

Original Article

The Heroine with a Thousand Faces: Universal Trends in the Characterization of Female Folk Tale Protagonists

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Abstract: Literary scholars and psychologists have long remarked striking similarities in the depiction of male heroes in the world's folk tale traditions. The best-known attempt to document and explain these similarities is Joseph Campbell's *The Hero with a Thousand Faces* (1936). Campbell's work differs in detail from other prominent attempts to define universal features of heroes, however its grand thesis is much the same: while the details of heroes "faces" may change as the investigator crosses geographical, ethnic, cultural and chronological borders, certain details of the hero's life and challenges are everywhere the same. However, in contrast to the many determined efforts to generalize about heroes, scholars have expended little effort generalizing about cross-cultural features of heroines. The present article, based on a quantitative content analysis of folk tales from 48 culture areas around the world, represents the first systematic attempt to identify and explain cross-cultural trends in the characterization of heroines. This study was designed to improve substantially on previous attempts to define literary universals by drawing upon theory and methods used by human scientists to fruitfully explore and explain human universals.

Keywords: Literary Universals, Folk Tales, Content Analysis, Evolutionary Theory, Evolutionary Psychology, Gender Differences, Female Literary Characters.

Introduction

Literary scholars and psychologists have long remarked striking similarities in the depiction of male heroes in the world's folk tale traditions. The most prominent attempt to document and explain these similarities is Joseph Campbell's *The Hero*

with a Thousand Faces (1936). Campbell's work differs in detail from other notable attempts to define universal features of heroes (e.g., Dundes, 1980; Fontenrose, 1959; Rank, 1909; Raglan, 1936; Tylor, 1871; Von Hahn, 1876), however its grand thesis is much the same: wherever you travel in the world's folk literatures, heroes will share certain predictable patterns of characteristics; while the details of heroes "faces" may change as the investigator crosses geographical, ethnic, cultural and chronological borders, certain details of the hero's life and challenges are everywhere the same. However, in contrast to the many determined efforts to generalize about heroes, scholars have expended little effort generalizing about cross-cultural features of heroines. A review of almost 2,000 publications on women and folklore featured not a single concerted attempt to define cross-cultural features of heroines (De Caro, 1983), and we are aware of none that have been published since.

The present article, based on a quantitative content analysis of folk tales from 48 culture areas around the world, represents the first systematic attempt to identify and explain cross-cultural trends in the characterization of heroines.

A Word on Terminology

First, the lack of preexisting cross-cultural studies of common traits of heroines is not due to simple, sexist disregard. In fact, a great deal has been written about female folk tale characters (for reviews see De Caro, 1983; DeGraff, 1987; Haase, 2000). The paucity of attempts to generalize about cross-cultural aspects of heroines stems, in large part, from the difficulty of identifying and defining a "type" of heroine distinctly enough for cross-cultural analysis (see Ragan, 1998 on the difficulties of devising a suitable definition of the heroine). Heroines are not merely heroes with some different body parts; as we shall see later in the paper, there is a distinct scarcity of female characters that are heroic in the same sense we usually associate with male heroes. Therefore, in order to avoid sticky problems of definition, and in order to attain a large and diverse sample, this study defines the term "heroine" in its most generic sense, as any main female protagonist. As we employ the term, there is absolutely no connotation of special grandeur, virtue, nobility, or courage.

The term "literary universal" must also be defined. The first property of a literary universal is that the putative feature need not appear in *every* literary work nor must it appear in *all* the world's literary traditions. An absolute universal is one that applies across all literary works and traditions. This is a special, and perhaps rare phenomenon, which likely applies mainly at the highest levels of abstraction (e.g., "all peoples have literature," "all literature is focused on conflict," "all peoples have creation myths," etc.). This article seeks to document features of the characterization of female protagonists that are statistical, not absolute, universals. These are features of characterization which recur at rates significantly greater than would be predicted by chance, and which cannot be convincingly attributed solely to diffusion (see Hogan, 1997, 2004).

Problems with Previous Attempts to Define Literary Universals

While there is, at present, a resurgence of interest in the subject of literary universals (Arleo, 1997; Carroll, 2001; Gottschall, 2004; Gottschall, Berkey, Drown et al., 2004; Gottschall, Martin, Rea, and Quish, 2004; Gottschall, Callanan, Casamento et al., 2004; Hogan, 1996, 1997, 2004; Jobling, 2001; Mueller, 1993; Richardson, 2000; Sternberg, 2003; Quasthoff, 1996), the majority of literary scholars have, over the last several decades, viewed the very concept of universals with deep suspicion. This is in stark contrast to a long and prominent universalist tradition that argued for distinct regularities in literatures across geographical locations, historical epochs, and levels of cultural complexity. There are both ideological and practical reasons for this state of affairs. We will address only practical reasons, given that ideological reasons have been ably discussed by other authors (e.g., Appiah 1992; Hogan, 1997, 2004).

Literary scholars have found it easy to dismiss the concept of literary universals largely because the most prominent research in the field has been rife with theoretical and methodological flaws, and thus vulnerable to devastating skeptical critique (see Cook, 1976; Jobling, 2001). However, the failures in previous attempts to define literary universals may be attributable less to the absence of common aspects of world literatures than to widespread use of weak theory and methods. Prior to the twentieth century universalist claims were based on commonsense claims concerning universal properties of human psychology. For instance, the nineteenth-century anthropologist Edward Tylor wrote:

The treatment of similar myths from different regions, by arranging them in large compared groups, makes it possible to trace in mythology the operation of imaginative processes recurring with the evident regularity of mental law; and thus stories of which a single instance would have been a mere isolated curiosity, take their place among well-marked and consistent structures of the human mind (1871, pp. 281-282).

In the twentieth century, however, psychoanalysis emerged as an explicit and systematic theory of human psychology that attempted to codify and explain the provenance of the universal "mental law(s)" taken for granted by the likes of Tylor. Psychoanalysis became both the map and the legend for the 20th century's most prominent universalists: the map that indicated where to look for universals; the legend that revealed how to interpret what was found. Thus the most widely known attempts to systematically define literary universals are heir to the shortcomings of psychoanalysis, and have often been guilty of implausible attempts to cram stories into Freudian or Jungian molds. In addition to theoretical weaknesses, previous attempts to define literary universals lacked methodological rigor. Conclusions were not based on statistical analyses of representative samples of texts but on highly

impressionistic "readings" of handpicked texts, typically over-representing circum-Mediterranean content (Cook, 1976; Jobling, 2001).

The research presented in this article represents an attempt to improve upon previous research in literary universals by applying theory and methods that have invigorated the search for, and interpretation of, universals in other fields. By applying scientific methods of data acquisition and analysis an attempt is made to avoid (insofar as is possible) some of the problems of subjectivity, selection, and confirmation bias characteristic of previous attempts. By taking evolutionary theories of human behavior and psychology as map and legend for this exploration, an attempt is made to identify universals that prove more durable and reliable than those based on psychoanalytic theory and looser methodology.

Expectations

This research seeks universal patterns in dimensions of female protagonist characterization where evolutionary theory and research suggests one should find them. The expectations of this study were as follows. On the basis of kin selection theory (Hamilton, 1964) it was expected that female protagonists would devote substantial effort to assisting their kin, especially their close kin, relative to non-kin and distant kin. On the basis of research into human mate preferences inspired by sexual selection theory, it was predicted that female characters, relative to their male counterparts, would place greater emphasis on a potential mate's wealth, status, and kindness (a potential signaller of commitment) than on his physical attractiveness (Buss, 1989). On the flip side, given the heavy emphasis males place on the attractiveness of potential mates in world cultures, it was expected that there would be markedly greater emphasis on the physical attractiveness of female characters relative to male characters. On the basis of Darwin-Trivers sexual selection theory (Darwin, 1871; Trivers, 1972), it was predicted that female protagonists would be identified as less "active," less "courageous," and less likely to be defined as "physically heroic" than their male counterparts. This is because sexual selection theory predicts that, in most sexually reproducing animals, males will be more prone to risk taking behavior in the competition for mates; males' higher likelihood both of reproducing prolifically and dying without issue gives them positive and negative incentives to compete intensely and riskily for mates, and for the social status and resources required to attract and retain them (for reviews of sexual selection literature see Anderson, 1994; Miller, 1999). Finally, it was expected that one side effect of the higher activity, courage, and heroism ratings of males characters would be an abundance of male main characters relative to female main characters. It was assumed that active characters (as well as the courageous and physically heroic) would be more compelling than passive characters, and thus more likely to play central roles in narratives. While some of these expectations may seem obvious on the basis of commonsense, they are at odds with the dominant humanities models, which predict strong inter-cultural variability given the basically arbitrary nature of

human social and gender arrangements.

Data and Methods

Folk tale collections were chosen so as to maximize the geographical variability of the sample as well as variability in levels of cultural complexity. Specialized collections focusing on specific themes, plots, or character types (e.g., *Hopi Trickster Tales*, *Hero Tales of the South Slavs*) were rejected in favor of generic collections (*Hopi Folk Tales*, *Traditional Tales of the South Slavs*). All collections were of traditional tales, originally transmitted through the oral tradition. In all, the study includes tales from 48 different culture areas from all inhabited continents, varying widely in ecology, geographic location, racial and ethnic composition, political systems, religious beliefs, and levels of cultural complexity. All non-English tales had been translated into English, and the sample ran the gamut from polished fairy tales to literal transcriptions of tales told in traditional contexts. A list of the collections and tales coded can be accessed at this URL or by contacting the lead author: [http://www.science.mcmaster.ca/psychology/ehb/gottschall\(folktales\).pdf](http://www.science.mcmaster.ca/psychology/ehb/gottschall(folktales).pdf).

Once suitable collections were identified, each data collector (10 female and 5 male undergraduates at St. Lawrence University) scanned the thirty longest tales from each of 3 culture areas. (Several researchers were responsible for tales from four culture areas. They volunteered to code collections of tales that only arrived through interlibrary loan after the main portion of the study had been completed.) The coders were participants in a seminar focusing on content analysis methodology and the depiction of female characters in world folk tales. Coders were told that the study's aim was to determine whether or not there were cross-cultural patterns in the depiction of female characters. They were told that either finding—either of prevailing cross-cultural regularity or of prevailing variability—would be an important contribution. They were not made aware of the specific theory-derived expectations.

The thirty longest tales were chosen, rather than a random selection, to ensure a sample consisting of long, information-rich tales rather than short, information-poor tales. Since the emphasis of the inquiry was on the attributes of female characters, each of 1,440 tales was then scanned for the presence of a main female protagonist or a main female antagonist. A protagonist was defined as a character who plays a central role in the action and who the audience is led to root predominantly for rather than predominantly against. An antagonist was defined as a character who plays a central role in the action, who acts as an obstacle to the goals of the protagonist(s), and who the audience is led to root predominantly against rather than predominantly for. Any tale containing one or both of these character types was flagged for coding. This sampling procedure likely introduced some biases into the sample that will be discussed in the results section.

A coding form was developed to collect data on the main characters of all flagged tales (see appendix 1). While male characters were not the main targets of

the study, coding forms were also filled out for all main male protagonists and antagonists in order to provide a yardstick for measuring the characteristics of the females. Information was gathered on female antagonists for the same reason. In all, researchers completed 1,307 coding forms on 658 different tales. Of the completed forms, 568 were filled out for female protagonists, 392 for male protagonists, 197 for female antagonists, and 150 for male antagonists.

Data analysis is reported for the sample as a whole and for each of 6 geographical regions: 1) the circum-Mediterranean, 2) East Eurasia, 3) North America, 4) South America, 5) Africa, and 6) the Insular Pacific combined with South East Asia and the Pacific Rim (see appendix 2). Where possible our division of culture areas into geographical regions follows Murdock's precedent (1957, 1981), although it diverges in two significant ways. First, the analysis makes up for a shortfall of tales in Murdock's Insular Pacific region and a glut of tales in his East Eurasian region by grouping several culture areas in South East Asia and the Pacific Rim with tales from the Insular Pacific. Second, East African tales were grouped with Africa rather than with circum-Mediterranean tales. These divergences from Murdock result from the necessity of establishing regional samples of roughly equivalent size.

The sample was also divided into two broad levels of cultural complexity. The first level consists of tales that circulated primarily in unassimilated band and tribal societies, though the tales may have only been written down after assimilation. The second level consists of tales that, while they may have originated in non-state societies, circulated for long periods in preindustrial state societies. Since the line between these categories can be fine, tales from culture areas that could not be confidently placed in one of these two categories were excluded from the calculation.

Finally, because a prominent claim of feminist scholars of folk and fairy tales, is that patterns of characterization in European folk and fairy tales are the result of the patriarchal biases of male editors and collectors (for a survey of these claims see Haase, 2000; for a disconfirming test of these claims see Gottschall, in press), sub-analyses were performed for male-edited collections versus female-edited collections, and for data gathered by female coders versus data gathered by male coders. While there is variation across male and female editors and coders, this variation is not always in a predictable direction and it is consistent with natural variations across collections and cultures. In no case did results for male or female coders and editors violate the general patterns apparent in the other samples (for a report of these results see Gottschall, in press).

Content analysis of literary works presents special challenges to reliability assessment due to the length and complexity of the works and the time consuming nature of the coding (for further discussion see Gottschall, in press). The following conventional measures (see Krippendorff, 1980; Neuendorf, 2002; Weber, 1990) were undertaken to promote inter-coder reliability: we developed a coding question that was as uncomplicated as possible, we devised simple coding instructions, and we prepared a coding dictionary with definitions of all potentially ambiguous terms.

Finally, inter-coder reliability was assessed in two formal tests. The first test assessed the coders' agreement in scanning the same assortment of 23 culturally diverse tales for the presence of a main female protagonist or a main female antagonist. The second test assessed agreement in coding an assortment of 11 culturally diverse tales previously identified as containing either a main female protagonist or antagonist. Most content analysis practitioners strive for reliability rates of 80% or better, and consider 70% to be the minimum level of adequacy (Krippendorff 1980; Neuendorf 2002; Weber 1990). Inter-coder agreement in scanning tales was 89% while, for the variables discussed in this paper, agreement ranged from 75-94% with an average agreement of 88% (see results section for percent agreement on all variables). These rates of reliability were nearly identical to those produced by 12 coders in a different study who applied the same coding question to a western literature sample (see Gottschall, Martin, Quish, and Rea, 2004). This approach, in which reliability ratings are established prior to actual coding rather than having multiple coders read and code all or some fraction of the different works, is well established in content analysis and is discussed as an option in books on, and practical guides to, the subject. The advantage of this approach is that it allows the compilation of the largest data sets, though some content analysts argue that it does so at the cost of some degree of precision in reliability reporting (for discussion of different methods of reliability testing see Krippendorff, 1980; Neuendorf, 2002; Weber, 1990).

We acknowledge that the relatively small number of tales examined in our reliability assessment influences confidence in the reliability of our overall results. At the same time, however, we believe that confidence in our results should also be influenced, in a positive way, by the fact that 15 naïve coders, working in isolation from one another, all found the same general patterns of female versus male characterization in their individual collections. While the degree of confidence generated by this fact cannot be expressed quantitatively, such regularity would not be anticipated in the output of unreliable coders.

Results: The Heroine's Face

This study was designed in hopes of producing an empirically sound composite of some broad lineaments that are relatively constant in the heroine's thousand faces. Analysis of data reveals salient trends of female protagonist characterization across the sample in parameters associated with age, levels of physical attractiveness, frequency of representation as the main character, marital status, mating preferences, motivation, level of activity, personality descriptors, propensity for physical heroism, and patterns of altruism.

Frequency of representation as the main character

Across subsamples female protagonists were significantly under-represented as main characters. The representation of female protagonist main characters was

estimated in two ways. The first estimation was reached by subtracting the number of tales with female protagonist main characters in the sample from the total number of tales scanned (all pertinent questions from the coding form are listed in appendix 1). Overall, male main characters outnumbered female main characters by a factor of three (inter-coder reliability 81%). However, this method may overestimate somewhat the representation of male protagonist main characters because it does not account for tales where main characters (like animals, plants, or forces of nature) may be represented as unsexed. In the second estimation, the senior author analyzed the tables of contents of all collections utilized in the study, determining the relative percentages of titles referring to male main characters versus female main characters. Any title that did not communicate definite information as to the sex of the tale's main character was excluded from the calculation. Overall, male main characters outnumbered female main characters by more than 2 to 1. However, this method of estimation likely underestimates the representation of male main characters because it does not account for the fact that most folk tales featuring anthropomorphized animals or forces of nature sex them as male. As indicated in Table 1, the results of both analyses (the first somewhat aggressive, the second somewhat conservative) confirm that female protagonist main characters are significantly under-represented in the samples.

Table 1: Percentage of male and female main characters: two methods of estimation

	Estimation 1			Estimation 2		
	Male	Female	Z-Score	Male	Female	Z-Score
Overall	75 (n=1084)	25 (n=356)	31.45**	68 (n=949)	32 (n=443)	20.59**
North America	82 (n=247)	18 (n=53)	20.77**	76 (n=151)	24 (n=52)	11.26**
South America	84 (n=176)	16 (n=34)	18.81**	76 (n=105)	24 (n=34)	9.91**
Circum-Mediterranean	77 (n=207)	23 (n=63)	14.65**	67 (n=267)	33 (n=134)	9.96**
East Eurasia	74 (n=222)	26 (n=78)	13.4**	67 (n=216)	33 (n=107)	9.11**
Africa	62 (n=131)	38 (n=79)	5.24**	68 (n=172)	32 (n=82)	8.54**
Insular Pacific, etc.	73 (n=132)	27 (n=48)	10.01**	58 (n=76)	42 (n=56)	2.49*
Bands / Tribes	76 (n=567)	24 (n=183)	23.08**	68 (n=441)	32 (n=205)	14.11**
Preindustrial States	79 (n=573)	21 (n=147)	26.87**	68 (n=511)	32 (n=235)	15.38**

N is number of story characters * indicates $p < .05$ ** indicates $p < .001$
 (See Appendix for listing of cultures in each region and level of cultural complexity)

As stark as the discrepancies are, the likelihood exists that, due to the particular sampling methodology we employed, our figures significantly *overestimate* the representation of female main characters. This is because all tales coded were first pre-selected for the presence of prominent female characters. A sample that was not thus presorted would likely have an even more extreme imbalance between main

male and female characters.

These results have recently been replicated in computerized content analyses of a (different) culturally and geographically diverse sample of 43 collections of folktales from around the world. It was discovered that, in these collections, male subject pronouns (he, him, himself, etc.) outnumbered their female equivalents by a ratio of 3:1, and that clearly male terms (man, boy, uncle, etc.) outnumbered their female equivalents by roughly the same margin (Gottschall, Callanan, Casamento et al., 2004.). Together with the results of the present study, these findings suggest that an under-representation of prominent female folk tale characters is statistically, and perhaps absolutely, universal in world folk literatures.

Age

Young, reproductive aged women are vastly over-represented in the ranks of female protagonists (inter-coder reliability 75%). Across subsamples an overwhelming majority of female protagonists were identified either as sexually mature teenagers or as twenty to twenty-nine year olds; just 8% were identified as forty or older. This is in stark contrast to the depiction of female antagonists, 40% of whom were identified as forty or older (see Table 2). Incidentally, male protagonists, though rated slightly older than female protagonists overall, demonstrated exactly the same pattern: the antagonists are significantly older than the protagonists.

Table 2: Percentage of female protagonists and antagonists falling in given age categories

	Sexually Mature Teen or Twenties			Forty or Older		
	Female Protagonist	Female Antagonist	Z-Score	Female Protagonist	Female Antagonist	Z-Score
Overall	80 (n=531)	38 (n=174)	10.3**	8	42	-8.68**
North America	71 (n=76)	38 (n=26)	3*	18	35	-1.57
South America	71 (n=75)	52 (n=23)	1.58	8	30	-2.22*
Circum-Mediterranean	91 (n=121)	27 (n=44)	8.83**	4	64	-7.96**
East Eurasia	85 (n=117)	44 (n=41)	4.83**	4	29	-7.63**
Africa	62 (n=78)	24 (n=25)	3.69**	12	48	-3.43**
Insular Pacific, etc.	94 (n=63)	53 (n=15)	3.04*	2	33	-2.59*
Bands / Tribes	70 (n=263)	41 (n=80)	4.64**	13	36	-3.98**
Preindustrial States	88 (n=252)	38 (n=88)	9.12**	3	44	-7.61**

N is number of story characters * indicates $p < .05$ ** indicates $p < .001$
 (See Appendix for listing of cultures in each region and level of cultural complexity)

We did not predict the age discrepancies in the portrayal of antagonists and

protagonists of both sexes and will not speculate here about its root causes. What seems clear, however, is that the youthfulness of protagonists is connected to the prominent role of marriage in the tales.

Marriage and mating preferences

While there was significant variability across sub-samples, the majorities of male and female protagonists were unmarried at the beginning of their tales (77% male; 78% female) and, of these characters, most were married by the end (64% female; 64% male). Fewer previously unmarried antagonists succeeded in marrying by the end of their tales, but the percentage was still substantial (33% female; 22% male). Thus a large proportion of folk tales dwell on the process of attracting and securing mates. As a result, the tales convey information regarding the attributes characters from the world's folk tale traditions value in potential mates. Consistent with expectations, female protagonists were rated as placing the highest premium on a potential mate's kindness (a potential signaller of commitment), followed by his wealth and social status. In contrast, while male characters were also attracted to kindness, they were far more likely to be rated as placing a premium on the physical attractiveness of potential partners, and placed markedly less emphasis on wealth and status (see Table 3) (for further discussion of mate preferences in the tales see Gottschall, Martin, Rea, and Quish, 2004). Inter-coder reliability for the marital status variables were, respectively, 89% and 86%; reliability for the mate preferences variable was 87%.

Table 3: Percentage of male and female characters identified as placing primary emphasis on given mate preference criteria

	Physical attractiveness			Wealth/Status			Kindness		
	Male	Female	Z-Score	Male	Female	Z-Score	Male	Female	Z-Score
Overall Folk Tales	56 (n=246)	23 (n=278)	7.78**	9	26	-5.03	35	51	-3.51**
N. America	48 (n=34)	6 (n=34)	4.19**	3	39	-3.81**	48	54	-0.61
S. America	65 (n=48)	51 (n=39)	1.26	13	23	-1.28	22	26	-0.29
Circum-Mediterranean	42 (n=68)	15 (n=77)	3.68**	6	15	-1.68	52	70	-2.28*
East Eurasia	58 (n=47)	24 (n=59)	3.71**	11	27	-2.25*	30	49	-2.08*
Africa	63 (n=16)	35 (n=20)	1.96*	19	40	-1.45	18	25	-0.3
Insular Pacific, etc.	84 (n=19)	13 (n=24)	6.67**	5	38	-2.90**	11	50	-3.18**
Bands/Tribes	67 (n=114)	33 (n=94)	5.01**	9	34	-4.47**	25	33	-1.89
Pre-industrial States	50 (n=115)	17 (n=140)	5.74**	8	21	-3.18**	43	61	-3.05**

N is number of story characters * indicates $p < .05$ ** indicates $p < .001$
 (See Appendix for listing of cultures in each region and level of cultural complexity)

Level of physical attractiveness

Consistent with expectations, when information was available regarding a female protagonist's physical appearance, they were almost universally described as physically attractive (results are based on explicit judgments of narrators and characters, not on individual coder preferences). In fact, the appearance of a female protagonist explicitly defined as physically unattractive was a true statistical anomaly: just eight of 1,440 tales included a main female protagonist explicitly defined as unattractive. While male protagonists were also overwhelmingly more likely to be defined as physically attractive than unattractive, information on this factor was much less likely to be conveyed if the character was male. Overall, 50% of tales featuring female protagonists contained explicit information on their physical attractiveness versus just 21% for male protagonists. Further, when there was information available on a character's physical attractiveness, there were approximately 50% more references per tale to female physical attractiveness than male. The female protagonist's physical attractiveness was also emphasized significantly more than that of the female antagonist.

Table 4: Physical attractiveness of male and female protagonists

	Percent with information on Attractiveness			Percent attractive			Average references to attractiveness per tale		
	Male	Female	Z-Score	Male	Female	Z-Score	Male	Female	T-Stat
Overall	22 (n=392)	51 (n=568)	-9.83**	96 (n=83)	97 (n=292)	-0.23	1.95 (x=78)	3.03 (x=293)	-5.08**
N. America	7 (n=72)	39 (n=83)	-5.16**	100 (n=5)	91 (n=32)	1.82	1.3 (x=3)	3.03 (x=30)	***
S. America	13 (n=86)	37 (n=86)	-3.85**	85 (n=12)	97 (n=32)	-1.21	2.23 (x=13)	2.55 (x=33)	***
Circum-Mediterranean	38 (n=97)	64 (n=126)	-4.01**	100 (n=37)	95 (n=84)	2.05*	1.97 (x=32)	2.93 (x=76)	-2.56*
East Eurasia	22 (n=65)	63 (n=97)	-5.84**	83 (n=17)	100 (n=75)	-1.91	1.86 (x=14)	3.77 (x=60)	-3.37**
Africa	24 (n=33)	47 (n=83)	-2.46*	100 (n=8)	97 (n=39)	1.01	2.13 (n=8)	3.05 (39)	***
Insular Pacific, etc.	19 (n=27)	45 (n=66)	-2.79*	100 (n=4)	100 (n=30)	0	1.3 (n=3)	2.25 (n=32)	***
Bands/Tribes	13 (n=192)	37 (n=297)	-6.48**	96 (n=25)	95 (n=110)	0.12	2.09 (n=23)	2.84 (n=111)	-1.85
Preindustrial States	29 (n=188)	64 (n=267)	-7.85**	98 (n=55)	96 (n=169)	0.98	1.9 (n=52)	3.08 (n=171)	-4.39**

N is number of story characters * indicates $p < .05$ ** indicates $p < .001$
 ***sample size too small to calculate significance
 X is number of references to attractiveness per sub-sample
 (See Appendix for listing of cultures in each region and level of cultural complexity)

Overall, in cases where information was conveyed on physical appearance, just 69% of female antagonists were defined as physically attractive. Moreover, as with male protagonists, information on physical attractiveness was conveyed less frequently (23% of tales) and less repetitively (three times fewer references per tale) for the female antagonist. There was least emphasis on the attractiveness of male

antagonists. As a whole and across subsamples there was, then, an intense emphasis on the physical attractiveness of female protagonists relative to other character types. Inter-coder reliability for the attractiveness variable was 89%.

Ratings of activity, heroism, and courage

Consistent with expectations, the data reveal that female protagonists pursue their goals differently than male protagonists. While 74% of male protagonists were defined as actively pursuing their goals, just 50% of female protagonists were defined as active (inter-coder reliability 94%); the remaining male and female protagonists were defined as passive (see Table 5). Characters were identified as active if they took steps to personally resolve their problems and accomplish their goals. Characters were identified as passive if they simply endured their problems, taking little or no action to resolve their problems or accomplish their goals.

Table 5: Personality descriptors of male and female protagonists

	Active			Courageous			Heroic		
	Male	Female	Z-Score	Male	Female	Z-Score	Male	Female	Z-Score
Overall	71 (n=381)	51 (n=555)	6.4**	22 (n=348)	9 (n=507)	4.91**	31 (n=392)	9 (n=568)	8.43**
N. America	76 (n=71)	49 (n=82)	3.57**	38 (n=69)	11 (n=70)	3.77**	44 (n=72)	11 (n=83)	4.96**
S. America	63 (n=84)	45 (n=83)	2.36*	12 (n=77)	4 (n=78)	1.84	17 (n=86)	6 (n=86)	2.42*
Circum-Mediterranean	80 (n=93)	63 (n=123)	2.81**	23 (n=79)	14 (n=106)	1.49	34 (n=97)	9 (n=126)	4.47**
East Eurasia	68 (n=77)	36 (n=124)	4.63**	22 (n=69)	10 (n=116)	2.11*	39 (n=77)	13 (n=123)	4.1**
Africa	77 (n=30)	51 (n=81)	2.74*	14 (n=29)	5 (n=75)	1.22	18 (n=33)	2 (n=83)	2.28*
Insular Pacific, etc.	85 (n=26)	61 (n=62)	2.48*	16 (n=25)	9 (n=65)	0.83	22 (n=27)	11 (n=66)	1.31*
Bands/Tribes	69 (n=187)	49 (n=280)	4.44**	23 (n=176)	8 (n=253)	4.4**	40 (n=137)	7 (n=285)	7.24**
Preindustrial States	75 (n=179)	53 (n=253)	4.94**	22 (n=157)	12 (n=231)	2.7*	34 (n=184)	11 (n=269)	6.11**

N is number of story characters * indicates $p < .05$ ** indicates $p < .001$
 (See Appendix for listing of cultures in each region and level of cultural complexity)

Female protagonists were also far less likely than male protagonists to be defined as physically heroic or to be defined as possessing courage as their main trait of character (inter-coder reliability 84%). It is important to note that this finding does *not* imply that female protagonists were uncourageous, just that courage was less likely to be their most distinctive trait of character. Similarly, this finding leaves open the possibility that female characters expressed heroism in ways not entailing physical hardihood or risk. It would be interesting to compare characters using different definitions of heroism (e.g., moral heroism) and activity/passivity.

Patterns of altruism

Across subsamples female protagonists expend significant amounts of energy on behalf of other people: family, friends, and communities as a whole (inter-coder reliability 75%). In contrast to antagonists who were rarely motivated to help persons other than themselves (13% female, 5% male), 42% of female protagonists were primarily motivated to help persons other than themselves. Most of this energy was expended on behalf of kin (69%). Moreover, as predicted, energy expended on behalf of kin was not disseminated randomly but was directed overwhelming (91%) on behalf of family members in the following categories: mates, children, siblings, and parents. The remaining 9% of effort is expended on behalf of kin in the categories of niece/nephew(s), aunt/uncle(s), cousin(s), grandparent(s), step-relation(s), in-law(s), and family as a whole (inter-coder reliability 77%). Exactly this same pattern of altruism, where aid is primarily extended to those with the closest genetic relationships, applies to the kin-directed efforts of male protagonists as well as to antagonists of both sexes.

Summary, the Heroine's Face

This composite of the heroine's face does not exhaust its subtleties, but is an effort to lay down, in broad brush-strokes, some main lineaments that consistently apply to female folk tale protagonists more than to other character types. It must be strongly emphasized that this composite portrait represents only a rough sketch, with individual storytellers filling in detail, color, and shading in accord with their individual temperaments and socio-cultural contexts. Moreover, the following characterization does not apply to every female protagonist in the sample nor can it be argued, since statistically meaningful analyses of individual cultures could not be performed, that it prevails in every tradition; the characterization applies across the six large geographical regions, across the two levels of cultural complexity, and regardless of the sex of the coders or collection editors. These characteristics recur at rates greater than would be predicted by chance and therefore meet the definition of statistical universals.

The vast majority of female protagonists are unmarried women at peak reproductive age. When physical descriptions are provided, they are almost universally beautiful, and this beauty is often stressed repetitively. In comparison to her male counterpart, the female protagonist places greater emphasis on a potential mate's kindness and control of social and material resources, and less emphasis on physical attractiveness. She achieves her goals through different means than the male protagonist: she is less likely to actively pursue her goals and she is less likely to achieve them in ways requiring conspicuous courage or physical heroism. She is solicitous of her family's well being, devoting much energy to promote the welfare of her close kin.

Discussion

Our results suggest that evolutionary theory can be a map and legend (though not the only one) for the study of narrative universals--a guide that points the way to universals and helps us interpret them. The results of this research, revealing salient patterns of characterization in world folk tales, are inconsistent with theories of "hard" social constructivism and consistent with a growing body of theory and research in evolutionary psychology and a nexus of closely related fields. It should be stressed that, while similar patterns of characterization emerged across subsamples, different regions often demonstrated strong variation on given measures. Some of this variation may be attributable to random drift in relatively small samples. However, these findings are also compatible with the foundational prediction of evolutionary psychology that patterns of human behavior will vary significantly with different social and physical environments within the constraints of universal human nature.

This explanation is not different, in principal, from a common line of explanation in past universalist literary scholarship, here articulated by Kluckhohn: "The mere recurrence of certain motifs in varied areas separated geographically and historically tells us something about the human psyche. It suggests that the interaction of a certain kind of biological apparatus in a certain kind of physical world with some inevitables of the human condition brings about some regularities in the formation of imaginative products, of powerful images" (1959, 160).

This study could not guard absolutely against the possibility of cross-cultural diffusion. Indeed, it is likely that in neighboring regions significant cross-cultural sharing did occur. However, the geographical, cultural, and historical breadth of the sample represents an attempt to minimize the possibility of diffusion adequately accounting for the trends. Further, even in the unlikely event that these trends result solely from cross-cultural sharing, this explanation would not explain why stories are so "viral" and why, in all cultures, certain story types find human minds to be such susceptible hosts. In other words, even if folk tale universals did result only from diffusion (and most experts stress that they do not, see Propp, 1968; Thompson, 1932-1936, 1946; Tatar, 1987), "...their persistence cannot be understood except on the hypothesis that these images have a special congeniality for the human mind" (Kluckhohn, 1959, 160).

The results of this research have relevance to literary scholars and to human scientists using evolutionary theory to map the contours of human nature. For the former community, this study provides a theoretical and methodological model for a sustained and systematic research program in literary universals; this program can bring some of the same system and vigor to literary studies that the study of universals has brought to the fields of linguistics, cognitive science, anthropology, psychology, and behavioral biology. For the latter community, world literature can serve as a vast, varied repository of potentially quantifiable information about human beings and their societies. A carefully compiled sample of traditional folk tales can

gain evolutionary researchers a precious window into the mindsets and life ways of the very groups of people they most want to study and upon whom they have the most difficulty gathering reliable data: traditional peoples living in preindustrial societies.

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Appendix 1: Pertinent Questions from Rating Form

1. Is the *main* character in this story 1) male or 2) female?
2. Is the character best described as a 1) protagonist, 2) antagonist, or 99) impossible to judge?
3. What is your best estimate of the character's age: 1) prepubescent (0-13), 2) sexually mature teenager, 3) twenties, 4) thirties, 5) forties 6) fifties, 7) sixty or older, 99) impossible to judge?
4. When the tale begins, is the character married? (1 yes, 2 no)
5. IF the above answer is 2 (not married), does the character get married in the course of the tale? (1 yes, 2 no)
6. What *single* feature seems *most important* to the character in assessing the desirability of an existing or potential mate: 1) kindness, 2) possession of wealth and/or other material resources, 3) high social status, 4) physical attractiveness, 5) appropriate age, 88) other, 99) impossible to answer?
7. Is the character *primarily* motivated to help 1) her/himself or 2) help others?
8. If the character is primarily motivated to help others, whom does he/she try to help *most*: 1) kin 2) friends, 3) member(s) of community at large, 88) other?
9. IF the above answer was 1 (kin), what relation is/are the kin that the character is *most interested* in assisting: 1) sibling(s), 2) child and/or children, 3) spouse/mate, 4) parent(s), 5) niece and/or nephew, 6) aunt and/or uncle 7) cousin(s) 8) grandparent(s), 8) step-relation(s) or in-laws, 10) family as a whole.
10. Is the character *more accurately* defined as 1) passive (in the sense that he/she exemplifies patient endurance of troubles) or is he/she 2) active (in the sense that he/she actively pursues solutions to troubles), 99) cannot answer?
11. Which *one* of these adjectives, if any, *best* describes the character (choose only one): 1) nice, 2) mean, 3) smart, 4) dumb, 5) courageous, 6) cowardly, 7) obedient, 8) disobedient, 9) strong, 10) weak, 11) selfless, 12) selfish, 99) none apply?
11. Does the character accomplish his or her goal(s) through feats of physical heroism? (1 yes, 2 no).
12. Is the character 1) physically attractive, 2) unattractive, 3) average, or 99) is their no information on this topic?
13. Count up the number of references made to the character's physical attractiveness or unattractiveness. How many are there?

Appendix 2: Subsamples and Cultures

1. Overall (n = 658 tales): Aboriginal Australian, African American, Blackfoot, Chamacoco, Dena, East African Tribes, Gê, Germany, Guajiro, Gypsy (Roma), Haiti, Hawaii, Hopi, Hungary, India, Inuit, Iraq, Ireland, Iroquois, Japan, Israel, Korea, !Kung San, Maya, Navaho, New Guinea, Nigerian Tribes, Nivkalé, China, Norway, Palestine, Persia, Mongolia, Russia, Scotland, Siberian Indians, Sikuani, Sioux, Slovakia, Southern African Tribes, Tibet, Tlingit, Vietnam, West African Tribes, Yamana, Yanomami, Yugoslav.
2. North America (n = 101 tales): Blackfoot, Dena, Hopi, Inuit, Iroquois, Maya, Navaho, Sioux, Tlingit.
3. South America (n = 109 tales): Chamacoco, Gê, Guajiro, Nivkalé, Sikuani, Yamana, Yanomami.
4. Circum-Mediterranean (n = 135 tales): Germany, Gypsy (Roma), Hungary, Ireland, Israel, Norway, Scotland, Slovakia, Yugoslavia.
5. Africa (and diaspora) (n = 91 tales): African American, East African Tribes, Haiti, !Kung San, Nigerian Tribes, Southern African Tribes, West African Tribes.
6. East Eurasia (n = 144 tales): India, Iraq, Mongolia, Palestine, Persia, Russia, Siberia, China, Tibet.
7. Insular Pacific, Pacific Rim, and South East Asia (n = 78 tales): Aboriginal Australia, Hawaii, Korea, Japan, New Guinea, Vietnam.
8. Bands and Tribes (n = 337 tales): Aboriginal Australia, Blackfoot, Dena, East African Tribes, Hawaii, Hopi, Inuit, Iroquois, !Kung San, Navaho, New Guinea, Nigerian Tribes, Siberian Indians, Sioux, Southern African Tribes, Tlingit, West African Tribes.
9. Preindustrial States (n = 291 tales): Germany, Gypsy (Roma), Hungary, India, Iraq, Ireland, Japan, Israeli, Korea, China, Norway, Palestine, Persia, Mongolia, Russia, Scotland, Slovakia, Tibet, Vietnam, Yugoslav.
10. Male-Analyzed Tales (n=141).
11. Female-Analyzed Tales (n=517).
12. Tales From Male-Edited Collections (n=390).
13. Tales from Female-Edited Collections (n=158).