

Information Science and Mythological Items

Vance J. Bowman

Department of Library and Information Science, University of North Carolina, Greensboro

HSS 490: Senior Honors Project

Dr. Zachary T. Frazier

May 1, 2024

Abstract

This interdisciplinary research paper offers a comparative analysis of mythology, delving into the intersections between J.R.R. Tolkien's legendarium and Greco-Roman mythology by applying information science frameworks. By employing formalized methodologies, this research study identifies and scrutinizes a selection of special items/artifacts within both narrative traditions, aiming to unveil parallels, derivatives, and unique features that illuminate potential cultural connections and influences.

Focusing on elements renowned for their richness and complexity in Tolkien's mythology, the paper endeavors to establish correlations with the vast corpus of Greek mythology. By exploring special items/artifacts such as the Silmarils and their equivalents in Greek myths, the study utilizes concepts from information science, including Buckland's (1991) information-as-thing framework, alongside classical studies concepts like comparatist functionalism, to dissect the narrative function and significance of these items.

Additionally, the paper reflects on the inherent limitations of mythological narratives as literal evidence, advocating for their interpretation as informative documents representing cultural beliefs and patterns. Embracing an interdisciplinary methodology, the research draws from literature in information science and mythology genres, employing analytical tools such as information theory and document theory.

Through its investigation of the convergence of mythology and information science, this study contributes to a deeper comprehension of how narratives convey meaning, reflect cultural values, and engage with human cognition. It serves as a scholarly endeavor to unveil the intricate tapestry of connections between Tolkien's mythos and Greco-Roman mythology, offering

insights that enrich our understanding of these timeless tales and their enduring cultural significance.

Table of Contents

Abstract.....	2
List of Abbreviations.....	7
Introduction.....	8
Theory & Literature Review.....	9
Mythology.....	11
Psychoanalysis.....	12
Functionalism.....	13
Comparatism.....	15
Structuralism.....	15
Conclusion on Mythology.....	16
Information Science.....	16
Information.....	19
Document.....	23
Information-as-Thing.....	25
Conclusion on Information Science.....	26
Comparative Analysis of Special Items in Tolkien and Greco-Roman Mythology: A Mytho- Information Science Approach.....	27
Information Science Approach to Mythical Items.....	27
Mythologist Approach to Documents and Information-as-Thing.....	28

Information Science and Mythological Items	5
Conclusion on Mytho-Information Science Approach	28
Research Methods & Results:.....	29
Source Material.....	29
Tolkien	30
Greco-Roman Myths.....	31
Data Analysis	32
Vessels of Divine Energy/Sustenance	34
A Note on Structure & Presentation.....	34
Tolkien’s Legendary Items.....	35
Tolkien’s Theogony and Cosmogony at a Glance	35
Silmarils	38
Sun & Moon.....	47
The Phial of Galadriel.....	49
Greco-Roman Legendary Items	52
A Note on Greco-Roman Counterparts.....	52
Cornucopia	52
Harmonia’s Carcanet.....	54
The Golden Fleece	57
Eos, Helios, Phaethon, & Selene	59
Greco-Roman Torches and Lamp-Light	62

Information Science and Mythological Items	6
Discussion	65
Summary	65
Research Limitations	67
Acknowledgments.....	69
References.....	70

List of Abbreviations

- ALApollodorus' Library. Apollodorus, Smith, R. S., Trzaskoma, S., & Hyginus, C. J. (2007). *Apollodorus' Library and Hyginus' Fabulae: Two Handbooks of Greek Mythology*. Hackett Pub.
- COHThe Children of Húrin. Tolkien, J. R. R., Tolkien, C., & Lee, A. (2007). *Narn i Chîn Húrin: The Tale of the Children of Húrin*. Houghton Mifflin.
- H.....The Hobbit, originally published in 1937. Tolkien, J. R. R. (2012). *The Hobbit, or, There and Back Again* (1st Mariner Books ed., 75th anniversary ed). Houghton Mifflin Harcourt.
- LOTRThe Lord of the Rings Trilogy, originally published in 1954. Tolkien, J. R. R. (2005). *The Lord of the Rings* (50th anniversary 1 vol. ed.). Houghton Mifflin.
- SILM.....The Silmarillion, originally published in 1977. Tolkien, J. R. R. (2022). *The Silmarillion* (C. Tolkien, Ed.; Second edition). William Morrow, an imprint of HarperCollinsPublishers.
- TolkienJ.R.R. (John Ronald Reuel) Tolkien.
- C. Tolkien.....Christopher Tolkien

Introduction

This research paper aims to analyze Tolkien's and Greek mythologies comparatively using information science perspectives and mythology frameworks. The core focus is on special items from the narratives and the ways in which they influence the narrative characters. The goal is to evaluate Tolkienian special items with Greco-Roman relationships specifically.

Myths and Information Science may seem logically at odds. However, the Mythology and Information Science disciplines can be interpreted as analogous in relation to artifacts articulated in mythical narratives. There are anthropologic, epistemic, ontological, semiotic, functional, structural, and comparatist interests in cross-examining Tolkienian and Greek mythological items described in their respective accounts.

There are different ways in which information science and mythology concepts, taken together, can assist a myth researcher in analyzing narratives. For example, Buckland's information-as-knowledge framework (1991) and Dumézil's comparatism (1929) may be applicable to helping a mythologist realize that Tolkien's Silmarils bear functional similarity to the Kalevala's Sampo, which in turn bears functional similarity to the Greco-Roman Cornucopia that infant Zeus broke off from Amalthea. Thus, one may infer a Tolkien and Greco-Roman cultural link or influence.

This research was inspired by a desire to understand and categorize a selection of the most significant special items in Tolkien's myths. Ascertaining links to classical Greco-Roman myths is of keen interest since Greco-Roman myths may be the cradle of all Indo-European myths and fairy tales leading to the present day. Very little information has been explored in this regard. It would be interesting to know how many of Tolkien's significant special items possess such cultural links, backed by the knowledge of how or why they do.

Theory & Literature Review

The mythology evaluated here is Indo-European-centric, spanning ancient Greco-Roman culture to modern-day Tolkien and his critics. Greco-Roman mythology may possess derivatives from more ancient cultures and times in the prehistory period. However, since ancient Greco-Roman civilization is accredited for being the source of a comprehensive mythology that has survived the ages (Fry, 2019), the interest and scope of this paper do not attempt to reach beyond them. Special items are the vehicles by which Tolkien and Greco-Roman cultural links are established in this study.

While some literature speculates special items/artifacts in Tolkien and Greco-Roman myths, scant literature is available that comparatively analyzes Tolkien and Greco-Roman myths. Special items like Tolkien's Silmarils and Elven cloaks or the Cornucopia and Hades' cap from Greco-Roman myths, are significant in how they influence characters in the narrative and provoke the imaginations of people digesting the narratives. It would be interesting and coincide with Buckland's information-as-process (1991) to further identify and classify special items from the Tolkien and Greco-Roman myths and then discover cultural links between the two series of myths based on the shared relationships of these special items.

Comparing special items articulated in Tolkien and Greco-Roman myths requires a review of two classes of literature: Classical Studies and Information Science. Classical Studies literature contains the narratives from Tolkien's myths about Middle-earth and Greco-Roman myths, which provided this project's core subjects of speculation. Classical studies literature also includes information on concepts, frameworks, and methods applied to mythology for analytical approaches. Information science literature provides concepts, models, and frameworks about

information theory and document theory that are essential to identifying and classifying special items articulated in the narratives.

It is not intended to express any belief that the studied special items articulated within mythological narratives actually exist in the real world. Discovering and categorizing physical artifacts and their function(s) within mythological narratives can be fascinating. However, one should remember not to take myth as literal evidence of things or events that have previously existed or currently exist in the real world. Scores of literal and mythical (i.e., King Arthur and his quest for the holy grail) treasure hunters have set out to find mythological artifacts, and by not taking a myth for what it is, they failed to find the fabled treasure(s) they sought.

There are holistic ways in which myths, treasure-hunting, and the discovery of objects that bear mythical evidence occur. Anthropologists and archeologists have discovered pottery and other priceless artifacts that tell of a culture's social beliefs or practices and what function a particular excavation site may have had, relative to the mythological depictions imprinted on the artifacts discovered at that location. As documents, objects such as an ancient Greek amphora with black-figure art paintings tend to represent a wealth of information to their discoverers, cataloguers, curators, and other researchers. Thus, mythology and information science may work in tandem.

On a narrative-conceptual level, special items may function as informative and influential documents in relation to the story's characters, places, and events. Such items described in the narratives may also influence the perceptions of the reading, listening, or viewing audience. One may analyze artifacts described in mythological narratives, while utilizing information science concepts, theories, and frameworks to discern their role and significance to the narrative. For example, Michael Buckland's 'information-as-thing' framework (1991) may enable a person to

ontologize a significant artifact like Tolkien's One Ring of Power as a purpose-driving document that alters characters' behaviors.

Mythology

Literary research from Classical Studies and the mythology genre includes primary Greco-Roman and Tolkien narratives, as well as information on mythological approaches (psychoanalysis, functionalism, comparatism, and structuralism). Significant and renowned professionals behind myth analysis literature, that was reviewed during this research project, include Geoffrey Stephen Kirk (1921-2003), Walter Burkert (1931-2015), Joseph Campbell (1904-1987), Bronislaw Malinowski (1884-1942), Georges Dumézil (1898-1986), and Claude Lévi-Strauss (1908-2009). The literary contributions of these professionals aided in framing the process of evaluating and analyzing myths for cultural links.

Myths permeate human civilizations and cultures across time and locations. They frequently exude moral or societal lessons and render explanations (specific to the culture that produces the myth) for ritual practices. A culture that produces and spreads myths tends to regard them factually as evidence of certain truths. As Joseph Reed puts it, "There is no such thing as a myth in ancient Greek or Roman culture, only different versions of myths, adapted by different tellers to their various contexts and uses" (Ovidius Naso & Reed, 2018, p. 395).

With the passage of time, human cultures change, develop, or blend together, and they tend to perceive old myths differently. The old myths may be regarded less as factual accounts of people, places, things, and events, and more as vessels of alternate truths. This is due to attributes and qualities that provoke, inspire, enlighten, or appeal to ethical or religious senses. It is remarkable how many myths have survived the passage of time and transformations from oral

traditions to written records. Since antiquity, mythology has been utilized to serve many interests and purposes.

Myths can reveal information about human populations from a specific location and era. A researcher may examine a culture's myths to gauge certain characteristics of that culture. This includes events, landscapes, structures, language, music, legal/religious/moral belief systems, societal aspirations, and diaspora. For example:

A Choctaw tradition locates southeastern peoples' beginnings inside the great Mother Mound earthwork, Nunih Waya, in the lower Mississippi valley. [Furthermore,]

America's indigenous peoples have passed down many accounts of their origins, written and oral, which share creation and migration histories. (Locke & Wright, 2019, p. 2)

With an understanding that there are various reasons to study mythology, consider this general and widely accepted definition of myth, posited by Geoffrey S. Kirk and Walter Burkert: "A traditional narrative of collective significance" (Graf et al., 2006). This general definition lacks a completely inclusive practice of mythology. The term 'traditional' in this regard is indicative of oral myth-spreading. It fails to account for written records (converted or original) like Snorri Sturluson's Prose Edda, which may have some of his own unique additions or changes to oral traditions, (Chance et al., 2004, pp. 146,184). This viewpoint of oral tradition is also dismissive of Tolkien's Middle-earth stories as myths due to their literary versus oral nature.

Psychoanalysis

Myths may be viewed and defined differently by psychoanalytic professionals such as Sigmund Freud (1856-1939) and Carl Jung (1875-1961) or their followers such as Joseph Campbell (1904-1987). Campbell suggests using psychoanalysis to view a myth as a "statement of the basic truths by which man has lived ... on the planet. [Furthermore, myths permeate

human psyches, thus leading to human activities and cultural productions.]” (Campbell, 2008, pp. xiii, 1). Campbell’s model for the Monomyth and Hero’s Journey (1949) is an effective way to evaluate multiple myths symbolically for similarities and parallels.

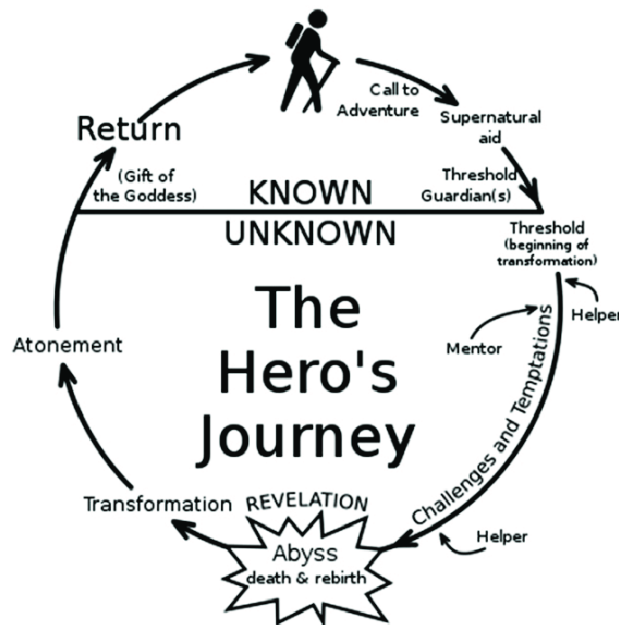


Figure 1: Campbell's Hero's Journey (Inglese, 2018).

Functionalism

Bronislaw Malinowski (1884-1942) was an anthropologist and ethnographer who specialized in comparative studies of human cultures and expertly observed human behavior in relation to myths and magic*. One of Malinowski’s significant contributions to mythology was the introduction of a new functional and pragmatic perspective of myths in relation to human communities, rituals, and religions (Malinowski, 1962). He stressed the importance of examining individuals and groups together, parallel to their human environment and material culture, (Malinowski, 1962, p. 241).

* Malinowski regarded magic pragmatically, based on his observation of spiritual leaders. In his view, the function of magic was to endow one person with the leadership ability to psychologically encourage people in the face of natural disasters or human dangers. Malinowski defined magic as “the ritual act performed to bring about a practical result unachievable by man’s unaided force. It affirms the positive issues and thus leads to courage, endurance, and perseverance” (Malinowski, 1962, pp. 189-190).

To Malinowski, human needs and psychological processes were a foundation for tradition, activities, and organized myth-related collective behaviors (Malinowski, 1962, p. 242). He suggests analyzing myths in conjunction with a community, to observe how they are integrated socially through ritual, religious, and ethical practices (Malinowski, 1962, p. 246-7, 249). Malinowski declared that myths should be perceived according to their function which is:

To establish a belief, to serve as a precedent in ceremony or ritual, or to rank as a pattern of moral or religious conduct. Mythology, therefore, or the sacred tradition of a society, is a body of narratives woven into their culture, dictating their belief, defining their ritual, acting as the chart of their social order, and the pattern of their moral behavior. Above all, the so-called functional approach, in the treatment of cultural phenomena, leads us directly to the study of myth through its cultural function. ... The main object of sacred tradition is not to serve as a chronicle of past events; it is to lay down the effective precedent of a glorified past for repetitive actions in the present. ... Myth must be studied through the three-fold approach of religious dogma, ethics, and ritual. (Malinowski, 1962, pp. 249-252)

Due to Malinowski's mythological functionalistic perceptions, he was averse to ideas of myths being analyzed psychoanalytically, historically, allegorically, or simply as a form of entertainment. (Malinowski, 1962, pp. 249-252, 254, 290, 293). It may also be inferred that Malinowski would dismiss Tolkien's mythology as "literary fancies" (Malinowski, 1962, p. 293), on the grounds of it failing to fall into a category of human ritualistic expression or religion (Malinowski, 1962, p. 254). Malinowski was chiefly concerned with the sociological function of mythology (Malinowski, 1962, p. 293). However, it may be argued that perspectives like

allegory are applicable to mythology. Furthermore, later mythologists have demonstrated that alternate approaches to mythology are reasonable.

Comparatism

Georges Dumézil (1898-1986) was renowned for evaluating multiple myths together and considering analogies between them. Dumézil attempted to ascertain a common Indo-European cultural origin via semantic comparison. He believed that:

Structural similarities could be used to discover unchanging characteristics of apparently dissimilar phenomena. [Furthermore, Dumézil] introduced the notion of transformation, stating that in comparative mythology the search for a single, primitive version of a myth is always fruitless as variants would have existed at any time in its development, an insight which later influenced the work of Lévi-Strauss. (Gaillard, 2004, p.174)

Dumézil's comparative approach to mythology posited a significant tripartite model (1929) that was hierarchical and socially functional. Dumézil believed that the mortal and divine beings in most or all Indo-European myths shared a common origin and thereby, common functional representations that he defined in his tripartite system of attributes. Dumézil's tripartite functions included (1) Sovereignty or order, (2) Force (i.e., warrior castes), and (3) Nourishment (i.e., sustenance and provisions, health and wellness, and fertility). With his analysis that all Indo-European myths are structurally interrelated, Dumézil believed that his functional elements could be found "from the Vedas of ancient India to the Eddas of pre-Christian Iceland" (Littleton, 1982, pp. 4-6).

Structuralism

Claude Lévi-Strauss (1908-2009) was renowned for evaluating multiple myths together in conjunction with structural principles. Lévi-Strauss tried to glean hidden meanings from

myths methodically, as he evaluated multiple myths for patterns, relationships, and isomorphisms. Lévi-Strauss claimed that “myths from widely divergent sources can be seen objectively as a set” (Lévi-Strauss, 1969, pp. 8, 1–32). Furthermore, Lévi-Strauss posited that:

Commentary on single myths in their own right is never adequate, and that original or authentic myths have never existed. As a mode of thought, any myth is an applied manifestation of the deep structures of the human mind. Finding these structures is the task Lévi-Strauss sets for anthropology in 1950. [Further,] he analyses myths not in isolation, but in terms of their relations to one another, [and claims that] each myth is made up of variants of basic elements which can be grouped as motifs ... within a larger system. The function of myths is to integrate otherwise incomprehensible problems and contradictions within a logical and intelligible structure. (Gérald Gaillard, 2004, pp. 182-183)

Conclusion on Mythology

It has taken over a century for these leading schools of thought to be established as potential approaches to mythology. Mythology research conducted at present owes much gratitude to the contributions of many predecessors in this field, especially to Krik, Burkert, Campbell, Malinowski, Dumézil, and Lévi-Strauss for their insights. Therefore, these professionals’ theories and frameworks build on each other and are related. Furthermore, they serve as the springboard for mythological approaches used in this research project.

Information Science

Information Science is an interdisciplinary field specializing in the study of information and how it is recorded, stored, and accessed by mankind. This field includes human information behavior, data science, information systems (IS), information communication technologies

(ICT), documents, and more. “The discipline overlaps with several others which focus on particular aspects of the communication of information” (Bawden & Robinson, 2022, p. 13).

Ultimately, Information Science is concerned with all forms and aspects (from abstract to sharply defined) of data, information, misinformation, and disinformation (entropic or organized), in relation to human hands and minds.

Information and *Document* are important but ambiguous terms with varied definitions that proliferate within information science and related disciplines. If one concerned with semantics were to question people from various backgrounds about what a document is, they would likely be subjected to multiple answers for this seemingly simple question. An editor may define a document as a printed or electronic book or magazine. A historian may define a document as either a primary or secondary source of information (i.e., a hand-written letter of correspondence or a reproduced collection of correspondence). An archeologist may consider that an amphora depicting Dionysus is a document. A single, concrete description of *information* or *document* is elusive.

Many information professionals have endeavored to transform general perceptions of these important terms to be less ambiguous. Some prominent information and document theoreticians who have explored these epistemological problems include Paul Otlet, Suzanne Briet, Claude Shannon, Russell Ackoff, Birger Hjørland, Luciano Floridi, and Michael Buckland. Buckland notably posited the information-as-thing (1991) framework and other distinctions correlating with *information* and *document* (1997).

Evaluating and understanding relevant aspects of the information science discipline is necessary to ascertain what constitutes a special item. Understanding this conceptual knowledge

proves necessary when conducting a cross-examination of Tolkien and Greco-Roman myths.

Literary research from the Information Science genre is focused chiefly on:

1. Information theory
2. Document theory
3. Information as Thing (Buckland, 1991)

Information Science findings additionally bound these theoretics:

- Philosophy
 - Metaphysics & ontology
 - Constructivism & Constructionism
 - Structural Functionalism
 - Ontic trust
 - Epistemology
 - Phenomenology
 - Theory de Novo
 - Angeletics
 - Semiotics
- Ackoff's DIKW (data, information, knowledge, wisdom) model (Bawden & Robinson, 2022)
- Categorization & Organization
- Collection
- Information Domains
- Information organization (IO) and Knowledge organization (KO)

Information Science literature that acutely enhanced myth analytics during this research project included one book and two influential articles: Introduction to Information Science (Bawden & Robinson, 2022), What is a "Document"? (Buckland, 1997), and Information as Thing (Buckland, 1991). Understanding models and frameworks about information and document theory is an important foundation of myth research, regardless of Tolkien and Greco-

Roman connections. A clear understanding of these concepts allows an examiner to discern what and how certain items are functionally significant in the narrative worlds. Such discernment also aids the mythologist in ranking special items in an order of importance.

Information

Information may be understood as data that has been organized, presented, or perceived with context and the propensity to change one's action, process, or purpose. Information is a complex, abstract, and contestable concept with no clear definition that is universally accepted among all disciplines (Bawden & Robinson, 2022). Consider how a standard dictionary may regard information.

1. a (1): knowledge obtained from investigation, study, or instruction.

1. b: The attribute inherent in and communicated by one of two or more alternative sequences or arrangements of something (such as nucleotides in DNA or binary digits in a computer program) that produce specific effects.

2.: Something (such as a message, experimental data, or a picture) which justifies [a] change in a construct (such as a plan or theory) that represents physical or mental experience or another construct. (*Definition of INFORMATION, 2024*)

The first dictionary definition raises epistemological concerns about the variations between *information* and *knowledge*. *Knowledge* is categorically different from *information*, which will be demonstrated later in this paper when discussing Russell L. Ackoff (1989). The sequential definitions have more to do with communication and Shannon Theory (1948), which will also be discussed later in this essay. Thus, dictionary definitions of information appear incomplete.

An agreed-upon definition of information has been in flux for many years and continuously debated. However, examining discourses from information theoreticians and scholars is a logical next step in ascertaining the meaning of information. Bawden and Robinson reference M. Burgin, W. Hofkirchner, and C. Shannon in that:

Due to such a diversity of information forms and shapes, researchers have built many specialized information theories trying to reflect important aspects of information ... We should not expect to find a single, simple idea of information which will do in all circumstances. (Bawden & Robinson, 2022, pp. 81-2)

Consider metaphysical and ontological attributes of information entities. If information is integrated into the fabric of the universe, then such an abundant element is certain to exist in a material source somewhere, at some time. When a living creature inevitably perceives one or more of these abundant elements, one may consider Claude Shannon's information communication theory, colloquially known as Shannon Theory (Bawden & Robinson, 2022, pp. 82-85), to understand the process in which information travels from point to point. Thus, information is an entity that exists somewhere and is communicated to a living, cognizant being somehow, at some point in time.

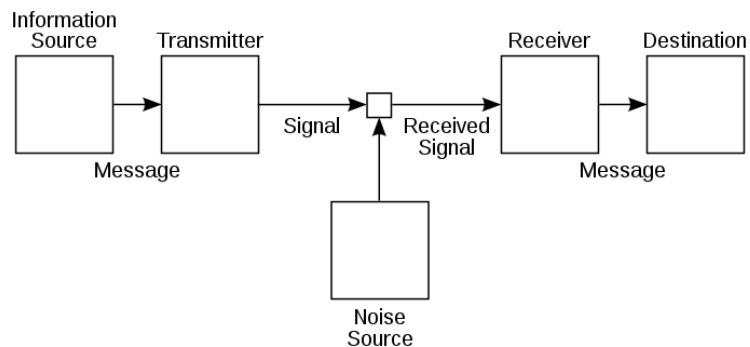


Figure 2: Information communication in Shannon theory (Shannon Communication System.Svg

- Wikipedia, *n.d.*)

Because information materially exists and is communicatively transferrable, it may possess or exhibit tangible and intangible properties. Information tangibly exists in a material and quantifiable form. Information may traverse point-to-point through a process of qualitative and intangible properties.

Information is not entropic data (which fits in another category of its own). Bawden and Robinson proposed that a social attribute of information “is the extent to which it is relevant to its potential users” (Bawden & Robinson, 2022, p. 88). Russell L. Ackoff significantly contributed to the world of information science with his DIKW (Data, information, knowledge, wisdom) model (1989). One may discern from this model that information fits in a linear progression path between the concepts of data and knowledge. Thus, information is contextual data that has been organized or consumed by a cognizant person to serve a purpose as knowledge.

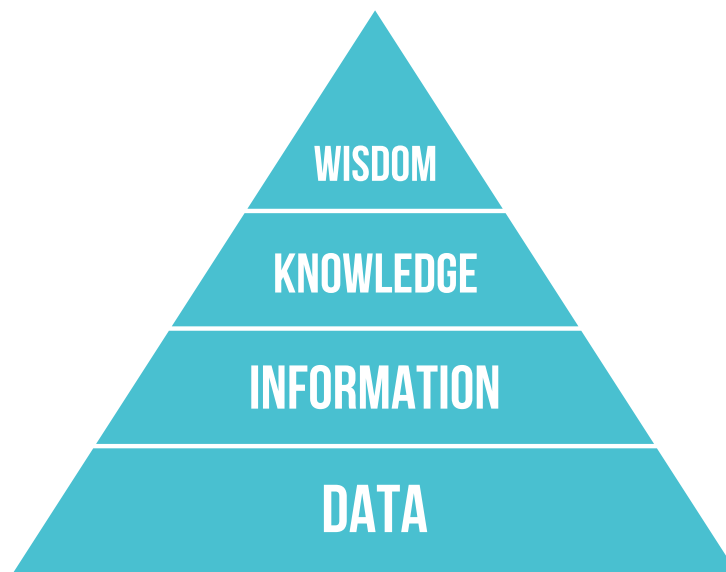


Figure 3: R.L. Ackoff's DIKW Model (1989), ("DIKW Pyramid" 2024)

One should consider a few other significant approaches to understanding information. For example, the nature of semiotics may be to communicate meaning (Bawden & Robinson, 2022, p. 90). One of Marcia Bates' definitions of information as an entity is "some pattern of organization of matter and energy given meaning by a living being (Bawden & Robinson, 2022, p. 91). Under his Philosophy of Information (PI), Luciano Floridi posited the following General Definition of Information (GDI): Well-formed, meaningful and truthful data, [where] individual data elements must be compiled into a collection [that] must be well-formed, meaningful, and truthful, as distinct from misinformation and disinformation" (Bawden & Robinson et al., 2022, p. 91). Mark Burgin drew upon mathematics when he contributed his General Theory of Information that "treats information as a form of energy which has [the] capacity to cause changes in a system" (Bawden & Robinson, 2022, p. 92). To use an example from Tolkien's legendarium and extrapolate on Bates and Burgin, the Valacirca constellation may be identified as a source of energy that conveys information. In this narrative instance, the goddess, Varda, created the constellation as a sign and challenge to the god Melkor (Tolkien, 2022, pp. 25, 48).

Here are other examples of how information exists and functions within certain mythological narratives: The divinely forged shield of Achilles fills spectators with fear and awe. Alternatively, it strengthens Achilles' resolve. To be more precise, Hephaistos integrates or organizes an incredible amount of data into a metallurgic work of wonder that is clearly perceived by mortal men in such a way that it changes their behaviors (Homer et al., 2000, pp. 183-188).

Tolkien's "Red Book of Westmarch" is important for Bilbo and Frodo as an act of chronicling their lives and passing on their legacy and existence. In this way, data is being organized with context in a life-changing fashion. The "Red Book of Westmarch" later assumes

alternative information attributes as a historical document to the Shire and Gondor. This document acts as a body of information within the story's narrative. It is also implied to be the narrative-transcending source of information, that Tolkien organizes and publishes for his real-world audience as they read H and LOTR books (Tolkien, 2005). Thus, it may be reaffirmed that information is data organized, presented, or perceived with context and the propensity to change one's action, process, or purpose. The next question one should ask is what to call a physical source of information.

Document

Documents are physical objects that embody information, in which case information may be relevant to either the organizer or the recipient/user. Ideally, but not always, the information would be relevant to both the organizer and the user. However, the time between these two parties' interaction(s) with any given document may span years. When exploring the concept of a document, one must first consider the form and function that a document can assume, then its place or role in time. Documents are also relative to whomever interacts with them, where, why, and how.

A document may be described functionally as having “the means to record signs and symbols and communicate across time” (Bawden & Robinson, 2022, p. 22). Examples of this concept go as far back as prehistory, including “cave paintings and other forms of rock art” (Bawden & Robinson, 2022, p. 21). A document is simply information that has been physically recorded onto or into a physical object. Therefore, a document must not be strictly limited to a portable class of object(s). However, most documents are portable and do not require the same level of excavation and movement as cave paintings, to be archived for later examination and study.

Accepting variations in semantics and form (i.e., hieroglyphics or script), consider various portable documents that have contained recorded information through the ages. Such documents include stone tablets, bone tags, clay objects (i.e., pottery), wood, bamboo, papyrus, cloth, and paper. Even metal craftworks have embodied recorded information in the form of script or hieroglyphs. Government-minted coins are modern examples of metallurgic documents. A Tolkienian example of a metallurgic document is the sword Andúril (Tolkien, 2005) based solely on the premise that it has a message physically inscribed along its blade.

The physical medium that a document may assume, is often relative to a period of time and common human methods of recording information. Exceptions do still occur in this age of portable documents. For example, in an age where portable documents are common, world-famous artist Robert Wyland is known for his non-portable “Whaling Walls” (D’Amelio, 2021). Documents may also be distinguished from other objects based on their relevant ability to inform or influence mankind directly.

A geological sample may have existed for millions of years. However, it may only be classified as a document when a human being has performed certain tests on it (i.e., fossil dating) for a particular purpose. Documents are relative to humans and human proximity. While lunar surface ore itself is not a document, a lunar ore sample in a museum exhibit is. This distinction matters due to the human proximity and the occurrence of interactions. In this example, a lunar ore document impacts a person’s actions, processes, or purposes.

Early European documentalists Paul Otlet (1868-1944), Henri La Fontaine (1854-1943), Frits Donker Duyvis (1894-1961), and Suzanne Briet (1894-1989), notably initiated discourses concerning the limits of what constitutes a document: “Any object should be regarded as a document if it provided information and evidence” (Bawden & Robinson, 2022, p. 100). As a

working example from Greco-Roman narratives, Achilles' divinely forged armor bore evidence of his divine connections and influenced all who saw it (Homer et al., 2000). Michael Buckland (1991) significantly contributed to document theory with his functional definitions and distinctions.

Information-as-Thing

Michael K. Buckland established three principles of information: (1) Information-as-process, (2) Information-as-knowledge, and (3) Information-as-thing (Buckland, 1991). While the first two principles are intangible, the third is tangible and, therefore, associated with tangible forms of information. Consider for example, how a database user or library patron interacts with data or information and “will become informed (information-as-process) and that there will be an imparting of knowledge (information-as-knowledge). But the means provided, what is handled and operated upon, what is stored and retrieved, is physical information (information-as-thing)” (Buckland, 1991).

The processes in which information moves from object to person or vice versa may be intangible. However, when information is embodied in a tangible object like a document, the information exhibits tangible properties. While documents and Buckland's information-as-thing exhibit some overlap, his third principle incorporates quantifiable information-bearing objects, signals, events, or other representations that are not strictly categorized as documents.

Consider how *The Horn of Boromir* (Tolkien, 2005) creates a signal that is a vessel of information to characters in the narrative. That signal cannot be categorized as a document but is functionally information-as-thing. The horn call gives pause to enemies and sends allies an urgent call for help. When leaving Rivendell, Boromir sounds his horn to announce a journey. When Boromir last sounds his horn near the Falls of Rauros, it is heard miles away in the far

reaches of Gondor, which gives information to his father Denethor and brother Faramir: “I heard the blowing of that horn: from the northward it seemed, but dim, as if it were but an echo in the mind. A boding of ill we thought it, my father and I” (Tolkien, 2005, p. 666).

Conclusion on Information Science

Exploring Information Science in the context of mythological narratives reveals the intricate relationship between data, information, and tangible artifacts within storytelling traditions. As an interdisciplinary field, information science provides valuable insights into how information is recorded and accessed, shedding light on the multifaceted nature of mythological interests such as special or magical items. Throughout this analysis, key concepts from Information Science literature, including information theory, document theory, and Buckland's information-as-thing framework, have served as foundational pillars for understanding the role of information within mythological narratives.

Central to understanding information is its inherently contextual nature, as evidenced by the diverse definitions and interpretations that proliferate within Information Science and related disciplines. The elusive nature of terms like information and document underscores the complexity of the concepts they represent, requiring nuanced approaches to their study and analysis. Information Science scholars (Claude Shannon, Russell Ackoff, Paul Otlet, and Michael Buckland to name a few) have contributed significantly to clarifying these epistemological challenges, offering frameworks that illuminate the tangible and intangible aspects of information entities.

In mythological contexts, special items are tangible manifestations of abstract concepts, embodying cultural significance and narrative symbolism. By applying insights from Information Science literature, researchers can discern the functional significance of these items

within mythological narratives, elucidating their roles in shaping character motivations and plot dynamics. Moreover, Information Science frameworks offer valuable tools for categorizing and organizing special items, facilitating a deeper understanding of their thematic coherence and cultural resonance.

Moving forward, the integration of Information Science methodologies into Classical Studies holds promise for further enriching the overall understanding of myth storytelling traditions across cultures and epochs. By embracing the interdisciplinary nature of Information Science, mythologists can explore new avenues of inquiry, revealing the dynamic interplay between myth, culture, and information. As researchers continue to unravel the complexities of mythological narratives, Information Science remains a vital lens through which to explore the enduring significance of storytelling in human society.

Comparative Analysis of Special Items in Tolkien and Greco-Roman Mythology: A Mytho-Information Science Approach

Information Science Approach to Mythical Items

Understanding information theory, document theory, and the information-as-thing framework allows a mythologist to identify special items based on their ability to inform or influence narrative characters and functionally categorize the items that act as either a document or information-as-thing. A concept map may be useful for making distinctions here. Beyond categorization, these theories also provide the backdrop with which special items can be ordered by their respective weight of influence. One may evaluate an item in any narrative and make discernments based on whether the item influences the knowledge or behavior(s) of one character or many. The more characters that are influenced by perceiving or interacting with the item, the more serious this item becomes as an informative document or information-as-thing.

Also, the magnitude of this item increases in value if it tends to influence persons with varying degrees of information. For example, an item that provokes different responses because of the varied information it provides is more impactful than an item that provides only one facet of information and provokes only one possible response.

Mythologist Approach to Documents and Information-as-Thing

After a list and/or concept map of items has been compiled and ordered, the next step is to draw from the Classical Studies concepts of functionalism, structuralism, and comparatism to analyze special items in Tolkien's mythology and Greco-Roman mythology for analogies and cultural links. One may begin by adding a 'function' category to the list and/or concept map. Next, a researcher can structurally analyze items based on their weight. Then, a researcher may compare items from different myths that exhibit the same function(s) and structural weight. A strong cultural link may be established by comparing a Tolkienian item with the same function and structural weight as a Greco-Roman item. A cultural link may also be established if the compared items bear functional similarities but do not match in their structural weight. However, this link may be deemed weaker, due to the weight variations. A comparison based on structural weight that lacks functional similarity does not seem valid.

Conclusion on Mytho-Information Science Approach

This blend of Mytho-Information Science offers a unique lens through which to explore the intricate tapestry of mythological narratives. By juxtaposing special items from these distinct myths, one may uncover underlying themes, cultural resonances, and symbolic meanings embedded within the narratives. This interdisciplinary endeavor bridges the academic fields of classical studies and information science, drawing upon the rich corpus of literature in both fields to inform an analysis. Through this Mytho-Information Science approach, it is possible not only

to identify parallels and divergences between special items (and cross-cultural myths by extension) but also to elucidate the broader implications for understanding mythological storytelling and the human experience.

Research Methods & Results:

This research project engages information and document theories to identify and categorize special items, articulated in Tolkien and Greco-Roman narratives. Identification and categorization allow one to distinguish qualities that set special items apart from ordinary items that humans or divinities create and interact with, then decipher the items' significance. Mythology research methods applied in this project may include a little psychoanalysis but especially engage functionalist, comparatist, and structuralist frameworks. Through comparative analysis, identifying objects with parallels or dichotomies across myths and establishing item/myth relationships is an important agenda of this project.

There is also an interest in exploring further elaborations, allusions, and allegories, regardless of object-myth duplicity and this will be discussed where possible. While this research project aims to indicate dichotomous anomalies, some of the special items (as far as this research has revealed) are unique to Tolkien's narratives, and the strength of cultural link inferences is low. Such items are still worth exploring but will be done so sparingly and primarily because of semantic interests and relative applicability to information theory and document theory.

Source Material

Tolkien and Greco-Roman literature can be divided into Primary and secondary source categories. Primary sources contain the (English translation) narratives pertinent to their respective literature class. Secondary literature contains scholarly reviews and analyses of the primary sources.

Tolkien

An imperative step in this project was to read through Tolkien's primary works published during his lifetime or posthumously, thanks to his son C. Tolkien and the Tolkien Estate. Tolkien mythos research was primarily focused on *H* (1937), *LOTR* (1954), and *SILM* (1977). Note that these citations refer to the original publishing date, not the published edition reviewed during research. Related Tolkien works that were researched included *The COH* (2007), *Beren and Lúthien* (2017), *The Fall of Gondolin* (2018), and *The Fall of Númenor* (2022). These four related works are expansions of their respective chapters (pp. 162-187, 198-226, 238-245, 257-282) from *SILM*.

Two of Tolkien's works that are significantly related to his (aforementioned) literature include *The Story of Kullervo* (Tolkien & Flieger, 2017) and *The Lay of Aotrou & Itroun* (Tolkien & Flieger, 2018). While these two works appear to be late entries in Tolkien's literature, they are actually derived from among his earliest works and ventures in scholarship. They are important because they inspired Tolkien's myth/story creation regarding the character Túrin Turambar (from *COH* & *SILM*) and *Beren and Lúthien* (Tolkien & Flieger, 2017). Other important documents that relate to Tolkien's myths include his letters, manuscripts, and biographies. However, these were not examined beyond the extent to which they were cited by Tolkien scholars' works that were evaluated during this research project.

Works produced by prominent Tolkien scholars, that were analyzed in this research, included *Tolkien and the Invention of Myth* (Chance, 2004), *There Would Always Be a Fairy Tale* (Flieger, 2017), *Tolkien in the New Century* (Houghton et al., 2014), and *The Ring Legends of Tolkien* (Day, 2019). These works were evaluated to understand better the function of special

items in Tolkien's narratives and to ascertain any information about potential links to Greco-Roman myths.

Greco-Roman Myths

When evaluating Greco-Roman myths for this research project's comparative analyses, primary literary sources included *Theogony & Works & Days* Hesiod (Evelyn-White, 2021), *The Homeric Hymns* (Shelmerdine, 1995), *The Essential Homer: Iliad & Odyssey* (Homer et al., 2000), *Theban Plays* (Sophocles et al., 2003), *Four Plays: Medea, Hippolytus, Heracles, Bacchae* (Euripides et al., 2004), *Apollodorus' Library and Hyginus' Fabulae* (Apollodorus et al., 2007), and *Metamorphoses* (Ovidius, Naso & Reed, 2018). When conducting research for this project, the following supplemental books were also examined for further insight or referential purposes: *Greek Mythology* (Albert & Richard, 2021), *Mythos* (Fry, 2019), *Heroes* (Fry, 2020), and *Mythology: Timeless tales of gods and heroes, 75th anniversary illustrated edition* (HAMILTON, 2017).

Studying methods, frameworks, and approaches laid down by prominent mythologists was significant in enhancing the analytical skills employed in this project. Those skills included psychoanalysis, functionalism, comparatism, and structuralism. The major scholars championing these analytical approaches to mythology are Joseph Campbell (1904-1987), Bronislaw Malinowski (1884-1942), Georges Dumézil (1898-1986), and Claude Lévi-Strauss (1908-2009). Knowledge of these scholars' mythological approaches enhanced perceptions and awareness while examining Tolkien and Greco-Roman myths. Mythological literature regarding these scholars' frameworks included: *The Hero with a Thousand Faces* (Campbell, 2008), *The Routledge Dictionary of Anthropologists* (Galliard, 2004), *Myth in Brill's New Pauly* (Graf et al., 2006), *The Raw and the Cooked* (Lévi-Strauss, 1969), *The New Comparative Mythology*

(Littleton, 1982), *Sex, Culture, and Myth* (Malinowski, 1962), *Myths and Legends of the World* (Mills, 2022), and *Malinowski and the Work of Myth* (Strenski, 1992).

Data Analysis

The evaluated special items from Tolkien and Greco-Roman mythologies belong to a class of objects that may be referred to as *Vessels of Divine Energy and Sustenance*. This research project began by exploring information science concepts, which were then applied to evaluations of special items articulated within Tolkien and Greco-Roman narratives. Certain criteria aid in making distinctions between ordinary items and special items.

Special items must exhibit qualities, in alignment with information theory, that cause them to influence a mortal's or divinity's perceptions and behaviors. Furthermore, special items must function as either a document or information-as-thing (Buckland, 1991) in that they are a material vessel of information. A qualitative attribute that increases an item's value, is its level of influence to a mortal or divinity. Special items tend to exhibit higher levels of influence than normal or average items. For example, to the character Gandalf, a wizard's rod is more influential than a smoking pipe (Tolkien, 2005). A quantifiable attribute that increases an item's influential value is the sum or average of how many narrative characters are affected by it. For example, Sauron's One Ring of Power directly or indirectly impacts more characters than the signet ring of Denethor (Tolkien, 2005). Lastly, a special item may be distinguished from an ordinary one if one or more of the main narrative characters purposefully interact with it. For example, Odysseus' bow is special from all others because of its relativity to him. Similarly, Achilles' original and divine sets of armor are coveted as a greater prize among Trojans and Greeks than the smaller bronze armor of an average Hoplite soldier (Homer et al., 2000).

Classical Studies frameworks such as comparatism, functionalism, and structuralism further aided in the process of evaluating special items from Tolkien and Greco-Roman narratives, when deciphering the potential for cultural links. Special items should be functionally similar across Tolkien and Greco-Roman narratives when making comparisons. For example, when comparing Frodo's elven-brooch of Lórien and mithril-mail hauberk (Tolkien, 2005, p. 889) with Odysseus' purple fleece cloak and golden brooch (Homer et al., 2000, p. 410), they are functionally similar as wearable tokens of identity. This functional comparison allows one to infer a cultural link across the Tolkien and Greco-Roman mythologies.

Special items may also be compared when their structure (main character/item relationships, character/item influence levels, and character/item influence count) is similar. For example, Achilles' divine armor is used by a main character, greatly influencing his resolve to wage bloody warfighting, and many Greeks compete for ownership of it after his death (Homer et al., 2000). Similarly, Frodo's mithril-mail hauberk, which belongs to the protagonist of LOTR, encourages Frodo to boldly traverse mortally dangerous combat arenas like the Mines of Moria, and orcs in the Tower of Cirith Ungol fight over it as a prize. This structural comparison allows one to infer a cultural link across the Tolkien and Greco-Roman mythologies.

Tolkien scholar Tom Shippey once wrote that "mythologies, like languages, can never be entirely individual productions" (Chance & Shippey, 2004, p. 160). To further highlight the potential for derivative links to Greco-Roman mythology, consider Jen Stevens' comments: "Comparing Tolkien's works to classical mythology can illuminate ways in which Tolkien, even if he did prefer Northern myth, was writing within a larger western European, classically derived tradition" (Chance & Stevens, 2004, p. 121). Most of the research for this report was conducted

by directly examining and comparing Tolkien and Greco-Roman narrative literature published in English.

Research efficiency regarding Tolkien and Greco-Roman mythology was achieved by focusing on narrative special items/artifacts correlating with information science concepts (especially information theory, document theory, and information-as-thing), then engaging comparative analysis in relation to functional and/or structural analytical methods. Cultural links to Tolkien and Greco-Roman legends are inferred based on the aforementioned criteria and the strength of that criteria. The resulting research report features a selection of special items from the two cultural mythologies/narratives and expands upon their relationships to theories, frameworks, and models within the information science and classical studies disciplines. Some objects presented in this report lean towards potential Tolkien uniqueness, based on the strength of comparative analysis. This report will not cover all the special items articulated in either mythology. However, an expanded study could discuss any special items not listed in this report.

Tolkien and Greco-Roman legends should be evaluated with some sense of analogy and homology. Discussing items described within the narratives may include the articulation of some allegory or allusion to real-world culture, people, places, things, and events. However, in-depth evaluations of world history and art fall outside this research project's scope. Thus, allegories or allusions may tend only to scratch the surface and be brief in form.

Vessels of Divine Energy/Sustenance

A Note on Structure & Presentation

Three sets of Tolkienian items in this class/category are simultaneously related and distinct. Because of their interrelated features, they will be presented sequentially before discussing Greco-Roman counterparts. The Greco-Roman counterparts do not produce or derive

from each other as the Tolkienian items do. However, the order in which they are presented should match and mirror the structural arrangement of comparative Tolkienian objects for congruency.

Tolkien's Legendary Items

Tolkien's Theogony and Cosmogony at a Glance

A brief summary of Tolkien's theogony and cosmogony provides a precursory understanding of special items that possess divine energy. It begins with Eru Ilúvatar who is the first and ultimate god described as "The One [or] He that is Alone" (Tolkien, 2022, p. 329). Eru Ilúvatar created the Valar "*Those with Power* [or] *The Powers* (singular Vala)" (Tolkien, 2022, p. 329), who became the pantheon of gods that govern the world. The Valar share functional similarities with the Greco-Roman Pantheon. Eru Ilúvatar also created a race of lesser immortals to serve, assist, and follow the Valar, which is called the Maiar (singular Maia). Sauron and the wizards (i.e., Gandalf) are from the race of Maiar. The Valar and Maiar together are called the Ainur (Tolkien, 2022).

Together, Eru Ilúvatar and the Ainur create Eä (the material world and universe). Eru sends the Ainur into the material world to shape it, govern it, and prepare it for the coming of Eru's races of Elves and Men. The Ainur split into opposing factions with the God/Vala Melkor (a.k.a. Morgoth) and his supporting Maiar on one end of the spectrum and a pantheon of Valar with their supporting Maiar positioned at the other end. Manwë is the king of this pantheon and has some functional similarities to Greco-Roman Zeus. Varda (a.k.a. Elbereth or Star Queen) is Manwë's Queen, who shares some similarities to Greco-Roman Hera, and is responsible for creating all the stars and constellations. The material world is also referred to as Arda (the Kingdom of Manwë) (Tolkien, 2022).

It should be noted that Tolkien disembarks from Greco-Roman and Norse mythology, with his factional split of divinities. While gods in previous mythologies carry out both morally virtuous and unvirtuous acts, Tolkien's gods are restricted to either or. In this way, Melkor/Morgoth and Manwë become functionally similar to the Christian Satan and Jesus. Melkor's Maiar followers include Sauron, Balrogs (demons of fire and shadow) Draugluin (Father of Werewolves), and Thuringwethil (Mother of Vampires). Ungoliant (Mother of spiders) is an anomalous entity that sides with Melkor for a time. Melkor creates all the monstrous races (dragons, trolls, orcs, etc.). Other Valar create birds and beasts. The God/Vala Aulë, who is a smith god similar to Greco-Roman Hephaistos and a giver of knowledge to elves, dwarves, and men which also makes him similar to Greco-Roman Prometheus. Aulë creates the race of dwarves (ironically similar to Hephaistos creating beings like Talos) and Eru blesses them with autonomous life. Aulë's divine spouse, Yavanna, creates all botanical things and the race of Ents. One other important divinity to know about is the Vala Mandos. Mandos pronounces fates and binds divine and elven spirits (especially after their bodies are destroyed). Mandos is also Tolkien's name for this god's kingdom where spirits are held in thrall after death (Tolkien, 2022, p. 340). Both the God and his domain are functionally similar to Greco-Roman Hades.

In Tolkien's cosmogony, there are 3 instances where divine energy sources are created to fill Arda with light. First are the Lamps of the Valar and these are destroyed by Melkor. Second are the Two Trees of Valinor¹ which Melkor and Ungoliant destroy. Third comes the Sun and Moon that persist in perpetuity. The Two Trees of Valinor are significant because the Silmarils, as well as the Sun and Moon, are directly derived from them. The goddess Yavanna created the Two

¹ The land of the Valar/Gods (a.k.a. Valinor, Aman, The Blessed Realm, or The Uttermost West) is "the land in the West, beyond the Great Sea, in which the Valar dwelt." (Tolkien, 2022, p. 314)

Trees of Valinor through the power of music² prior to the coming of Elves (a.k.a. Quendi). These two trees are described as follows:

Of all things which Yavanna made they have most renown, and about their fate all the tales of the Elder Days are woven. The one had leaves of dark green that beneath were as shining silver, and from each of his countless flowers a dew of silver light was ever falling, and the earth beneath was dappled with the shadows of his fluttering leaves. The other bore leaves of a young green like the new-opened beech; their edges were of glittering gold. Flowers swung upon her branches in clusters of yellow flame, formed each to a glowing horn that spilled a golden rain upon the ground; and from the blossom of that tree there came forth warmth and a great light. Telperion the one was called in Valinor, ... Laurelin the other was. ...

In seven hours the glory of each tree waxed to full and waned again to naught; and each awoke once more to life an hour before the other ceased to shine. Thus in Valinor twice every day there came a gentle hour of softer light when both trees were faint and their gold and silver beams were mingled. Telperion was the elder of the trees and came first to full stature and to bloom; and that first hour in which he shone, the white glimmer of a silver dawn, the Valar reckoned not into the tale of hours, but named it the Opening Hour, and counted from it the ages of their reign in Valinor. Therefore at the sixth hour of the First Day, and of all the joyful days thereafter, until the Darkening³ of Valinor, Telperion ceased his time of flower; and at the twelfth hour Laurelin her blossoming. And each day of the Valar in Aman contained twelve hours, and ended with the second mingling of the lights, in which Laurelin was waning but Telperion was

² Tolkien expresses a recurring theme of creation through the power of music in his legendarium.

³ The Darkening of Valinor refers to when Morgoth and Ungoliant (Mother of spiders) destroyed the Two Trees of Valinor. (Tolkien, 2022)

waxing. But the light that was spilled from the trees endured long, ere it was taken up into the airs or sank down into the earth; and the dews of Telperion and the rain that fell from Laurelin Varda hoarded in great vats like shining lakes, that were to all the land of the Valar as wells of water and of light. Thus began the Days of the Bliss of Valinor; and thus began also the Count of Time. (Tolkien, 2022, pp. 38-9)

Silmarils

The Silmarils are objects far beyond the significance or influence of any other item(s) in Tolkien's legendarium. They are vessels of divine energy infinitum that act as catalysts for many things. Tolkien scholars Tom Shippey and Verlyn Flieger indicated that their meaning and purpose remain incredibly ambiguous (Flieger, 2017, p. 100).

Paradoxically, the SILM narrative and the Silmarils themselves are Tolkien's first significant special items in his overall narrative chronology but comprehensible literature and information about them wasn't available until posthumously published works such as SILM were circulated. There is also a shift in Tolkien's writing style between the LOTR and SILM narratives. While the former may be read more naturally, the representational style of the latter is more akin to a handbook. These factors may largely contribute to the reason that many Tolkien readers experience the H and/or LOTR narratives before engaging SILM. While Silmarils are mentioned briefly and obscurely in LOTR, they are the kernel around which the entirety of Tolkien's SILM narrative revolves and act as precursory special items to the events of all Tolkien's narratives overall. While shifting between SILM and LOTR narratives, details about the Silmarils will be stitched together as fluently as possible for presentation purposes.

Since Tolkien readers typically begin with *H* or *LOTR*, we start by examining The *LOTR* index which describes the Silmarils as “Jewels” or “Great Jewel” (Tolkien, 2005, p. 1173). *SILM* describes them as:

Three great jewels [of unknown substance, but with an appearance of] the crystal of diamonds ... and yet ... more strong than adamant, so that no violence could mar it or break it within the Kingdom of Arda. ... And the inner fire of the Silmarils Fëanor⁴ made of the blended light of the Trees of Valinor, which lives in them yet, though the Trees have long withered and shine no more. Therefore even in the darkness of the deepest treasury the Silmarils of their own radiance shone like the stars of Varda; and yet, as were they indeed living things, they rejoiced in light and received it and gave it back in hues more marvelous than before. ... Varda hallowed the Silmarils, so that thereafter no mortal flesh, nor hands unclean, nor anything of evil will might touch them, but it was scorched and withered; and Mandos foretold that the fates of Arda, earth, sea, and air, lay locked within them. The heart of Fëanor was fast bound to these things that he himself had made. (Tolkien, 2022, p. 67)

In *LOTR* Appendix A, Tolkien gives a macro-descriptive account of the Silmarils origin and backstory, showcasing how they were vessels of divine energy crafted during the early days of Elves’ existence and habitation in the land of the gods. The Silmarils soon become catalysts for many events:

Fëanor was the greatest of the Eldar⁵ in arts and lore, but also the proudest and most selfwilled. He wrought the Three Jewels, The Silmarilli, and filled them with the radiance

⁴ Fëanor is an important elven character who crafted the Silmarils and will be discussed in greater detail later.

⁵ The Eldar and the Avari are the first generations of elves a.k.a. Quendi. The name Eldar is reserved for the elven tribes that traveled from Middle-earth across the sea to the Blessed Realm (where the gods live) and beheld the light of the Two Trees. The Avari are the elves who chose to remain in Middle-earth and did not make that journey. All

of the Two Trees, Telperion and Laurelin, that gave light to the land of the Valar. The Jewels were coveted by Morgoth the Enemy, who stole them and, after destroying the Trees, took them to Middle-earth, and guarded them in his great fortress of Thangorodrim. Against the will of the Valar Fëanor forsook the Blessed Realm and went in exile to Middle-earth, leading with him a great part of his people; for in his pride he purposed to recover the Jewels from Morgoth by force.⁶ Thereafter followed the hopeless war of the Eldar and the Edain⁷ against Thangorodrim, ...

Together ... [Beren and Lúthien] wrested a Silmaril from the Iron Crown of Morgoth. Elwing⁸ had in her keeping the Silmaril. ... Eärendil wedded Elwing, and with the power of the Silmaril passed the Shadows⁹ and came to the Uttermost West, and speaking as ambassador of both Elves and Men obtained the [divine] help by which Morgoth was overthrown. Eärendil was not permitted to return to mortal lands, and his ship bearing the Silmaril was set to sail in the heavens as a star, and a sign of hope to the dwellers in Middle-earth oppressed by the Great Enemy or his servants. The simarilli alone preserved the ancient light of the Two Trees of Valinor before Morgoth poisoned them; but the other two were lost at the end of the First Age. Of these things the full tale, and much else concerning Elves and Men, is told in *The Silmarillion*. (Tolkien, 2005, pp. 1033-4)

other elven tribes (Vanyar, Noldor, Teleri, Calaquendi, Sindar, Nandor, Laiquendi, Úmanyar, and Mori-quendi) are descended from these two tribes. (Tolkien, 2022)

⁶ This stylistically correlates with Greco-Roman mythology's hubris themes and implications of Prometheus' gift of fire to man.

⁷ An early race of mortal men (Tolkien, 2022)

⁸ Elwing is the granddaughter of Beren and Lúthien. She also inherits their Silmaril after it is set into a Carcanet. (Tolkien, 2005 and 2022)

⁹ After a large host of Eldar were exiled from the Blessed Realm, the gods magically blockaded it. However, the Silmaril, with its divine energy, acted as a key for Eärendil to enter within. (Tolkien, 2022)

Fëanor was the greatest non-divine craftsman in Tolkien's mythology. As a craftsman and inventor, his similarity to the Greek Daidalos is compelling. Fëanor encapsulated the divine light and essence of the Two Trees in the Silmarils. This act of a non-divine being creating an item that could and did house divine energy is the first of its kind in Tolkien's legendarium and a miracle. The only other instance that closely approaches such a feat, is Sauron pouring his own divine essence into his One Ring of Power. The Silmarils become a greater miracle after Melkor destroys the Two Trees of Valinor because these special items hold enough of the original divine energy that they are the only possibility by which the Valar can resuscitate the Two Trees. However, since the process of restoring the Two Trees would likely destroy Fëanor literally, the Valar abstain from attempting such an act for virtuous reasons.

The withered Two Trees of Valinor did produce a surviving fruit and flower which become the Sun and Moon, but neither of these possess as much of the original divine energy as the Silmarils. Thus, the value of the Silmarils increased significantly following the destruction of the Two Trees. Ensuing events from the narrative further increased the Silmarils' value.

Although the Silmarils began as a set of sublime craft, possessing unsullied light or divine energy, they soon provoke covetousness in divine and earthly (elves, dwarves, and men) races. The Silmarils are so coveted, that a web of tragedy envelops them. An early tragic event that befalls these special items is Tolkien's first chronological act of theft and murder. Here, the divinity Melkor steals them and slays Fëanor's father King Finwë in the process. Shortly after that event, is Tolkien's first example of serious (even taboo) oath.

Then Fëanor swore a terrible oath. His seven sons leapt straight-way to his side and took the selfsame vow together, and red as blood shone their drawn swords in the glare of the torches. They swore an oath which none shall break, and none should take, by the name

even of Ilúvatar, calling the Everlasting Dark upon them if they kept it not; and Manwë they named in witness, and Varda, and the hallowed mountain of Taniquetil, vowing to pursue with vengeance and hatred to the ends of the World Vala, Demon, Elf or Man as yet unborn, or any creature, great or small, good or evil, that time should bring forth unto the end of days, whoso should hold or take or keep a Silmaril from their possession.

(Tolkien, 2022, p. 83)

Similar to Norse and Greco-Roman mythology, oaths are regarded as a serious matter. This taboo oath, combined with a previous oath of sovereignty and friendship, forces a vast population of Elves into a perilous and treacherous quest to depart the Blessed Realm and reclaim the Silmarils. Due to the present value of the Silmarils and oaths, the quest-driven Elves commit the first act of kin slaying on the shores of the Blessed Realm, which leads to divine condemnation and curses, as well as exile. Another set of tragedies befalls the migrating elves as they split into two hosts. The host that follows Fëanor sunders itself from the Fingolfin's tribe as they take the best means of travel for themselves and unwittingly commit the first act of infanticide. Many of the host that follows Fingolfin die in the perilous journey through the arctic Helcaraxë¹⁰. When the elven tribes following Fëanor and Fingolfin do arrive at Middle-earth, they wage wars for thousands of years against Morgoth and his forces and experience episodes of deadly infighting with each other. From the narrative start to finish, the Silmarils are catalysts for all sorts of tragedy.

There is one event, where the Silmarils are the center of fantasy romance. That involves the story of Beren and Lúthien who have a whole chapter from SILM and a stand-alone novel dedicated to them. Early in this chapter, the Maiar spirit Melian who is the only divinity to marry

¹⁰ Helcaraxë "The strait between Araman and Middle-earth; also referred to as the Grinding Ice. (Tolkien, 2022, p. 335)

a mortal or semi-mortal (that is King Thingol) recognizes the symbolic danger of desiring a Silmaril and issues a warning against it. However, Beren and Lúthien succeed in recapturing one of the Silmarils at great cost and adding a bitter-sweet tale to the web of their influence on the world of mortals and the divine. Sons of Fëanor learn of the reclaimed Silmaril and following their taboo oath, they mortally wound Beren in a failed attempt to reclaim it for themselves.

Ultimately Beren and Lúthien are resurrected and allowed to live a mortal second life of peace in a corner of Middle-earth until their natural death. At that time, they beget Dior who later marries Nimloth. Dior and Nimloth beget Elwing, who becomes an important character later. Meanwhile, Beren and Lúthien's reclaimed Silmaril becomes the possession of the Elven King Thingol as bride price. Despite Queen Melian's warning, King Thingol holds this treasure for a while and decides to do something with it after he receives another fabled treasure called the Nauglamír. The Nauglamír is a unique carcanet that former elven prince Finrod Felagund commissioned dwarves to craft for him (while he was alive) integrating a collection of his jewels from the Blessed Realm:

It was a carcanet of gold, and set therein were gems uncounted from Valinor; but it had a power within it so that it rested lightly on its wearer as a strand of flax, and whatsoever neck it clasped it sat always with grace and loveliness. (Tolkien, 2022, p. 114)

The theme of covetousness begetting tragedy repeats itself while the Silmaril and Nauglamír are in King Thingol's possession:

Thingol sat long in silence, gazing upon the great treasure [Nauglamír] that lay upon his knees; and it came into his mind that it should be remade, and in it should be set the Silmaril. For as the years passed Thingol's thought turned unceasingly to the jewel of Fëanor, and became bound to it, and he liked not to let it rest even behind the doors of his

inmost treasury; and he was minded now to bear it with him always, waking and sleeping. (Tolkien, 2022, p. 232)

King Thingol commissions dwarves to combine these two special items for him. When this Nauglamír/Silmaril carcanet is crafted, Fëanor's sons learn of it and pursue both the Silmaril and their oath. King Thingol, Dior, Sons of Fëanor, other elves, and dwarves end up fighting over the carcanet and killing each other. This starts a racial tension between elves and dwarves that persists through the rest of Tolkien's narratives. The newly forged Nauglamír/Silmaril carcanet is recovered and becomes a bridal necklace for a resurrected Lúthien. Eventually this carcanet is inherited by her granddaughter Elwing, who marries a hero named Eärendil.

While the main narrative of SILM ends with a chapter on Eärendil, we turn to the LOTR narrative for a few brief (and seemingly obscure to anyone who hasn't read SILM) references to the Silmarils.

First, Strider/Aragorn comforts the Hobbits (his new companions and the reader's protagonists) with a piece of epic poetry, followed by explanatory prose:

That is a song, ... It tells of the meeting of Beren son of Barahir and Lúthien Tinúviel. ... In those days the Great Enemy¹¹, of whom Sauron of Mordor was but a servant, dwelt in Angband in the North, and the Elves of the West coming back to Middle-earth made war upon him to regain the Silmarils which he had stolen; ... and together they passed through great dangers, and cast down even the Great Enemy from his throne, and took from his iron crown one of the three Silmarils, brightest of all jewels, to be the bride-price of Lúthien to Thingol her father. (Tolkien, 2005, p. 193)

¹¹ The primordial and evil divinity Melkor is eventually renamed Morgoth by Fëanor. It later becomes forbidden for anyone to speak, even the name of Morgoth, which is why Aragorn refers to him simply as "The Great Enemy." One of the themes in Tolkien's legendarium is the power of names and naming. (Tolkien, 2005 and 2022)

In short order, Strider/Aragorn described how the Silmarils were catalysts for war and a unique marriage of elf and mortal. He later vaguely describes how his ancestor and mortal hero Eärendil came to possess and wear a “Silmaril upon his brow” (Tolkien, 2005, p. 194). It is possible to infer that the character Aragorn is now wondering whether a special item such as a Silmaril will also be the catalyst for his own interracial marriage to the Elven princess Arwen.

Bilbo further describes one of the Silmarils when he recites epic poetry in a reception hall at Rivendell/Imladris. In this sequence, Bilbo provides a backstory to the Elendilmir (Star of Eärendil) that becomes the cosmic Silmaril and source of energy in Galadriel’s eventual lamp gift to Frodo. Bilbo’s epic poetry notably articulates a Silmaril’s transformations from earthly carcanet to cosmic star:

There flying Elwing came to him, and flame was in the darkness lit; more bright than light of diamond the fire upon her carcanet. The Silmaril she bound on him and crowned him with the living light, and dauntless then with burning brow he turned his prow; ... A wanderer escaped from night to haven white he came at last, ... A ship then new they built for him of mithril and of elven-glass with shining prow; ... the Silmaril as lantern light and banner bright with living flame to gleam thereon by Elbereth herself was set ... a wandering light, ... burning as an island star ... But on him mighty doom was laid, till Moon should fade, an orbéd star to pass, and tarry never more ... to bear his shining lamp afar, the Flammifer of Westernesse. (Tolkien, 2005, pp. 234, 236)

Returning to SILM reveals a description of how Silmarils as physical items are lost or made inaccessible. Eärendil and his Silmaril are transformed into a star which is an informative and inciting incident for the ending of the story. The surviving sons of Fëanor see the star and recognize it literally and symbolically. They loathsomely pursue their oath to reclaim the last two

Silmarils in a final Silmaril-centric and tragic sequence. Fëanor's sons Maedhros and Maglor didn't want to pursue the jewels at this point in the story but were afraid of the consequences if they broke their oath. After rationalizing action against oath, they murder and steal the Silmarils. While, holding the Silmarils their hands are scorched which confirms to them that they and their act are evil. They commit suicide by jumping into a volcanic chasm or drowning in the deep sea.

Thus it came to pass that the Silmarils found their long homes: one in the airs of heaven, and one in the fires of the heart of the world, and one in the deep waters. ... Those jewels could not be found or brought together again unless the world be broken and remade.

(Tolkien, 2022, p. 254)

At various points in the LOTR (pp. 712, 720, 950), Sam engages functional myth, at a narrative level, as he recounts Beren and his captured Silmaril. These accounts illustrate the Silmaril's continued power to inform and influence as their legend encourage Sam and Frodo in their present situation(s).

From an information science outlook, Silmarils can be seen as repositories of information within Tolkien's mythos. They contain the essence of the light of the Two Trees of Valinor, representing a significant aspect of Middle-earth's history and lore. The Silmarils can be viewed as carriers of valuable and symbolic information from an information theory perspective. Their creation involved capturing light and essence, which can be analogized to encoding information in a tangible form.

Document theory can be applied to analyze the contextual representations of Silmarils in the SILM narrative. The sight of these special items contributes to the relative character's understanding of prior events centered around them. Silmarils as documents operate to influence character development as spot decisions are continuously made.

Silmarils exemplify the concept of information-as-thing by embodying tangible objects imbued with symbolic meaning and cultural significance. They are not merely abstract ideas but physical artifacts with intrinsic value within the fictional world of Middle-earth. The Silmarils are coveted by characters within the SILM narrative, representing both beauty and peril. Additionally, the Silmarils contain encoded knowledge about Middle-earth's history, power, and destiny. Their possession or destruction has profound implications for Middle-earth's fate and its inhabitants.

In summary, the Silmarils correlate with information, document theory, and information-as-thing by serving as repositories of symbolic information, central elements of narrative discourse, and tangible artifacts imbued with cultural and narrative significance within Tolkien's mythology.

Sun & Moon

As previously mentioned, the third instance of divine energy giving light to the world come in the form of a Sun and Moon. Tolkien's sun and moon are items or objects that share similarities with the Greco-Roman sun and moon. In Tolkien's theogony, the sun and moon are derived from the last fruit and flower of The Two Trees that the gods then set in the sky for Maiar to take along paths through the cosmos.

As hope failed ... Telperion bore at last upon a leafless bough one great flower of silver, and Laurelin a single fruit of gold. These Yavanna took ... [and] gave to Aulë¹², and Manwë hallowed them, and Aulë and his people made vessels to hold them and preserve their radiance ... These vessels the Valar gave to Varda, that they might become lamps of

¹² Tolkien articulates that Aulë “wrought ... many beautiful and shapely works both openly and in secret. Of him comes the lore and knowledge of the Earth and of all things that it contains ... Aulë ... is named the Friend of the Noldor, for of him they learned much in after days, and they are the most skilled of the Elves; ... The Noldor also it was who first achieved the making of gems; and the fairest of all gems were the Silmarils, and they are lost.” (Tolkien, 2022, pp. 318 and 39).

heaven, outshining the ancient stars, being nearer to Arda; and she gave them power to traverse the lower regions of Ilmen¹³, and set them to voyage upon appointed courses above the girdle of the Earth from the West unto the East and to return.

Isil the Sheen the Vanyar¹⁴ of old named the Moon, flower of Telperion in Valinor; and Anar the Fire-golden, fruit of Laurelin, they named the Sun. ... The Sun was set as a sign for the awakening of Men and the waning of the Elves, but the Moon cherishes their memory. The maiden whom the Valar chose from among the Maiar to guide the vessel of the Sun was named Arien, and he that steered the island of the Moon was Tilion. (Tolkien, 2022, p. 99)

Tolkien explains lunar and solar eclipses, phases, and other cosmic variations by assigning behavioral traits like love and desire to the Maiar (Arien and Tilion). The Sun and Moon are also informative and influential to Melkor/Morgoth, Elves, and Men. They cause Melkor distress as he comprehends who made them but knows he can't destroy them in his permanently diminished and weakened state. Fingolfin and his tribe are encouraged by the moon's first appearance, as they set foot on Middle-earth. The first Men wake to the initial rising of the sun, revere it symbolically, and follow it west, where they meet elves, form alliances with them, and learn about the gods from them (Tolkien, 2022).

The sun and moon in Tolkien's mythos can be seen as informative documents that convey knowledge to characters within Middle-earth. They provide illumination, guidance, and a sense of time and direction to the land's inhabitants. From an information theory perspective, the sun and moon carry environmental and celestial data. Their movements and phases convey

¹³ "Ilmen [is] the region above the air where the stars are." (Tolkien, 2022, p. 336)

¹⁴ The Vanyar are among the first generations of Elves (Tolkien, 2022).

information about the passage of time, seasons, and celestial events, influencing various aspects of life in Middle-earth.

The sun and moon embody information-as-thing by serving as tangible celestial bodies with symbolic and narrative meaning. While shaping the worldview of Middle-earth's inhabitants, their movements, eclipses, and celestial alignments are interpreted as omens, prophecies, and portents, reflecting the interconnectedness between the physical world and metaphysical realms. Additionally, the sun and moon contain encoded knowledge about the fictional universe's natural order, cosmological principles, and spiritual dimensions.

In summary, the sun and moon in Tolkien's mythology correlate with information and document theory, as well as information-as-thing, by serving as sources of celestial data and tangible embodiments of symbolic and cultural significance within the fictional world of Middle-earth.

The Phial of Galadriel

Divine energy from the Two Trees of Valinor is in the Silmarils, and one of those becomes The Star of Eärendil, which gives light and power to the Phial of Galadriel¹⁵ that Frodo receives as a helping gift LOTR. Thus, this magic lamp is a vessel of divine energy. When Elven Queen Galadriel assumes the role of helper and mentor to the hobbits Sam and Frodo, her gift to Frodo critically aids him during various intervals of the LOTR narrative.

‘And you, Ring-bearer,’ she said, turning to Frodo. ‘I come to you last who are not last in my thoughts. For you I have prepared this.’ She held up a small crystal phial: it glittered as she moved it, and rays of white light sprang from her hand. ‘In this phial,’ she said, ‘is caught the light of Eärendil’s star, set amid the waters of my fountain. It will shine still

¹⁵ The Phial of Galadriel is alternatively referred to as “star-glass” or “Lady’s glass” (Tolkien, 2005, p. 1169)

brighter when night is about you. May it be a light to you in dark places, when all other lights go out. Remember Galadriel and her Mirror!’ (Tolkien, 2005, p. 376)

The first functional use of the Phial of Galadriel is manifested in the narrative when Frodo inadvertently uses it near the city of Minas Morgul. As the Witch King of Angmar rides out to war, his dominating presence tempts Frodo to use the One Ring of Power, revealing himself and failing the quest. However, he unwittingly grabs onto the Phial of Galadriel and receives courage and the ability to stay hidden while enemies pass. Shortly after, Sam encouragingly recalls the legend of Beren and his Silmaril and reminds Frodo that he has this special item (phial) with derived divine power.

In Shelob’s¹⁶ lair, Frodo remembers the Phial of Galadriel just in time to save he and Sam mid-attack. This narrative instance serves to demonstrate how this item performs and exhibits further uses:

‘The star-glass?’ muttered Frodo, as one answering out of sleep, hardly comprehending. ‘Why yes! Why had I forgotten it? *A light when all other lights go out!* And now indeed light alone can help us.’ Slowly his hand went to his bosom, and slowly he held aloft the Phial of Galadriel. For a moment it glimmered, faint as a rising star struggling in heavy earthward mists, and then as its power waxed, and hope grew in Frodo’s mind, it began to burn, and kindled to a silver flame, a minute heart of dazzling light, as though Eärendil had himself come down from the high sunset paths with the last Silmaril upon his brow. The darkness receded from it, until it seemed to shine in the center of a globe of airy crystal, and the hand that held it sparkled with white fire.

Frodo gazed in wonder at this marvelous gift that he had so long carried, not guessing its full worth and potency. Seldom had he remembered it on the road, until they

¹⁶ Shelob was a monstrous spider descended from Ungoliant (Tolkien, 2022)

came to Morgul Vale, and never had he used it for fear of its revealing light. *Aiya Eärendil Elenion Ancalima!* He cried, and knew not what he had spoken; for it seemed that another voice spoke through his, clear, untroubled by the foul air of the pit. (Tolkien, 2005, p. 720)

The power of the Phial of Galadriel also aids Sam and Frodo in defeating the Two Watchers (pp. 902-3, 914-15) and becomes a hero's ceremonial token (p. 952). The lamp is symbolically used when Frodo departs Middle-earth with it, returning divine power to the land of the divine¹⁷. (Tolkien, 2005)

From an information theory perspective, the Phial of Galadriel can be seen as a carrier of symbolic and metaphysical information. Its radiance provides Sam and Frodo with messages of hope, courage, and resilience in the face of darkness and adversity. It is also a document because it is a portable object with its conveyances of information.

The Phial of Galadriel is representative of information-as-thing because of its material manifestation of Eärendil's starlight, a symbolic repository of divine presence and intervention, which influences the behavior of Shelob and the Two Watchers of Cirith Ungol. Frodo and Sam's usage of it represents a tangible connection to Middle-earth's higher powers and broader cosmic forces. In summary, the Phial of Galadriel correlates with information, document theory, and information-as-thing by providing informative divine energy and metaphysical significance within Middle-earth.

¹⁷ Frodo departs Middle-earth with wizards and elves bound for Valinor.

Greco-Roman Legendary Items

A Note on Greco-Roman Counterparts

The Silmarils may be functionally compared to five items/entities from the Greco-Roman myth. These mythical items/entities share functional similarity with Tolkien's Silmarils via certain attributes.

Cornucopia

The Cornucopia or Horn of Plenty is a divine Greco-Roman item with an infinite supply of energy/sustenance. This sustenance infinitum is attributable to the Silmarils for their limitless provision and their divine origin.

As an infant playing with his beloved nanny-goat and unaware of his own strength, Zeus accidentally snapped off one of her horns. By virtue of his already prodigious divine powers, this broken horn instantly filled itself with the most delicious food ... a supply that never gave out no matter how much was taken from it. Thus originated the celebrated Horn of Plenty, the CORNUCOPIA. (Fry, 2019, p. 45)

It is not clear as to how many mortals or divinities directly interact with the Cornucopia but at least four parties (Amaltheia, Zeus, Acheloos, and Heracles) are cited. An account of this special item circulating and influencing others can be found in a passage from AL:

When Heracles came to Calydon, he became a suitor for Deianeira, Oineus' daughter. For her hand in marriage he wrestled with Acheloos, and he broke off one of his horns when he changed himself into a bull. He married Deianeira, and Acheloos got his horn back by trading it for the horn of Amaltheia. Amaltheia was Haimonios' daughter, and she had a bull's horn. This horn, according to Pherecydes, had such great power that it could

provide meat or drink aplenty-whatever one might ask for. (Apollodorus et al., 2007, p. 40)

From an information science perspective, the Cornucopia conveys information about prosperity and plenty. As a physical document, it carries cultural significance and represents divine generosity and abundance. Regarding information-as-thing, the Cornucopia can be seen as a tangible artifact imbued with symbolic and practical meaning.

The Cornucopia symbolizes abundance and prosperity in various mythological and cultural contexts. From an information science perspective, this symbolism conveys essential cultural information about ideals related to wealth and plenty. As a physical artifact, the Cornucopia carries deep cultural significance, representing the concept of divine generosity and the bountiful harvest. Its portrayal in mythological narratives and its use in rituals and celebrations highlight its importance as a cultural symbol. The symbolic meaning of the Cornucopia extends beyond ancient mythology into modern-day contexts. For example, during the American Thanksgiving holiday, the Cornucopia is often depicted as overflowing with nutritious foods, emphasizing themes of gratitude, abundance, and community. In addition to its literal representation, the Cornucopia is an allegorical symbol in various contexts. Its portrayal in art, literature, and popular culture reflects broader themes of prosperity, fulfillment, and generosity. Beyond its traditional symbolism, the Cornucopia continues to inspire contemporary interpretations. For instance, the Pamp Suisse precious metals manufacturer uses an alternative version of the Cornucopia, filled with coins instead of food, to symbolize wealth, prosperity, and financial abundance.

By exploring the cornucopia's multifaceted symbolism and cultural significance, we gain deeper insights into how mythological artifacts convey meaning and contribute to our

understanding of cultural values and ideals. In Tolkien's legendarium, the Silmarils share a thematic resonance with the Cornucopia, albeit with distinct cultural and narrative contexts. Like the Cornucopia, the Silmarils embody the concept of abundance and divine blessing, albeit through the lens of elvish craftsmanship and the radiance of the Two Trees of Valinor. Crafted by the skilled hands of Fëanor and containing the light of the Two Trees, the Silmarils represent the pinnacle of beauty and abundance in Tolkien's mythology. Despite their physical form differing from the Cornucopia, the Silmarils similarly serve as symbols of divine generosity and the inexhaustible wealth of creation. Both artifacts transcend their mythological origins to become enduring symbols of prosperity, fulfillment, and spiritual enlightenment, enriching our understanding of cultural values and ideals across mythological traditions.

The Silmarils and Cornucopia are structurally similar in that they are each interacted with by a handful of main characters from either mythology. However, they structurally differ in their impact on the overall narratives and respective populations. The Cornucopia extends beyond the narrative to the real world, impacting many people through allegory and symbolism.

Harmonia's Carcanet

As previously mentioned, the Nauglamír (a significant item in its own right) and one of the Silmarils are combined which enhances their desirability, portability, recognition, tragedy, and other influences. The illegitimate daughter of Ares and Aphrodite who married Cadmus was Harmonia. Her wedding necklace is a significant and comparable item from Greco-Roman mythology, due to its divine origin, beauty, and functional influence. "Cadmos gave Harmonia a dress and the necklace made by Hephaistos¹⁸" (Apollodorus et al., 2007, p. 47). Hephaistos is famous for crafting the most beautiful and spectacular objects that have no equal created by

¹⁸ Hephaistos' Roman name was Vulcan.

mortals or other gods. He is also famous for creating such alluring objects with ulterior motives of entrapment and retaliation. “Minerva and Vulcan gave her a gift, a dress that was imbued with crimes, and this is why Harmonia’s descendants were all cursed” (Apollodorus et al., 2007, pp. 148-9).

It is known that in Greco-Roman mythology, Hephaistos/Vulcan was the proper spouse of Aphrodite/Venus and that she often shared a love bed with Ares/Mars. Olympian Gods punishing each other indirectly by going after their adulterous spouses’ children, is also a common trope in Greco-Roman mythology. For example, Hera/Juno frequently does such things to many illegitimate offspring of Zeus/Jupiter. Since Hephaistos made Harmonia’s carcanet It is possible to infer that her wedding necklace was indeed divinely cursed. Deviating from direct narratives, an embellished account supports this claim:

But no wedding gift outshone the necklace that Cadmus conferred upon his bride. It was the most beautiful piece of jewelry¹⁹ yet seen. Fashioned from the choicest chalcedony, jasper, emeralds, sapphires, jade, lapis, amethyst, silver, and gold, it caused gasps of wonder amongst the guests when he clasped it about his beautiful wife’s neck²⁰. ... For the cruel and shocking truth about the necklace was that it was cursed. Deeply and irrevocably cursed. Miserable misfortune and tragic calamity would rain down upon the heads of whosoever wore or owned it. (Fry, 2019, p. 193)

Harmonia’s carcanet is comparable to the Silmaril/Nauglamír simply because both items are stunningly beautiful carcanets and because they are both of divine origin. If Harmonia’s carcanet was cursed, then there is also compelling reason to align Harmonia’s carcanet with

¹⁹ English spelling of Jewelry

²⁰ “‘A garland of golden light dangling almost to the ground’ is Roberto Calasso’s excellent description in his book *The Marriage of Cadmus and Harmony*” (Fry, 2019, p. 193)

Tolkien's Silmaril/Nauglamír carcanet, based on the principle of its influence. Specifically, they are both cursed items that are catalysts for tragedy.

In the realm of information science, Harmonia's Carcanet emerges as a portable artifact (document) rich in encoded information, encapsulating both aesthetic allure and inherent peril due to its cursed nature. This divine adornment serves as a conduit for conveying essential cultural narratives surrounding divine actions, retribution, jealousy, and the tragic consequences entwined with its possession. Functioning as a physical embodiment of encoded information, Harmonia's Carcanet weaves together symbolic and tangible qualities that resonate throughout mythological discourse.

Encoded within Harmonia's Carcanet lies a multifaceted narrative, echoing the consequences of divine intervention and mortal folly. Its divine origin and cursed essence render it a quintessential exemplar of information-as-thing, wherein its material presence symbolizes a cautionary tale laden with moral and existential significance. As a tangible artifact, Harmonia's Carcanet transcends mere adornment, assuming the role of a didactic medium through which cultural values, ethical quandaries, and existential dilemmas are communicated.

Furthermore, Harmonia's Carcanet represents a convergence of beauty and danger, encapsulating the dichotomy inherent in mythological artifacts. Its allure lies not only in its aesthetic splendor, fashioned from the choicest materials, but also in its intrinsic peril, foretelling the tragic fate that befalls those who dare to possess it. This duality mirrors the complex interplay between knowledge and peril, wherein the acquisition of wisdom often accompanies unforeseen consequences.

The functional similarity between Harmonia's Carcanet and the Silmaril inlaid Nauglamír lies not merely in their physical attributes but in their catalytic role in precipitating tragedy. Both

artifacts, exquisite in their craftsmanship and divine in origin, serve as harbingers of misfortune, catalyzing a chain of events that culminate in tragedy and sorrow. Just as Harmonia's Carcanet bears the curse of divine retribution, so too does the Silmaril inlaid Nauglamír carry the weight of its tumultuous history, fueling the flames of conflict and despair.

Structurally, both the Silmaril inlaid Carcanet and Harmonia's Carcanet exhibit remarkable parallels in their design and function within their respective mythological contexts. Each carcanet serves as a tangible manifestation of divine craftsmanship, crafted with meticulous care and imbued with celestial radiance. Both artifacts represent the pinnacle of beauty and elegance, fashioned from exquisite materials that evoke awe and wonder in those who behold them. Moreover, both carcanets bear the weight of tragic destinies, their fates entwined with the tumultuous course of mortal affairs. Just as the Silmaril inlaid Carcanet serves as a catalyst for conflict and betrayal among several key characters in Tolkien's legendarium, including the descendants of Beren and Lúthien as well as Fëanor's sons, Harmonia's Carcanet influences the lives of multiple figures in Greco-Roman mythology, such as Harmonia herself, Cadmus, and their descendants. Despite their cultural and narrative differences, these carcanets share a structural symmetry that underscores their universal significance as symbols of divine grace and mortal folly.

The Golden Fleece

The Golden Fleece is comparable to the Silmarils on four accounts. First, it is also a divine item, which is derived from a divine entity²¹. Second, the original divine entities (Golden Ram and Two Trees of Valinor) are slain, albeit for different reasons. Third, the Golden Ram (after sacrifice to Zeus) was set in the heavens as Aries the Ram. Alternative to the Star of

²¹ The Golden Ram was the child of Poseidon and Theophane (Apollodorus et al., 2007, p. 214).

Eärendil, it is the original entity and not the byproduct that become astral. However, the divine to cosmic transformation is notable. Fourth, it is the catalyst for a major and seemingly unachievable quest that involves exile, international conflict, generations of bloodshed, (including kin slaying) and all the major heroes and deities from Greco-Roman mythology. One might venture to say that Tolkien's SILM narrative is his (pun intended) wheel of fire²². (Fry, 2020)

In the context of information science, the Golden Fleece emerges as a multifaceted artifact rich in encoded information, symbolizing power, kingship, and the quest for glory. Much like the Silmarils in Tolkien's legendarium, the Golden Fleece serves as a focal point of mythical narratives, embodying both tangible and symbolic qualities that resonate across cultures and generations.

As an informational document, the Golden Fleece encapsulates the cultural ideals and aspirations of ancient Greek society, conveying valuable insights into the mythic narrative of heroism and destiny. Its acquisition becomes the central focus of a legendary quest, serving as a repository of encoded information about the heroic exploits of Jason and the Argonauts. This quest for the Golden Fleece is not merely a physical endeavor but a symbolic quest for glory and immortality, reflecting the human desire for transcendence and legacy.

Moreover, the Golden Fleece embodies the concept of information-as-thing, representing both a tangible artifact and a symbolic emblem of divine favor. Its significance extends beyond its material form to encompass the ideals of heroism, ambition, and the pursuit of excellence. Much like the Silmarils, the Golden Fleece serves as a potent symbol of divine grace and the

²² Note that Ixion is accursed and relegated to riding a wheel of fire in the sky. His sexuality with the imitation Hera cloud called Nephele produced Athamas, whose son Phrixus sacrificed the Golden Ram to Zeus. (Fry, 2020)

indomitable spirit of adventure, resonating with audiences as a timeless archetype of human endeavor.

Structurally, the Golden Fleece shares remarkable parallels with the Silmarils in Tolkien's mythology. Both artifacts involve many characters and events while serving as focal points of legendary quests and international conflict and war that inspires heroes to undertake perilous journeys in pursuit of their elusive glory. Moreover, the transformative nature of both artifacts, from tangible objects of divine origin to celestial symbols embedded in the heavens, underscores their enduring significance as symbols of cosmic order and divine providence.

In essence, the Golden Fleece stands as a testament to the enduring power of mythological narratives to convey profound truths about the human condition. Through the lens of information science, we gain deeper insights into the cultural significance and symbolic resonance of this legendary artifact, enriching our understanding of ancient myth and its enduring impact on human culture.

Eos, Helios, Phaethon, & Selene

In both Greco-Roman mythology and Tolkien's mythos, the Sun and Moon hold significant divine status, each attributed with the task of traversing the sky. However, their portrayal's nuances highlight distinctive features between the two narratives. In both mythologies, divine beings are responsible for the transportation of the celestial bodies, though with varying characteristics. One such notable difference lies in the number of celestial movers. Tolkien's myth features only two divinities responsible for the Sun and Moon, while Greco-Roman mythology presents a larger ensemble, with four or five entities interchangeably fulfilling these roles.

While Tolkien's celestial movers maintain an exclusive relationship with each other, Greco-Roman mythology exhibits a more diverse array of divine actors, including figures like Phaethon, who, as the offspring of divine and mortal parentage, straddles the boundary between heavenly and earthly realms. Love stories intertwine with the celestial duties of both sets of divine beings, yet the nature of these relationships differs. Tolkien's divine figures share an exclusive bond, while Greco-Roman counterparts engage in a broader spectrum of interactions, often without monogamous constraints.

Moreover, while Tolkien's divine beings remain distant from earthly affairs, Greco-Roman counterparts frequently engage with mortals. Instances such as Helios lending his chariot to Medeia or providing aid via his golden cup to figures like Heracles and Theseus illustrate a more direct interaction between celestial and terrestrial realms within Greco-Roman mythology. This interaction extends to the offspring of the divine beings, a feature absent in Tolkien's mythos. Greco-Roman divinities often have progeny who dwell on Earth, further blurring the boundary between divine and mortal realms. Furthermore, both mythologies depict the Sun and Moon as influential celestial bodies that shape mortal and divine perceptions, though the specifics of this influence may vary. (Apollodorus et al., 2007)

In Greco-Roman mythology, Eos (the dawn), Helios (the sun), Phaethon (the descendent of Helios), and Selene (the moon) collectively embody celestial phenomena that hold profound symbolic and practical significance. As symbols of divine power and cosmic order, the sun and moon serve as pivotal elements in shaping mortal and divine perceptions of the world. They convey essential information about the cyclical nature of time, the passage of seasons, and the interconnectedness of celestial and earthly realms.

From an information science perspective, the Greco-Roman sun and moon function as tangible manifestations of abstract concepts, encoding cultural beliefs and cosmological understandings within their mythological narratives. As physical entities that exert influence over the natural world, they can be viewed as documents imbued with symbolic and practical meaning. In this context, they represent instances of information-as-thing, serving as conduits through which celestial forces are made tangible and comprehensible to mortal observers.

Eos, the goddess of the dawn, heralds the beginning of each new day, symbolizing renewal, hope, and the promise of a fresh start. Helios, the personification of the sun, traverses the sky with unwavering radiance, illuminating the world and sustaining life with his life-giving rays. Phaethon, the ill-fated son of Helios, embodies the consequences of hubris and recklessness, as his ill-fated attempt to drive his father's chariot results in catastrophe and serves as a cautionary tale against overreach. Selene, the ethereal goddess of the moon, casts her silver light upon the earth, guiding nocturnal travelers and contributes to the realm of dreams and mysteries.

Structurally, the narratives surrounding Eos, Helios, Phaethon, and Selene mirror the cyclical nature of celestial phenomena, with each character playing a distinct role in shaping the mythological landscape. Their interactions with mortals and gods alike underscore the intricate relationship between divine and mortal realms, highlighting the interconnectedness of cosmic forces and human experience.

In Tolkien's legendarium, the characters of Arien (the Sun) and Tilion (the Moon) share functional and structural similarities with their Greco-Roman counterparts. Like Helios and Selene, Arien and Tilion serve as celestial entities that influence the natural world and shape mortal perceptions of the cosmos. Arien, the radiant spirit who guides the Sun across the

heavens, embodies the divine essence of light and warmth, much like Helios. Arien is also functionally similar to Eos, symbolizing a renewal, hope, and beginning to the mortal race of Men, who awake under the sun's first appearance. Tilion, who steers the Moon through the night sky, echoes the ethereal qualities of Selene, guiding travelers and illuminating the darkness. Tilion also shares functional similarity with Eos when Fingolfin's tribe of elves first set foot upon Middle-earth, thus symbolizing renewal, hope, and the promise of a fresh start.

Structurally, the narratives of Arien and Tilion parallel those of Eos, Helios, Phaethon, and Selene, with each character playing a pivotal role in the cosmic order. Their interactions with mortals and the Valar alike underscore the interconnectedness of celestial and earthly realms within Tolkien's mythology, mirroring the intricate relationship depicted in Greco-Roman myth. Through the lens of information science, we can appreciate the role of Arien and Tilion as repositories of encoded knowledge, conveying profound truths about the nature of existence and humanity's place within the cosmos.

Greco-Roman Torches and Lamp-Light

This research did not reveal a singular direct comparison to the Phial of Galadriel. However, certain Greco-Roman torch or lamp light conveyances are functionally similar, especially when taken together. The first comparable example may be seen with Prometheus, who hides fire in a fennel stalk (Aeschylus, 2012, p. 6). This showcases divine light secured in a portable and concealable object.

For a second example of portable divine light, one may turn to examine the Titaness Hecate²³. In the Homeric Hymn to Demeter and relative Greek vase-paintings, Hecate is attributed as "holding blazing torches in her hands," and she is alternatively referred to as

²³ Hecate is alternatively spelled Hekate (Shelmerdine, 1995).

“Hekate of the shining veil” (Shelmerdine, 1995, pp. 37, 56). Hesiod promotes her as Zeus’ most honored recipient of divine gifts and “whenever ... man ... prays for favour ... he calls upon Hecate. ...[She] is at hand to give victory and grant glory readily to whom she will” (Evelyn-White, 2021, p. 26). This is interesting because when Frodo uses the Phial of Galadriel in Shelob’s cave, he calls upon a divinity (Elbereth) for aid. Furthermore, AL notes that during the Gigantomachy, “Hecate killed Clytios with torches” (Apollodorus et al., 2007, p. 6).

The third method of comparing The Phial of Galadriel to Greco-Roman myth is conveyed in *Odyssey*, Book 19, where an interesting account of divine light is used to brighten a small space. In this sequence, Odysseus and Telemachus remove all the suitors’ arms to a secure storage room and are given the means to see what they are doing:

Odysseus and his illustrious son sprang up and began storing away the helmets, bossed shields, and honed spears. And before them Pallas Athena, bearing a golden lamp, made a beautiful light. Telemachus suddenly blurted out to this father: ‘Father, this is a miracle I’m seeing! The walls of the house, the lovely panels, the beams of fir, and the high columns are glowing like fire. Some god is inside, one of the gods from the open sky.’ Odysseus, his mind teeming, replied: ‘Hush. Don’t be too curious about this. This is the way of the gods who hold high heaven.’ (Homer et al., 2000, p. 404)

When Frodo and Sam used the Phial of Galadriel to get past the Two Watchers in the Tower of Cirith Ungol, their special item partially functioned as a key. Similarly, the Trojan and Rome’s founder, Aeneas, used a portable special item to safely reunite with his deceased father, Anchises, for counsel in Hades (Ovidius Naso & Reed, 2018, p. 342). Hamilton’s secondary source suggests that this object had a “bright yellow gleam” (HAMILTON, 2017, p. 248). This example is interesting because the Two Watchers that Frodo and Sam must get past are barrier-

producing wraiths, and Aeneas uses his golden bough in a location full of such spirits that he must safely pass by (HAMILTON, 2017).

In Greco-Roman mythology, torches and lamplights symbolize illumination, enlightenment, and divine guidance. These light sources convey essential information about the transition from darkness to illumination, symbolizing the triumph of knowledge over ignorance and the quest for enlightenment. As tangible artifacts illuminating the darkness, torches and lamplights embody the concept of information as a thing by serving as physical manifestations of abstract concepts such as enlightenment and divine guidance.

The Greco-Roman torch, often associated with the goddess Hecate, illuminates the path for travelers and serves as a beacon of safety in the night. Its flickering flame symbolizes the eternal struggle between light and darkness, with the torch-bearer assuming the role of guide and protector. Lamp-light, represented by oil lamps and lanterns, serves a similar function, providing illumination in the darkness and symbolizing the presence of divine wisdom and guidance in the mortal realm.

From an information science perspective, torches and lamp lights function as repositories of encoded knowledge, conveying cultural beliefs and philosophical insights through their symbolic significance. They represent instances of information-as-thing, embodying both tangible and symbolic qualities that resonate within the mythological framework. In this context, they serve as conduits through which divine wisdom and guidance are made tangible and comprehensible to mortal observers, highlighting the interconnectedness of celestial and earthly realms.

Structurally and functionally, Greco-Roman torches and lamp-light bear striking similarities to the Phial of Galadriel in Tolkien's legendarium. Like the torches and lamp-light of

Greco-Roman mythology, the Phial of Galadriel serves as a source of illumination and divine guidance, illuminating the darkness and providing comfort and protection to those who bear it. As a physical artifact imbued with the light of Eärendil's star, the Phial embodies the concept of information-as-thing, representing both tangible and symbolic qualities that resonate throughout Tolkien's mythology.

The Phial of Galadriel parallels the Greco-Roman torch and lamp-light in its role as a beacon of hope and enlightenment in times of darkness. Like the torches carried by travelers in ancient Greece and Rome, the Phial guides its bearers through the darkness, symbolizing the triumph of light over shadow and the quest for spiritual enlightenment. Structurally, the Phial shares similarities with Greco-Roman torches and lamp-light, serving as a tangible manifestation of abstract concepts such as divine guidance and the eternal struggle between light and darkness.

Through the lens of information science, we can appreciate the role of the Phial of Galadriel as a repository of encoded knowledge, conveying profound truths about the nature of light, wisdom, and divine guidance. Its parallels with Greco-Roman torches and lamp lights underscore the universal significance of illumination as a symbol of enlightenment and divine presence, enriching our understanding of Tolkien's mythology and its enduring impact on human culture.

Discussion

Summary

This comparative analysis broadens a researcher's perspectives on the intricate interplay between mythological narratives from J.R.R. Tolkien's legendarium and those stemming from Greco-Roman mythology, offering valuable insights into the shared themes, motifs, and symbolic representations present in these rich mythological traditions. The synthesis of

information science concepts with mythological approaches enhances a researcher's understanding of mythopoeic narratives by providing a framework to analyze and interpret them. Information science concepts such as information, document, and information-as-thing offer valuable insights into the nature of mythological artifacts and entities, elucidating their roles as conveyors of symbolic and practical meaning within their respective mythological contexts. By treating mythological artifacts as documents imbued with encoded information, one can unravel the layers of meaning contained within them and explore their significance in shaping the narratives they inhabit.

Furthermore, the cooperative relationship between information science concepts and mythological approaches allows researchers to explore the dynamic interplay between tangible and abstract elements within these narratives. Mythological entities and artifacts serve as tangible manifestations of abstract concepts such as divine power, fate, and cosmic order, embodying information-as-thing through their physical presence and symbolic significance. Through this lens, we can appreciate how these mythological narratives function as repositories of cultural knowledge and collective memory, conveying profound insights into the human condition and the complexities of the divine.

In conclusion, integrating information science concepts with mythological approaches enriches researchers' understanding of mythological narratives by providing analytical tools and frameworks through which one can explore mythologies' deeper meanings and significance. By applying functionalism, comparatism, and structuralism in conjunction with concepts such as information, document, and information-as-thing, researchers gain a holistic perspective on these timeless tales, illuminating their enduring relevance and cultural resonance across time and space.

Research Limitations

This study focused primarily on analyzing a specific set of artifacts from Tolkienian and Greco-Roman mythologies, overlooking many other potential classes of items that could be explored for connections. These unexplored classes include weapons and armor, cloaking devices, communications devices, magical tools, consumables, totems, regalia, and legendary beasts such as horses. Future research could delve into these additional categories to uncover further analogies between the two mythological traditions.

Interdisciplinary methods from Information Science and Classical Studies offer alternative approaches for examining connections between Tolkien and Greek mythologies. For example, approaches such as Psychoanalysis and Human Information Behavior or Dumézil's Tripartite functionalist and structuralist approach could provide valuable insights. However, it is essential to note that adopting such methodologies would deviate from the item-centric analysis employed in this study.

Furthermore, future studies might consider exploring myths from intermediate cultures and periods, such as Norse, Finnish, or Scandinavian, which bridge the gap between Tolkien and Greco-Roman mythologies. Additionally, while this research aimed to investigate links between Tolkien's work and Greco-Roman mythology, it did not assess the influence of other significant figures on Tolkien, such as William Morris and C.S. Lewis. Understanding these influences and their impact on Tolkien's writing could shed further light on the connections between his mythos and Greco-Roman mythology.

It is worth acknowledging the time-intensive nature of studying multiple mythologies comprehensively. Each mythology presents its own vast body of literature, requiring significant time and resources for thorough analysis. Therefore, while this study provides a starting point for

exploring connections between Tolkien and Greco-Roman mythologies, further research is warranted to fully elucidate these interwoven narratives' complexities. Any supplemental study that undertakes the arduous task of evaluating Tolkien's mythos for Greco-Roman cultural links is worthy of this author's praise.

Acknowledgments

Author Note

The study for this research paper was conducted with the intent to publish it on the NC DOCKS website (<https://libres.uncg.edu/ir/>) for open access and retrieval. This research paper also served as the final graded product submitted by Vance Bowman to the Lloyd Honors College at the University of North Carolina, Greensboro (UNCG). Much of this research project's literature was acquired thanks to funding from the United States Department of Veterans Affairs (VA), Veterans Readiness & Employment (VR&E) educational program. This research project was also made possible by Dr. Zachary T. Frazier (Department of Library & Information Science, UNCG), Dr. Michiel Van Veldhuizen (Department of Classical Studies, UNCG), and Dr. Amy Vines (Department of English, UNCG). Their guidance on what literature to research and their editorial advice through the development of this research paper is greatly appreciated.

References

- Aeschylus. (2012). *Prometheus Bound* (G. Thomson, Trans.). Dover Publications.
- Albert, L., & Richard, S. (2021). *Greek Mythology: The Gods, Goddesses, and Heroes Handbook: From Aphrodite to Zeus, a Profile of Who's Who in Greek Mythology* (First Adams Media hardcover edition). Adams Media.
- Apollodorus, Smith, R. S., Trzaskoma, S., & Hyginus, C. J. (2007). *Apollodorus' Library and Hyginus' Fabulae: Two Handbooks of Greek Mythology*. Hackett Pub.
- Bawden, D., & Robinson, L. (2022). *Introduction to Information Science* (Second edition). ALA Neal-Schuman.
- Buckland, M. K. (1991). Information as Thing. *Journal of the American Society for Information Science*, 42(5), 351–360. [https://doi.org/10.1002/\(SICI\)1097-4571\(199106\)42:5<351::AID-ASI5>3.0.CO;2-3](https://doi.org/10.1002/(SICI)1097-4571(199106)42:5<351::AID-ASI5>3.0.CO;2-3)
- Buckland, M. K. (1997). What is a “document”? *Journal of the American Society for Information Science*, 48(9), 804–809. [https://doi.org/10.1002/\(SICI\)1097-4571\(199709\)48:9<804::AID-ASI5>3.0.CO;2-V](https://doi.org/10.1002/(SICI)1097-4571(199709)48:9<804::AID-ASI5>3.0.CO;2-V)
- Campbell, J. (2008). *The Hero with a Thousand Faces* (3rd ed). New World Library.
- Chance, J. (Ed.). (2004). *Tolkien and the Invention of Myth: A Reader*. University Press of Kentucky.
- D'Amelio, J. (2021, August 1). *The artist Wyland and his “whaling walls”*—CBS News. <https://www.cbsnews.com/news/the-artist-wyland-and-his-whaling-walls/>
- Day, D. (2020). *The World of Tolkien, Box Set* (1–7). Thunder Bay Press. www.thunderbaybooks.com
- Definition of DOCUMENT. (2024, January 21). Merriam-Webster.Com. <https://www.merriam-webster.com/dictionary/document>

Definition of INFORMATION. (2024, January 22). Merriam-Webster.Com. <https://www.merriam-webster.com/dictionary/information>

DIKW pyramid. (2024). In *Wikipedia*.

https://en.wikipedia.org/w/index.php?title=DIKW_pyramid&oldid=1211227190

Euripides, Esposito, S. J., Podlecki, A. J., & Halleran, M. R. (2004). *Four Plays: Translation With Notes and Introduction* (Corr. ed.). Focus Pub./R Pullins Co.

Evelyn-White, H. G. (2021). *Theogony & Works & Days Hesiod*. Royal Classics.

Flieger, V. (2017). *There Would Always be a Fairy Tale: More Essays on Tolkien*. the Kent state university press.

Fry, S. (2019). *Mythos: The Greek Myths Reimagined*. Chronicle Books.

Fry, S. (2020). *Heroes: The Greek Myths Reimagined*. Chronicle Books.

Gaillard, G. (2004). *The Routledge dictionary of anthropologists*. Routledge.

Graf, F. (Columbus, Zgoll, A. (Leipzig), Quack, J. (Berlin), Hazenbos, J. (Leipzig), & Niehr, H. (Tübingen). (2006). Myth. In *Brill's New Pauly*. Brill.

https://referenceworks.brillonline.com/entries/brill-s-new-pauly/myth-e815160?s.num=0&s.f.s2_parent=s.f.book.brill-s-new-pauly&s.q=myth

HAMILTON, E. (2017). *Mythology: Timeless tales of gods and heroes, 75th anniversary illustrated edition*. Little, brown, & co.

Homer. (2013). *The Iliad and the Odyssey* (S. Butler, Trans.). Barnes and Noble.

Homer, Lombardo, S., & Homer. (2000). *The Essential Homer: Selections From the Iliad and the Odyssey*. Hackett.

Houghton, J. Wm., Croft, J. B., Martsch, N., Rateliff, J. D., & Reid, R. A. (Eds.). (2014). *Tolkien in the New Century: Essays in Honor of Tom Shippey*. McFarland & Company, Inc., Publishers.

- Inglese, T. (2018). Becoming a guide for pilgrims in a time of secularization. *Church, Communication and Culture*, 3(3), 335–361. <https://doi.org/10.1080/23753234.2018.1545135>
- Lévi-Strauss, C. (1969). *The raw and the cooked* (J. Weightman & D. Weightman, Trans.; [1st U.S. ed.], Ser. Introduction to a science of mythology, 1). Harper & Row.
- Littleton, C. S. (1982). *The new comparative mythology: An anthropological assessment of the theories of Georges Dumézil* (3rd ed). University of California Press.
- Locke, J. L., & Wright, B. (Eds.). (2019). *The American yawp: A massively collaborative open U.S. history textbook*. Stanford University Press.
- Malinowski, B. (1962). *Sex, culture, and myth*. New York, Harcourt, Brace & World.
- <http://archive.org/details/sexculturemyth00malirich>
- Mills, A. (2022). *Mythology: Myths and Legends of the World*. New Burlington Books.
- Ovidius Naso, P., & Reed, J. D. (2018). *Metamorphoses* (R. Humphries, Trans.; New, annotated edition). Indiana University Press.
- Shannon communication system.svg*—Wikipedia. (n.d.). Wikipedia.Org. Retrieved January 29, 2024, from https://commons.wikimedia.org/wiki/File:Shannon_communication_system.svg
- Shelmerdine, S. C. (Ed.). (1995). *The Homeric Hymns*. Focus Publishing/R. Pullins Co.
- Sophocles, Meineck, P., & Woodruff, P. (2003). *Theban Plays*. Hackett Pub.
- Strenski, I. (1992). *Malinowski and the Work of Myth*. Princeton University Press.
- <http://ebookcentral.proquest.com/lib/uncg/detail.action?docID=1700296>
- Tolkien, J. R. R. (2005). *The Lord of the Rings* (50th anniversary 1 vol. ed.). Houghton Mifflin.
- Tolkien, J. R. R. (2012). *The Hobbit, or, There and Back Again* (1st Mariner Books ed., 75th anniversary ed). Houghton Mifflin Harcourt.

- Tolkien, J. R. R. (2017). *The Story of Kullervo* (V. Flieger, Ed.; First Mariner Books edition). Mariner Books, Houghton Mifflin Harcourt.
- Tolkien, J. R. R. (2018). *The Lay of Aotrou and Itroun: Together with the Corrigan Poems* (V. Flieger, Ed.; First Mariner books edition). Mariner Books.
- Tolkien, J. R. R. (2022). *The Silmarillion* (C. Tolkien, Ed.; Second edition). William Morrow, an imprint of HarperCollinsPublishers.
- Tolkien, J. R. R., Lee, A., & Sibley, B. (2022). *The Fall of Númenor: And other tales from the second age of Middle-earth* (First US edition). William Morrow, an imprint of HarperCollins Publishers.
- Tolkien, J. R. R., Tolkien, C., & Lee, A. (2007). *Narn i Chîn Húrin: The Tale of the Children of Húrin*. Houghton Mifflin.
- Tolkien, J. R. R., Tolkien, C., & Lee, A. (2018). *The Fall of Gondolin* (First U.S. edition). Houghton Mifflin Harcourt.
- Tolkien, J. R. R., Tolkien, C., Lee, A., & Tolkien, J. R. R. (2017). *Beren and Lúthien* (First U.S. edition). Houghton Mifflin Harcourt.