understanding when humans began telling stories is critical to understanding why humans tell stories. Advances in evolutionary biology, psychology, neuroscience, paleo-anthropology, and linguistics are steadily increasing our depth of field with
regard to the human literary past. It is no longer necessary or acceptable for a student of literature to be unfamiliar with literary prehistory.

The remainder of this essay summarizes the content and organization of Origins of Literature, and explains the rationale for the topics it covers. This aim of this exercise is twofold: (1) to prompt a conversational gear shift among evolutionary literary scholars from the question of why to the question of how to teach literature from an evolutionary perspective; and (2) to demonstrate the value of including literary prehistory in programs of literary study. If this essay sparks a dialogue among evolutionary literary scholars regarding how to incorporate evolutionary psychology and anthropology into the teaching of literary texts, it will have served its purpose.

**First Principles**

An introductory-level literature course ought to answer at least three questions:

1. What is literature?
2. Why should we study it?
3. How should we study it?

The questions must be addressed in this order, because one can’t argue that it is important to study x or make claims about how best to study x without first establishing what x is. Biology is the study of living organisms, anthropology is the study of humankind, psychology is the study of the mind, literature is the study of . . . what? I’ve never taken an English class that addressed this question (and with a BA, MA, and PhD in English, that’s saying something). No wonder so many students find literary study confusing and unsatisfying: they are not told from the outset what this field of study seeks to explain. The task of definition has special import for advocates of biology-based literary study, as the scientific method demands first and foremost that one observe and describe the phenomenon being studied.

Accordingly, Origins of Literature begins by defining literature. Although, broadly construed, the term literature encompasses all verbal art forms, the bulk of literary output is narrative in structure. The critical components of narrative — character, action, sequence, setting, conflict, resolution — suggest that narrative is a means of representing or simulating human experience — that is, human minds, behaviors, and goals, and the set of constraints in which these unfold (Scalise Sugiyama, “Reverse-Engineering”). Thus, narrative is a representational format — a means of organizing, storing, and retrieving experiential information in the mind. In contrast, storytelling is a behavior, which involves the transmission of narratives among humans. These definitions beg the overarching question of the course: What, if any, is the benefit of exchanging simulations of human experience?
This brings us to the question of why we should bother to study literature. When properly equipped with a working definition of the subject, students can answer this question themselves. They see how pervasive storytelling is in human life. They see that narrative and storytelling are common to humans across all cultures. In short, they see that storytelling is a distinguishing characteristic of our species that cries out for explanation. The answer is clear: we should study literature because understanding why humans tell stories and what they tell stories about helps us understand what it means to be human. And that, ultimately, is the goal of the humanities.

At this point, the answer to the third question — how to study literature — becomes self-evident. Narrative originates in the mind, and storytelling originated in a specific ecological context. Thus, if we want to learn why humans exchange simulations of experience and why this behavior is so compelling and pervasive, we need to understand the design of the mind along with the conditions that produced it. This requires a basic understanding of the ecological niche to which our species is adapted and the cognitive capacities that scaffold our successful occupation of it. The first part of Origins of Literature is largely dedicated to this task — to delineate the set of conditions, constraints and capacities that made the emergence of storytelling possible.

**Origins of Literature**

A comprehensive course on the origins of literature ought to address the what, where, when, why and how of this behavior. The most logical place to begin is the “what,” which involves defining the behavior in question (see above), as well as identifying and describing patterns in this behavior (see below). We are left with the following topics: the approximate age of this behavior (“when”); the social and ecological conditions under which it emerged (“where”); the psychological capacities requisite to its production (“how”); and a causal explanation of its occurrence (“why”). The following is an overview of the main topics covered in Origins of Literature and their contribution to a holistic understanding of the foundations of narrative and storytelling.

*The Antiquity of Storytelling.* Delineating the conditions under which storytelling emerged requires that we first determine when storytelling emerged. Those of us who love literature may share Joyce Carol Oates’ gut feeling that “storytelling is as old as mankind, at least as old as spoken language” (8), but this claim merely poses further questions: What is “mankind” and how old is it? How old is spoken language and how do we know that storytelling emerged with language rather than before or after it? The field of literary study seems content to accept the antiquity of
storytelling as a probable but unverifiable truth that is therefore not worth examining. Instead, scholars interested in “ancient” literature concentrate on the earliest written texts. This is a mistake on two counts. Firstly, the antiquity of storytelling can be estimated and bears examination. Various lines of evidence suggest that storytelling emerged tens of thousands of years ago — at a point in time when all humans still lived as hunter-gatherers (Scalise Sugiyama, “Food”). Although contemporary and historically documented foraging peoples are not a facsimile of our hunter-gatherer ancestors (Kelly), the social and ecological conditions under which they conduct their lives are similar in key respects to those that obtained in ancestral environments: they depend largely on foraging for their subsistence, live in small natural-fertility populations, and lack motorized transport, telecommunication, and western medicine (Marlowe). Thus, studies of contemporary foragers enable us to reconstruct the conditions under which storytelling first emerged. Secondly, the fact that storytelling emerged in a hunting-and-gathering context tells us that storytelling emerged in a world without writing. In other words, literature emerged as an oral art form. Thus, to begin the study of literature with the earliest written texts is to begin in medias res — that is, from a possibly faulty set of assumptions about precipitating events and conditions and, hence, about the nature of the matter before us.

The Context of Storytelling. Once the antiquity of storytelling has been established, the next step is to acquaint students with our species’ ecological niche. A species’ niche is the way it makes its living; thus, an ecological niche is a set of adaptive problems, and a species is a set of adaptations dedicated to addressing those problems. Our species’ niche is the foraging niche, which is characterized by the exploitation of nutrient-dense resources (e.g., meat, tubers, nuts, seeds) using complex extraction techniques. Complex extraction techniques is a broad term that means much more than the use of tools and tactics to obtain food: it encompasses all technologies and strategies used to manipulate the physical and social aspects of the human environment. Manipulation of the physical environment includes such diverse activities as medicinal use of plants, weapon manufacture, and controlled burning. Manipulation of the social environment also comprises a wide range of behaviors, including cooperation, mate acquisition, and child rearing. In both foraging and industrial economies, the use of complex extraction techniques demands a wide range of skill and knowledge sets. In a foraging context these include (but are not limited to): distribution and seasonal availability of resources across a broad geographic range; tool, fire, and shelter construction; wayfinding;
avoidance of/defense against animate and inanimate hazards; social norms; health care; and childcare.

We turn next to life history theory, which examines the timing of major life events, such as the length of a species’ lifespan and the point in the lifespan at which it begins to reproduce. Human life history reflects the skill and knowledge demands imposed by entry into the foraging niche. Compared with other animals, humans are characterized by (1) large brain size relative to body size and (2) an extended period of post-weaning juvenile dependence and delayed reproduction (a.k.a. *childhood*), which is supported by (3) parental and allo-parental provisioning of juveniles. This is a risky life history strategy, because the longer an individual postpones reproduction, the greater the odds it will die before reproducing. Thus, the benefit of delaying reproduction must outweigh this risk. The same logic applies to our disproportionately large brains: brain tissue is energetically expensive to grow and maintain; thus, the benefit of growing a large brain must outweigh the cost. The driving force behind these developments is the foraging niche itself. The use of complex extraction techniques is skill- and knowledge-intensive. Acquisition of these skill and knowledge sets demands advanced cognitive capacities, which in turn demand extensive neural infrastructure — in effect, a larger brain. Thus, occupation of the foraging niche requires a long developmental period for brain growth and skill/knowledge acquisition.

As noted above, one of the complex extraction techniques humans use is cooperation, defined as the often tacit agreement between two individuals to provide mutual support. Individuals typically maintain several exchange relationships, creating a support network that can be called upon for a variety of needs. In foraging societies, support often takes the form of food sharing, which is used to buffer day-to-day variance in individual foraging returns: if I come home empty-handed, I can ask one of my exchange partners for some food. The resources exchanged between partners are not limited to food and need not be of the same kind: humans also exchange labor, support in disputes, and information. Because success in the foraging niche is so heavily dependent upon cooperation, individuals must note which of their group members are generous, hard-working, dependable, trustworthy, kind, and/or good-natured, and which are not. They must also monitor the trajectories of friendships, sexual relationships, political alliances, and enmities. And because cooperating with others depends upon being part of a group, individuals must also learn the rules of membership — i.e., cultural prescriptions and proscriptions — to avoid expulsion. Furthermore, all of this knowledge must be updated as new developments occur. This is in addition to all the non-social
knowledge sets individuals must build and maintain. It can be just as important to
know that a recent landslide wiped out the one route to winter camp that avoids
crossing enemy territory or that the caribou have shifted their migration route to
a different river drainage, as it is to know that one’s mate was recently seen in
the berry patch flagrantly flirting with someone else. Death due to enemy attack
or resource failure promptly terminates an individual’s reproductive output, and
jeopardizes the survival of existing offspring.

In sum, one of the resources humans complexly extract from their environment
is information (Boyer; Tooby and Cosmides, “The Past”). However, acquiring
information at first hand can be slow, unpredictable (information might not be
encountered by the time it is needed), energetically costly, and/or dangerous (Kaplan
and Hill). For example, I learned the hard way that female elk will charge if you get
too close to their newborn offspring, which are difficult to detect in the tall grass. A
few hours later, I was given this same information by a park ranger. This incident
neatly illustrates the complex solution humans have evolved in response to the
costs and risks associated with firsthand information acquisition: social learning.
Social learning is supported by a suite of adaptations that motivate and enable us to
share information with and acquire information from other humans, including joint
attention (e.g., Carpenter et al.; Scaife and Bruner), shared intentionality (Tomasello
et al.), and language (Dunbar). Social learning is equally useful for acquiring social
and non-social information, as well as information that is consistently true (e.g.,
cedar and willow are good for making fire; acorns are toxic; bears can kill you)
and contingently true (e.g., coho salmon used to run in this river; the recent spell
of warm weather might have melted the snow on the pass; if Marc doesn’t stop his
possessive behavior, Jennifer will leave him).

At this point, we have a description of the generative context of storytelling
(the “where”) that we can bring to bear on our definition of storytelling (the
“what”). Storytelling, the reader will recall, is the exchange of representations of
human experience. The conditions under which this behavior emerged were (1)
entry into an ecological niche dependent on a broad skill and knowledge base; (2)
a life history characterized by an extended period of growth and learning; and (3)
cooperation-based group living that includes extensive information sharing. Under
these conditions, storytelling offers at least one important advantage: acquiring
knowledge through simulated experience avoids the problems inherent in acquiring
knowledge through actual experience. In other words, storytelling offers the same
advantage that social learning does.
Cognitive Foundations of Narrative. We turn next to the “how” of storytelling. The generation of narrative is dependent on numerous cognitive capacities (e.g., language, cause-and-effect reasoning, temporal ordering of experienced events), but it is highly unlikely that these evolved for narrative processing per se. Rather, because narrative is a format for representing human experience, many of the capacities that scaffold the processing of real-world events scaffold narrative processing as well. Theory of mind is a case in point. This system consists of a suite of capacities that enable us to understand that other human beings have mental states (e.g., beliefs, feelings, desires), to interpret others’ mental states, and to make predictions about others’ behavior based on their mental states (or vice versa). Theory of mind can be thought of as social cause-and-effect reasoning: when reasoning about the physical environment, we explain action in terms of physical forces such as gravity; when reasoning about the social environment, we explain action in terms of mental states, such as wanting, imagining, or forgetting. In other words, theory of mind enables us to think about how others might respond to our actions. For example, if I try to steal my best friend’s boyfriend, my theory of other’s minds tells me that she will probably get angry with me and want to dissolve our friendship. Thus, theory of mind is integral to interacting and cooperating with others, which — as noted above — is critical to survival in the foraging niche.

Because story characters are almost always representations of humans or anthropomorphized agents, theory of mind is also integral to narrative processing (Scalise Sugiyama, “Reverse-Engineering”; Zunshine). As we follow a story, we continually generate hypotheses regarding the characters’ mental states (e.g., “Othello is suspicious and jealous”), make predictions regarding their actions based on those mental states (e.g., “Othello’s jealousy might drive him to harm Desdemona”), and interpret their actions in terms of mental states (e.g., “Othello’s jealousy and misplaced trust caused him to destroy a good marriage”). Theory of mind is also integral to storytelling. At the very least, the storyteller must be able to attribute the mental state comprehension to the audience. Skilled storytellers go far beyond this, monitoring, predicting, and/or manipulating the audience’s belief and emotion states in order to sustain their interest and influence their behavior (Scalise Sugiyama, “Origins”).

Another important cognitive component of narrative is pretense. Although not all narratives are fictions, many are. Fiction is an odd phenomenon: all normally-developing humans are capable of imagining persons, events, and places that are not real. Why might precious neural tissue be dedicated to such a seemingly useless ability? The answer is that pretense is merely one manifestation of a larger,
extremely valuable capacity: the ability to represent contingently true information (Cosmides and Tooby, “Consider”). The ability to reason contingently enables us to engage in “mental time travel” (Tulving) — to visualize past scenarios (i.e., remember past actions/events) and imagine possible future scenarios (i.e., plan future actions/events). The ability to hold in mind events that are not happening now — events that happened in the past, have not happened yet, and/or might never happen — provides us with the raw material for imagination. It enables us to visualize possible series of actions (past, present, or future) which, coupled with our understanding of causal relations and our ability to make inferences based on this knowledge, enables us to invent, manufacture, and use tools; track animals; find our way through the environment; and predict human behavior (Cosmides and Tooby, “Consider”). The advantage of counterfactual reasoning is that it enables us to innovate. Humans need not wait for natural selection to produce adaptations in response to the plethora of problems continually presented by people, prey, predators, and parasites (Cosmides and Tooby, “Consider”). Counterfactual reasoning enables us to improvise a solution on the fly — to envision possible series of events and possible outcomes of those events, and choose the one that best solves the problem at hand (Tooby and DeVore).

Tooby and Cosmides (“Does Beauty”) argue convincingly that one of the functions of counterfactual reasoning is to provide information inputs to cognitive mechanisms in order to facilitate their assembly and/or calibration. In other words, participating in imaginary worlds is a means of acquiring knowledge. When I pretend that I am stalking a deer, or imagine someone stalking a deer, I acquire information and/or skills that are useful for actually stalking a deer. Thus, engaging in imaginary worlds may be one of the means by which humans acquire the extensive skill and knowledge sets demanded by occupation of the foraging niche. This in turn offers a possible explanation for the strange phenomenon of sharing narratives with others. At this point our focus shifts from narrative (representational format) to storytelling (behavior), and several additional cognitive capacities come into play: language, cooperation, episodic memory, social learning, and manipulation.

Language almost certainly predates the emergence of storytelling, because before humans evolved the ability to communicate in a rich and subtle manner, it would have been virtually impossible for them to share representations of experience with one another (fictional or otherwise). Non-verbal media are highly inefficient and imprecise narrative devices (Scalise Sugiyama, “Reverse-Engineering”). Any doubters need only imagine themselves listening to Prokofiev’s Peter and the Wolf without the accompanying narration or any foreknowledge of the story the music
“tells.” Where is the story set, and when? Who are the principal characters? What are their beliefs, values, and intentions? What actions do they perform? What events befall them? What is the central conflict in the story, and how is it resolved?

Because storytelling involves the sharing of simulations of experience, another cognitive capacity key to understanding storytelling is cooperation. The benefit of being the recipient (i.e., audience) of a story is that acquiring knowledge through simulated experience tends to be less costly than acquiring it through first-hand experience. Thus, storytelling is a form of social exchange in which the good provided is information. On this view, an important benefit of storytelling is that it can expand an individual’s knowledge base exponentially by giving him/her access to the experiences of other individuals, both living and deceased. Because narrative simulates human experience, listening to stories enables us to “observe” events and behavior much as we do in real life (Scalise Sugiyama, “Reverse-Engineering”). And because story structure “mimics the format in which experienced events are mentally represented and stored in memory” (Tooby and Cosmides, “Does Beauty” 24), the “experience” we gain by listening to stories can be input into episodic memory (Scalise Sugiyama, “Forager Oral Tradition”). Episodic memory, in turn, is believed to be essential to planning, or the simulation of possible future events: plans are assembled from events culled from episodic memory (Schacter et al.; Tulving). Thus, it is possible that listening to stories amplifies an individual’s ability to generate plans (Scalise Sugiyama, “Forager Oral Tradition”): the more experiences an individual has to draw on, the greater the range of possible future scenarios he/she can assemble. Listening to stories also serves to increase the individual’s sample size of events/actions and consequences/reactions, which may provide emotional (Tooby and Cosmides, “Past,” “Does Beauty”) and frequency (Scalise Sugiyama, in preparation) inputs useful for the calibration of relevant decision-making mechanisms.

Given the “I’ll-help-you-if-you-help-me” logic of social exchange, we cannot limit our examination of storytelling to the receiving end of this exchange: the storyteller must benefit in some way from sharing information with others. The evolutionary logic of sharing stories is the same as that of social learning. The benefits of social learning to the donor are consistent with the benefits of kin selection and social exchange: when you help kin, you help copies of your own genes, and when you help others, others will be inclined to help you. Similarly, telling stories to close kin may increase their chances of survival and/or reproduction, thereby helping copies of the storyteller’s own genes. Telling stories to non-kin
may motivate reciprocal behavior toward the storyteller, in the form of information or other valuable resources.

Another benefit that sharing stories potentially offers the storyteller is manipulation. Although group living has its advantages, it also presents a formidable challenge: the interests of group members often come into conflict. For example, a parent’s goal (e.g., marry daughter to headman) might conflict with a child’s goal (e.g., marry the man of her choice). Or a young man’s goal (e.g., raid enemy camp to steal horses) might conflict with those of his elders (e.g., do not provoke the enemy at this moment). Thus, there are times when an individual can benefit from persuading others to modify their goals and behavior such that they serve his/her interests. Like gossip, stories are a highly effective means of disseminating information strategically — both the timing and the content of the message can be manipulated for the purpose of influencing the beliefs and actions of others. For example, storytelling can be used to model cultural norms: a story may illustrate the rewards of engaging in prescribed behaviors and/or the pitfalls of engaging in proscribed behaviors, thereby motivating group members to adhere to the former and avoid the latter. Stories may also be used to enforce cultural norms by serving as a subtle, proactive form of social sanctioning. In forager societies, where there are no police, legal systems, or prisons, peace is maintained largely through various forms of social sanctioning, including criticism (e.g., Boehm, “Egalitarian,” “Hierarchy”; Lee; Marshall). This tactic is highly effective in small-scale societies, where survival is dependent on cooperation, and cooperation is dependent on maintaining the good will of one’s fellows. Storytelling offers a means of criticizing antisocial behavior: a character’s behavior can be openly condemned by other characters in the story and, implicitly or explicitly, by the narrator as well. This sends a message to the audience that persons engaging in such behavior will incur the wrath of the group (Scalise Sugiyama, “Social Mapping,” “Forager Oral Tradition”). Variations on this tactic include the use of monster stories to frighten children into obedience: in these stories, group disapproval is replaced by a terrifying monster that carries off children who misbehave (Scalise Sugiyama, “Forager Oral Tradition”; Scalise Sugiyama & Sugiyama, “Once”).

Why Humans Tell Stories. By now it should be obvious that, when one takes as one’s starting point the ecological and cognitive foundations of storytelling, hypotheses regarding its function(s) arise as a matter of course. The fact that stories are shared leads inescapably to the hypothesis that storytelling is a form of cooperation. This, in turn, suggests that stories contain a valuable resource. The observations that narrative is a format for representing experience, that the human
ecological niche is knowledge-intensive, and that humans have evolved the ability to learn from the experience of others suggest that the valuable resource shared through storytelling is experience — that is, knowledge. And the use of recalled experience (episodic memory) to construct possible future scenarios (plans) suggests that the benefit of participating in simulated experience (storytelling) is the expansion of episodic memory and planning ability.

Any hypothesis regarding the function of storytelling will be falsified if it is inconsistent with the ecological and cognitive foundations of storytelling outlined herein. Thus, a solid grounding in the prehistory of literature provides students with an intellectual toolkit for evaluating not only evolution-based explanations of storytelling behavior but non-evolutionary hypotheses as well, such as those advanced by postmodern literary theory. Indeed, one of the advantages of taking a biology-based approach to literary study is that hypotheses regarding the function of literature can be tested both in the field and against existing psychological and anthropological evidence.

Relevant Texts: Forager Oral Tradition
The last critical element of literary prehistory that remains to be examined is stories themselves. For this task, it is important to use an ecologically valid sample. As we now know, storytelling emerged in a hunting-and-gathering context as an oral art form. Ideally, then, a course on the origins of literature should be grounded in the study of oral tales from ancestral foraging societies. Unfortunately, these stories are not available to us, but fortunately, a proxy is at hand — namely, the oral traditions of modern foraging peoples. Although, as far as we know, the tales of modern foragers are not part of an unbroken tradition reaching far back into the Paleolithic, they are the product of similar social and ecological conditions. Thus, the oral traditions of historically documented foraging peoples are the best approximation we have of what stories and storytelling were like in ancestral communities.

Examining stories from forager oral tradition returns us to the “what” of storytelling: we began by defining this behavior; we now turn to describing the patterns it exhibits in content. Because this course examines storytelling as a universal human behavior, it examines patterns in this behavior that are exhibited cross-culturally. Cross-cultural patterns in story content point to issues that, among foraging peoples, universally command attention and excite interest. If storytelling serves as a means of transmitting knowledge, we can predict that there will be a correlation between recurrent patterns in forager story content and recurrent challenges and constraints of life in the foraging niche.
Cross-cultural patterns in story content are manifest as universal motifs, themes, characters, and genres. From the very beginnings of what might be called the study of comparative oral tradition, one finds a slender but resilient thread of research dedicated to identifying, categorizing, and/or explaining universal patterns in story content (e.g., Boas; Campbell; Cox; Fox, “Sexual Conflict”; Frye; Gottschall; Jung; Kluckhohn; Propp). These patterns have been parsed in numerous ways, with some focusing on a specific theme or genre (e.g., Fox, “Male Bonding,” “Incest”; Whissell), and others attempting to anatomize an entire corpus (e.g., Hogan; Thompson). Origins of Literature parses these patterns in terms of key challenges of the foraging niche, which are divided into two main categories: the social environment and the physical environment. In this part of the course, story texts are examined in tandem with scientific research that describes specific adaptive problems. For each adaptive problem, a cross-cultural sample of stories dealing with that problem is examined in terms of the instrumental information it contains.

One of the most widespread themes in forager oral tradition (and world folklore in general) is failure to cooperate and the traits that lead to it: free-riding, laziness, stinginess, greediness, pride, and self-centered impulsive behavior that harms the group. Indeed, an entire genre — the trickster — is dedicated to this subject. The prevalence of this theme is not surprising, given the importance of cooperation to buffering foraging and health risk, defending against human and non-human predators, acquiring mates, mitigating the costs of rearing offspring, and acquiring information. The fact that non-cooperators are universally condemned in forager oral tradition suggests that storytelling plays a role in maintaining cooperation. Accordingly, the second half of the course begins by identifying key behavioral traits of the trickster, which are examined vis-à-vis the logic of the free rider problem and the use of social sanctioning to prevent/repair breakdowns in cooperation.

The course then examines a specific cooperative relationship, mating, which is another widespread theme in forager oral tradition. A cross-cultural sample of related sub-themes are examined, including courtship, dissatisfaction with mate choice, adultery, loss of mate, conflict between co-wives, conflict between parents and children regarding mate choice, conflict with in-laws, and incest, all of which reflect mating challenges posed by the foraging niche. These sub-themes are discussed in terms of the evolutionary roots of mating conflict: mate selection criteria, long-term and short-term mating strategies, paternity uncertainty, and sex differences in parental investment. The result of successful mating — reproduction — presents an additional set of challenges, many of which are reflected in cross-cultural themes having to do with childhood threats. Monsters are a case in point:
a widespread motif in forager oral tradition, many monsters preferentially target disobedient children, especially those who engage in activities that jeopardize their lives or the lives of their families (Scalise Sugiyama and Sugiyama, “Once”). This motif thus references a key problem that prolonged juvenility poses to parents: protecting children from the dangers to which their incomplete cognitive and physical development make them highly vulnerable. A related problem commonly addressed in forager oral tradition is the diminution or loss of parental care due to the introduction of a stepparent or the death of both biological parents. Examination of the social environment concludes with the problem of warfare, which is also a prevalent theme in forager oral tradition (Scalise Sugiyama, “War Stories”). This theme is examined vis-à-vis the imbalance of power hypothesis (Wrangham) and the instrumental information stories present with regard to this constraint.

Discussion then moves to the challenges posed by the physical environment — that is, resource extraction and it associated tasks and hazards. Because information acquisition is critical to acquisition of all other resources, these tasks and hazards are examined in terms of skill and knowledge sets they demand. These include knowledge about distribution of resources across a large territory; seasonal and long-term variation in availability of resources; travel routes; behavior and characteristics of prey animals; coping with resource failure (e.g., famine, drought); and environmental hazards (e.g., natural disasters, inclement weather, dangerous topography, animal threats). As with challenges presented by the social environment, there is a correspondence between challenges presented by the physical environment and cross-culturally pervasive themes in forager oral tradition. Animals are a popular topic: the most common genres being etiological tales (e.g., how the birds got their colors/markings; habitat and foraging patterns of the tapir), hunting stories, and encounters with dangerous animals (Scalise Sugiyama, “Lions”). Famine, too, is a recurrent theme (Sobel and Bettles; Scalise Sugiyama and Sugiyama, “Frugal”), as are natural disasters and the creation of landforms (Scalise Sugiyama and Sugiyama, “How”). Interestingly, although most humans no longer make their living by hunting and gathering, resource extraction is referenced in many modern story genres, such as the spy novel, crime fiction, medical dramas, historical fiction, war chronicles, and science fiction. This is because resource extraction is still an integral part of human life, the main difference being that modern extraction technologies are typically more complex than those deployed by foragers (e.g., centralized heating instead of fire, surveillance drones instead of war scouts), and are typically produced and executed by specialists (e.g., electricians, engineers, EMTs).
In forager oral tradition, information about extraction tasks and techniques is inevitably intertwined with social information. This is due to the structure of narrative, which is largely organized around human agency (character + goal + conflict + solution). As noted above, this structure is likely rooted in adaptations for organizing experiential information: who did what; when, how, why, and to/with whom they did it; and how others responded. On this view, storytelling behavior pirates our evolved interest in tracking the social world and the capacities that evolved to perform this task. Small wonder humans universally find stories interesting and memorable! Narrative structure provides a highly effective mnemonic device onto which a wide array of non-social information can be glommed. As Bieseke puts it, “Folklore and other forms of narrative . . . provide a kind of scaffolding upon which explicit information about resources can be vividly and memorably hung” (42; see also Blurton Jones and Konner, 345). The Dreamtime is a case in point. These stories relate the creation of numerous topographic features (e.g., waterholes, campsites) by anthropomorphic ancestral beings in the course of their daily subsistence and social activities. In so doing, these stories familiarize the audience with specific sites, their relative locations, and the resources associated with them, thereby providing valuable wayfinding and resource information (Tonkinson). However, because the origins of these features are explained in terms of human actions, the stories may also provide information about the social world (e.g., cultural norms, gender roles, kinship).

Origins of Literature concludes with an examination of the hero genre. The hero is typically a person (often a young male) who excels in overcoming the most formidable obstacles to survival and/or reproduction in forager life: fiercely aggressive animals, domineering or threatening human agents, treacherous topography, natural disasters, inclement weather, or personifications of these phenomena (Scalise Sugiyama, “Heroes and Villains”). The hero’s actions frequently benefit others: typically, the hero neutralizes a danger that threatens and overwhelms the whole group. In meeting and quelling danger, the hero exhibits many traits that are highly valued in forager society: helpfulness, fortitude, perseverance, and an ability to tolerate pain, exhaustion, and privation without complaint. In so doing, the hero serves as a model of culturally prescribed behaviors — the very opposite of the trickster. Indeed, the hero and the trickster are complementary genres that together embody two inextricably linked impulses that drive the dynamics of human sociality: competition and cooperation. This insight would be lost without an understanding of the key challenges presented by entry into the foraging niche — that is, without an understanding of literary prehistory.
Although it focuses on our foraging past, the body of knowledge outlined here provides an interpretive framework for all literature. It provides students with the psychological and anthropological background needed to frame questions about universally recurrent themes, genres, and formal elements, such as male bonding (Fox, “Male Bonding”), romance (Kruger et al. 2003; Nesse; Salmon and Symons 2004; Whissel), the trickster (Scalise Sugiyama, “Social Mapping”), the agonistic structure of narrative (Carroll et al.), mimesis (Storey), and even the size of social networks portrayed in stage plays (Stiller et al.). An understanding of the ecological and cognitive foundations of literature also prepares students to evaluate a wide array of evolution-based hypotheses regarding the functions and/or universal appeal of literature, such as: advertising fitness to prospective mates (Miller); evaluation of alternative courses of action (Pinker; Scalise Sugiyama, “Food”); assembly and calibration of certain cognitive structures (Tooby and Cosmides, “Does Beauty”); broadcasting and enforcement of social norms (Scalise Sugiyama, “Social Mapping,” “Forager Oral Tradition”); engagement and manipulation of our capacities for theory-of-mind and meta-representation (Zunshine); and manipulation of the beliefs and behavior of others (Scalise Sugiyama, “Origins”). It also enables students to assess the viability of alternative theoretical models — e.g., Marxism, feminism, psychoanalysis — by comparing their assumptions regarding human motivational systems with recent advances in the understanding of cognitive function and design (e.g., Gottschall; Scalise Sugiyama, “New Science”).

Many of the ideas presented in Origins of Literature are consistent with the tenets of both an older literary tradition (e.g., art imitates life) and a newer one (e.g., art perpetuates/subverts hegemonic ideology). An evolutionary approach does not supercede these traditions, it strengthens them. The advantage of a biology-based approach is that it provides a means of testing and supporting foundational assumptions of literary study. If we make assertions about the nature and function of literature without providing evidence to back them up, we deprive our students of the tools needed for critical evaluation. Mimesis is a case in point. To evaluate the claim that literature imitates life, we can look at current research in cognitive psychology and cognitive neuroscience on mental design and function. This research overwhelmingly supports the conclusion that the mind is designed to organize and respond to information inputs from the environment in ways that tended to promote fitness over evolutionary time-spans: an individual possessed of a mind that produced unreliable representations of environmental stimuli would not survive for long. Narrative appears to be a representational format dedicated to
the organization of experience. If our representations of experience did not reliably correspond to ("mirror") regularities in the human physical and social environment, there would be no point in sharing them with others because there would be no reason for anyone to listen. Similarly, if we assert but do not demonstrate that literature is an ancient and integral part of human life, there is no reason for anyone to listen — let alone believe us.

Works Cited

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