

THE GENESIS OF THE ARROWS OF LOVE: DIACHRONIC CONCEPTUAL INTEGRATION IN GREEK MYTHOLOGY

CRISTÓBAL PAGÁN CÁNOVAS



Abstract. When and how were the arrows of love created? Individual invention has been argued for by classicists; a connection to everyday metaphors has been suggested in cognitive linguistics. I propose new cognitive-theoretical tools: the *Abstract Cause Personification* blend and an EMISSION image-schema. I explain the emergence of *Love the Archer* in Antiquity through conceptual integration from earlier materials: *Apollo the Archer* personifying death, erotic emissions in lyric imagery, the link between passion and extreme illness, and possibly the arrows of glance. The embodied, human-scale story of causation that structures the arrows of love has been crucial for their success.

NO SYMBOL FROM ANCIENT GREEK CULTURE seems to have been more successful than the arrows of love. Of course, many other Greek deities and myths are recurrent in Western literature and art, but the arrows have also made their way into the most popular representations, from cartoons to everyday language.¹ Audiences lacking a classical background may well fail to identify the most important deities, heroes, or stories—such as Zeus, Achilles, or the Argonauts' expedition—but they will not hesitate when asked to interpret the meaning of Eros with his bow and quiver, or of a heart crossed by an arrow.

Such success demands an explanation. Of course, there are historical factors related to the classical heritage, but the conceptual structure behind the symbol also proves crucial for its cross-cultural pervasiveness. The arrows of love constitute a perfectly synthetic story grounded in our basic spatial cognition and our interpretation of causation and intentionality: somebody throws an object at someone else, with a consequence (typically the recipient gets hurt). The wonder is that such a simple schema is offered—and conventionally accepted—as an immediate representation of the multiple cause-effect relations integral to one of the most complex

¹To cite just one example: the Spanish word “flechazo” (arrow wound or shot) is mostly employed metaphorically, meaning a sudden infatuation.

human emotions. Research on how and when the arrows of love came into existence can help us understand this success and also shed some light on how the imagination represents such intricate emotional meanings.

According to the hypothesis explored in this article, the arrows of love were the culmination of a long creative process in Greek mythology. Both their invention and their initial success drew crucially on conceptual materials available from early archaic culture: *Apollo the Archer* personifying the cause of death and mortal disease, his action structured as an emission coming from a deity in a superior position; erotic emissions in lyric imagery; the link between passion and extreme illness; and possibly the arrows of glance. Thus the first extant documents—texts and vase paintings—to use the symbol should be considered as the result of a long cultural process, which assigned the arrows to the relevant deity—probably Aphrodite before Eros—and produced the powerful vehicle of erotic passion that is still meaningful to modern minds.

1. LITERARY VS. ORDINARY: PHILOLOGY AND COGNITIVE LINGUISTICS

Beyond the hypothesis about the genesis of the arrows of love in Greek Antiquity, the major claims of this article are methodological. I will show how combining an adequate conceptual analysis with traditional attention to textual details can yield more accurate results. This means using the best tools we can find in cognitive science and related disciplines, together with the historical and philological approach familiar to classicists. Neither approach goes very far in isolation. To prove this point, I first present some interesting attempts to tackle our problem, which nevertheless fail to provide an explanation that is consistent both with the available data and with what we are coming to know about the human mind. The conceptual analysis and diachronic perspective prove insufficient for the task.

The Philological Approach: Who Invented the Arrows of Love?

Unfortunately, the arrows of love have not attracted the attention of many classical scholars—as Spatafora has pointed out.² However, there are some relatively recent hypotheses about their origin. Spatafora (1995)

²Spatafora 1995, 366. Some of the best exceptions are Furtwängler 1874, for iconography, and Lasserre 1946, for literature. A more recent study is Blanc and Gury 1986, 878–81, also for iconography.

and Pace (2001) are good examples of the search for the inventor, who is thought to be Euripides in the first case and Anacreon in the second.

Let us begin with the attribution to Euripides. According to Spatafora's hypothesis, Euripides derived the arrows of love from the arrows of glance, a metaphor that appears twice in the extant works of Aeschylus:

καὶ παρθένων χλιδῆσιν εὐμόρφοις ἔπι
πᾶς τις παρελθὼν ὄμματος θελκτῆριον
τόξευμ' ἔπεμψεν, ἡμέρου νικώμενος.

and, at the fair delicacy of maidens,
every passer shoots an alluring arrow
from his eye, overcome by desire.³

(*Suppliants* 1003–5)

μαλθακὸν ὀμμάτων βέλος,
δηξίθυμον ἔρωτος ἄνθος.

a soft arrow from the eyes,
a heart-stinging flower of love.

(*Agamemnon* 742–43)

According to Spatafora,⁴ Euripides created the metaphor of the arrows of love by combining the arrows of glance with the inescapable glance, thus yielding the inescapable arrows of love, of which the first extant example—at least the first that is absolutely explicit—can be found in Euripides' *Medea*. His equation goes more or less like this:

ἄφυκτον ὄμμα, “inescapable glance” (*Prometheus Bound* 903) + ὄμματος
θελκτῆριον τόξευμα, “enchanting arrow from the eye” (*Suppliants* 1004–5) =
τόξοις ἀφύκτοις, “inescapable arrows” (*Medea* 531, referred to Eros).

This hypothesis has several flaws. To start with, there may be earlier documents for the arrows of love. One is from Aeschylus himself (*Prometheus Bound*, 649–51):

Ζεὺς γὰρ ἡμέρου βέλει
πρὸς σοῦ τέθαλπται καὶ συναίρεσθαι Κύπριν
θέλει.

Zeus has been inflamed
by an arrow of desire for you and wants to engage in love
with you.

³Translations are mine.

⁴Spatafora 1995, 367–68.

There is an ongoing controversy on the authorship of the *Prometheus*.⁵ If, like Spatafora, one accepts Aeschylean authorship, it seems that this passage should not be neglected. If, on the contrary, one accepts the hypothesis of a later composition, Spatafora's argument is equally compromised, for in that case, ἀφύκτον ὄμμα ("inescapable glance," *Prometheus Bound* 903) should not be employed in his equation.

There is also an epithet for Aphrodite in Pindar—"lady of the most sharp arrows" (*Pythian* 4.213)—and a depiction of Eros as archer by the Brygos Painter (active ca. 490–470 B.C.E.) on a red-figure lekythos in Fort Worth.⁶ I will discuss them later. They are used by Pace (2001) to argue for an earlier date than that proposed by Spatafora. If the *Prometheus* is accepted as Aeschylean, she also could have used the passage I quoted above. All these documents are several decades earlier than the *Medea*.⁷

Beyond these chronological issues, I find the conception of literature and mind that underlies this approach even more problematic. Spatafora adopts—perhaps in a more radical form than the original—the concept of *enstrangement* or defamiliarization, a major tenet of Šklovskij's formalism from the 1920s.⁸ This theory presupposes an objective, simple meaning that is obscured by figurative/literary language. Moreover, delaying the audience's understanding of the "real" meaning would be one of the main functions of a poetic expression.⁹ Thus the text draws the attention to form rather than content. This, according to Spatafora, would have been a major stylistic aim of Euripides.

However, the arrows of love seem to function exactly the other way around. The metaphor does not complicate an unproblematic meaning like

⁵Griffith 1977 thoroughly stated the case against Aeschylean authorship. For some arguments in favor, see, e.g., Herington 1970, Conacher 1980, 141–74, and Hubbard 1991.

⁶Kimbell Art Museum AP 84 16, Beazley Archive 30396.

⁷Lasserre 1946, 91, already pointed this out. His thesis is that Euripides was poetically re-elaborating previous iconography. But we do not have—nor are we likely ever to have—enough information to establish in what artistic modality the arrows of love were first represented.

⁸Šklovskij 1990.

⁹This seems contrary to a cognitive approach to literature, although Reuven Tsur's *delayed conceptualization* (Tsur 2000), one of his arguments against Conceptual Metaphor Theory (Lakoff and Johnson 1980, Lakoff and Turner 1989, Lakoff 1993), also presupposes, in a way, that form can be an obstacle for the direct access to a more straightforward meaning. However, most other cognitive approaches to poetics view metaphor, as well as verbal figuration in general, as basic operations for the construction of meaning, rather than merely formal devices meant to attract attention to themselves. This view is consistent with cognitive science and with experimental work on metaphor comprehension carried out in linguistics and psychology (see summaries in Gibbs 1994, 2006).

“falling in love.” First of all, “*falling* in love” is already complicated, and metaphorical too. The emotional experience that the arrows are meant to conceptualize is extremely complex in itself, and its causes are scattered and diffuse. In fact, neither in Antiquity nor today do people understand exactly why and how they experience such an emotion. When they first originated, the arrows of love presupposed a basic spatial story (an arrow piercing a target), a conceptual frame with two or more participants in an erotic relationship, and vast amounts of cultural knowledge related to the system of beliefs in ancient Greek religion. The conceptual structure, despite its complexity, is simple if compared with the array of meanings to which it is connecting: e.g., the first instant of passion, the action of a superior force on mortals, sexuality, desire, divine control, and intentionality. No matter how intricate the form, the amount of cultural knowledge, bodily experience, and cognitive operations necessary to understand each poetic image quoted in this article far exceeds the surface complexity of words or pictures.

Formal criteria alone can never explain why a text, or even an individual expression, was shaped in a particular way. Neither can they explain how Spatafora’s equation could have occurred to Euripides’ or anyone else’s mind. The formal derivation proposed by Spatafora is very specific, and thus it demands a specific explanation. How did Euripides formulate this? In a still predominantly oral culture, did he remember those particular passages, maybe from performances he attended, perhaps in his early childhood? How do we know he recalled precisely those particular expressions of Aeschylus? We know Euripides owned a good library. Perhaps he had the texts of Aeschylus to hand when he created his metaphor. But this raises the same problems. First, this view of Euripides’ craft would suit an Aristophanic parody: the great poet going through the pages of his predecessors to pick one word here and one there, in order to compose his image of Eros’ arrows and thus complicate what he is trying to say about Medea, which is plainly that she fell in love with Jason. This does not look much like poetic creativity.¹⁰

Second, statistically all the odds are against us: since Euripides had access to practically everything Aeschylus wrote, it is too great a coincidence that he chose precisely those two lines, which happen to belong to plays within the small fraction of the corpus that has survived to the present day (8–10% may be an optimistic estimate). Even without the broader diachrony provided by the earlier examples of the arrows of

¹⁰Especially as imagery seems to have been a central stylistic preoccupation of Euripides, and to have played a central role in his poetic creativity, as Barlow 1971 has shown.

love, the hypothesis of a poet inventing them merely by formal manipulation of specific passages requires better proof than the brachylogical, direct intertextuality offered by Spatafora. For example, there should be convincing analogies with other images in Euripides, showing that this practice could be, to some extent, a stylistic feature. Otherwise, it seems reasonable to think that here, as in so many other cases, we have a poet drawing on a mythological tradition.

Pace (2001), in the light of the earlier documents I have mentioned, attributes the invention to Anacreon, one century earlier. Although no extant text by this poet contains a reference to the arrows of love, Pace suggests that a passage by Himerius (*Or.* 48.4 Col.), quoting some lines by Anacreon, would indicate the presence of the symbol in the latter. Anacreon would have directly influenced the Attic painters of the early fifth century, for he was still active at that time. This influence would explain the lekythos in Fort Worth.¹¹

I will not discuss here the text by Himerius, which has been analyzed in detail by Pace. She admits it is not an exact quotation and points out other problematic aspects of the thesis.¹² Although Himerius' text is not definitive proof, it does give indirect evidence for the presence of the arrows of love in Anacreon. Again, this would by no means prove that he invented them. Pace also concedes that the arrows could have appeared earlier than Anacreon, and perhaps even as early as Sappho, as suggested by Barrett (1964) and others (all well summarized in Pace 2001).¹³ This could take the arrows back to around 600 B.C.E. It will be remembered that the *Medea* was first produced in 431 B.C.E.

A question that cannot be answered should probably be revised. "Who invented the arrows of love?" seems to be that kind of question. The possibility of earlier evidence can never be definitively ruled out. We must beware the fallacy of equating extant documents with the documents that were actually produced. We have a very small amount of what was written down, which is again only a tiny fraction of what was actually composed. Moreover, there is no clear reason why we should privilege the hypothesis that the arrows of love were created by this or that poet in particular. In principle, it seems equally reasonable to suppose that there is some tradition behind most mythological themes, including this one.

On the other hand, how, and subsequently, when, the metaphor arose

¹¹Hermery 1986 credits the invention rather to the early fifth-century Attic vase-painters. This thesis, again, is as difficult to prove as its opposite.

¹²Pace 2001, 22–25.

¹³Barrett 1964, 261; Pace 2001, 26, n. 33.

are questions that should not be abandoned. We do have many thousands of epic lines from the archaic period, and the arrows of love are absent from them. Aphrodite or Eros, as we know them in Homer and Hesiod, do not seem to have played the role of archer in this genre at that time. It is not impossible that the arrows of love existed as early as the eighth century B.C.E., but it seems unlikely that they were as widely known and productive as they seem to have been from the fifth century B.C.E. onward, especially in poetry and art after Euripides, including epic; see, for instance, the episode in which Eros shoots his arrow at Medea, in the third book of Apollonius Rhodius' *Argonautica*, especially lines 275–87. Unfortunately, we do not possess enough material to be equally sure about the role of the arrows of love in archaic lyric. A connection with ostensibly earlier myths (Apollo and Artemis as archers) and with visual metaphors from everyday language has been defended within a cognitive linguistic approach, which is also methodologically flawed.

*The Cognitive Linguistic Approach:
The Arrows of Love as an Image Metaphor from Everyday Speech*

Sweetser (1995) proposes that the arrows of Apollo, Artemis, and Eros are image metaphors, that is, conceptual projections that map a visual image from a source to a target. In such metaphors, source and target are connected by a shared schematic structure with a sensory basis. One of the prominent examples in the literature is André Breton's "My wife, whose waist is an hourglass," analyzed by Lakoff and Turner.¹⁴ According to Sweetser, all the arrow metaphors above would share this imagistic origin. Moreover, the arrows of Eros would have had a phallic meaning originally, which would connect them to conventional metaphors of everyday sexual language:¹⁵

Apollo and Artemis are archers because the rays of the sun and moon are mapped onto the visual image of arrows being shot from a bow. (. . .) The source of light is mapped both spatially and causally onto the archer, who is both responsible for the arrow's flight and located at its source. Since it was believed by the Greeks that the sun's rays were responsible for certain sicknesses, Apollo's arrows convey not only light but also plagues and healing. (. . .) Apollo's status as a hunter at least may not be unrelated to his many sexual adventures. And Eros' arrows may well be an image

¹⁴Lakoff and Turner 1989, 90.

¹⁵Sweetser 1995, 590–91.

metaphor for his penis (we may note that the female deity of sexuality, Aphrodite, is not an archer like the male Eros). If this is so, then very similar metaphors shape this particular mythological attribute and modern metaphorical uses in Greek and in English.

Suggestive as they may be, these proposals are contradicted by the data. Apollo and Artemis were archers long before they acquired their solar or lunar associations. At the beginning of the *Iliad* (1.43–52), Apollo is depicted as an archer causing death, without any reference whatsoever to the sun. All the oldest documents paint the same picture; not until Euripides do we find the first explicit allusions to the pairs Apollo-Sun and Artemis-Moon, which are in any case quite seldom found in Greek literature. In fact, it was Latin poetry that mainly exploited these connections.¹⁶ As for the suggested link to sexuality, Apollo's arrows are simply lethal: they do not carry any erotic meaning at all, and the god would never use them when chasing one of his "erotic victims," for the results would have been undesirable. The arrows of Eros do not have a phallic meaning either: in both sexes, they provoke passion, not for the deity who shot them but for someone else, and they do not represent a sexual act, fertility, or conception. Of course, had they been phallic, they could not have been attributed to Aphrodite, as they in fact were, not only by Euripides (*Medea* 627–33) but also by the iconography of his time,¹⁷ and earlier by Pindar, who, as I mentioned, calls the goddess "lady of the most sharp arrows" in his *Pythian* 4.213, composed when Euripides was still a teenager. In fact, as I will argue below, it is quite possible that the arrows belonged to Aphrodite in the first place.

We must then beware the fallacy of de-contextualization, too. Conceptual Metaphor Theory can offer appealing results,¹⁸ but by neglecting cultural details and conceptual complexities, de-contextualization can lead to dangerous overgeneralizations. I am by no means the first to point to these risks,¹⁹ but I believe they become especially patent when dealing with

¹⁶See, for example, Ruiz de Elvira Prieto 1995, 81–82, the relevant entries in Grimal 1951, Solomon 1994, 44, and, more recently, Graf 2009, 151–57. Alternative interpretations can be found in Ahl 1982, 382, or in Tsitsibakou-Vasalos 2007, who even claims solar meanings for Apollo in Homer. This anachronistic reading of Homer is at least as old as the allegorical school of Homeric commentators (see Buffière 1956, 188), with a paradigmatic example in Heraclitus' *Homeric Problems* (13.3–13.5), from about 100 C.E.

¹⁷Pace 2001, 20–21.

¹⁸Lakoff and Johnson 1980; Lakoff 1993, 2008.

¹⁹See Geeraerts and Grondelaerts 1995 and Geeraerts and Gevaert 2008 (discussing Kövecses 1986, 1989, and 2005) for ANGER IS HEAT and other emotion metaphors, Fauconnier and Turner 2008 for TIME IS SPACE, and Glebkin (forthcoming) for various

a problem like ours. Apart from the cultural background necessary for a thorough analysis of the relevant documents, a better cognitive model is needed if we are to deal with complex symbols developed through long diachronies. Blending Theory, which was only starting to develop at the time of Sweetser's study,²⁰ provides a network model that is better suited to the intricacies of the meaning and genesis of the arrows of love.

2. CONCEPTUAL BLENDING: DEATH, LOVE, AND EMISSIONS

Conceptual Integration and the Grim Reaper

According to Blending Theory,²¹ *conceptual integration*, or *blending*, is the distinctly human capacity for combining seemingly incompatible mental structures, which do not belong together in experience—like being hurt by an arrow and feeling love. Conceptual integration builds novel conceptualizations, giving rise to emergent meanings that were not present in the components of the new whole.

Blending Theory proposes a network model that connects a variable number of mental spaces. Mental spaces can be defined as small conceptual packets assembled for purposes of local thought and action.²² Integration networks, or *blends*, are often the result of long cultural processes, by means of which innovations are passed on to subsequent generations, who master them faster and are led to regard them as basic and straightforward.²³ This approach thus offers a framework in which conceptual analysis and cultural diachrony can be combined to study figurative language and the evolution of mythological characters.²⁴ A good

machine metaphors. These scholars show that the conceptual mappings behind some of the "classical" metaphors of the theory cannot be accounted for without a wide cultural diachrony and a more detailed conceptual analysis.

²⁰The seminal publication of the theory was Fauconnier and Turner 1994. Eve Sweetser is now one of the leading scholars of blending and mental space theory, which she has also applied to literary studies (see, e.g., Sweetser 2006). Moreover, Sullivan and Sweetser 2009 claim that Blending Theory is a better framework for the analysis of many central examples in the metaphor literature.

²¹Fauconnier and Turner 2002.

²²Fauconnier 1985, 1997; Fauconnier and Turner 2002, 40.

²³One good example is the development of complex numbers (see Fauconnier 2005).

²⁴On Blending Theory and the study of figurative language, see Dancygier 2006; Kövecses 2002, 242, and 2005, 282–86; Grady, Oakley, and Coulson 1999; Hiraga 2005; and Turner 2002, among many other publications.

example, albeit with no examination of historical data, is the *Death the Grim Reaper* blend, which has become one of the classical case studies of the theory.²⁵

To construct the meaning of death as the *Grim Reaper*, we need at least the following: first, a mental space with the experience of human death plus another mental space containing a simple schema of causal tautology (death causes death). The resulting blend is Death in General as agent of the specific event: individual death. In this blended space, death has not yet been personified. Next, mappings are established with two other spaces containing human agents, where the cause-effect relation is enhanced: the killer killing a victim, and the reaper reaping a plant. These spaces are, of course, recruited not simply because they match the conceptual structure of Death in General, but also for cultural reasons. As noted above, a diachronic analysis of literary and other cultural materials would be crucial to determine why the reaper space is recruited and why the blend is shaped in that particular way, but such an account is not provided by researchers in conceptual integration.²⁶

In the final blended space of the *Grim Reaper* network, many conceptual compressions take place, yielding emergent structure. For example: reapers are not typically grim, but this one is, because of the fusion with death as a causal tautology; the scythe, an agricultural tool quite ineffective as a weapon, becomes an inescapable instrument of death; some of the ultimate effects of death are selected for incorporation into the agent's body and attire: the skeleton remaining from the corpse, and the robe worn by monks officiating at a funeral.

Death the Grim Reaper has many parallels with *Eros the Archer*, for both are personifications of the causes of singular, extremely significant events in human life, and each is a symbol forged through an extended cultural diachrony. It is especially interesting to note the way their characteristic instruments work. The scythe is a normally harmless tool turned into a weapon, and the bow and arrow is a deadly weapon that, instead of death, causes love. Crucially, in both cases, the agent is typically in full control: either operating from a superior position, as in the case of the reaper, or from some vantage point, usually also above the victim, in the case of the archer.

²⁵ Grady 2000, 340; Fauconnier and Turner 2002, 291–95, among others.

²⁶ Karanika (forthcoming) offers an example of how the *Grim Reaper* blend can be informed by diachronic cultural analysis in her study of the *Lityerses*, a harvesting song in Theocritus *Idyll* 10.

If, in *Death the Grim Reaper*, we replace *death* with *love* and *reaper* with *archer*, we will come up with an integration network that describes quite precisely the conceptual functioning of *Eros the Archer* (fig. 1).

Of course, unlike the Grim Reaper, Eros and Aphrodite are rich mythological characters, traditionally associated with numerous other features, stories, and behaviors. Nevertheless, they are also instantiations of Love in General when the arrows come into play. In spite of all the obvious differences, *Love the Archer* shares an underlying conceptual structure with *Death the Grim Reaper*. This commonality cannot be dismissed by simply stating that they are both personifications. As the diagram shows, the minimal network of correspondences and relations necessary to build the meaning of these blends is much more complex than just DEATH/LOVE IS A PERSON.

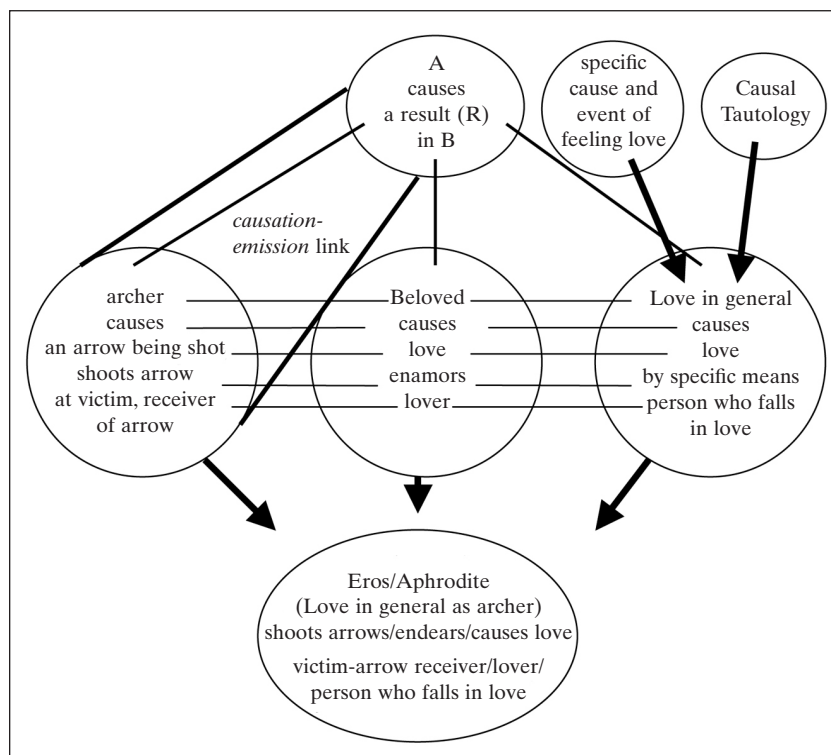


Figure 1. *Love the Archer* blend (Pagán Cánovas 2010). Forthcoming. Courtesy of *Cognitive Semiotics*.

Their shared conceptual template can be called the *Abstract Cause Personification* network (fig. 2). This generic network includes at least the following mental spaces: causation, a significant human experience, causal tautology, the same significant experience as a general cause, an agent causing the typical result of this experience, an agent causing a typical result of a different event (recruited as an analog for cultural reasons), and the blend, where the experience in general is shaped as an agent of the analogous event (e.g., reaper, archer). This pattern can be found in numerous examples of personifications across many mythological traditions. There can be infinite specific instantiations of this abstract structure. Of course, no specific product of the network can be predicted in advance: cultural background and contextual knowledge are always required. But the conceptual template of mappings, projections, and integrations in figure 2 will remain stable.²⁷

Thus our main question—why the arrows, and not something else, become the instantiation of the unrelated action *X* (fig. 2)—must be answered by means of a diachronic cultural analysis. Nevertheless, this shared cognitive model is precise enough to help us identify some ancestor figure, which can suggest why the archer turned out to be an appropriate component of the blend. As I will argue below, in our case *Apollo the Archer* (the “*Grim Archer*,” we may call him) is very likely to be that ancestor. But while we are still immersed in the conceptual analysis, let us say something about the CAUSATION-EMISSION link (fig. 1, connecting the generic causation space and the archer space). This is another key to explaining why the arrows were selected to blend with love.

Erotic Emission Blends in Ancient Greek Poetry

In the diagram of *Love the Archer*, the generic space and the archer input space are bound together and called the CAUSATION-EMISSION link. This notation is meant to indicate a pair of mental spaces recurrent in other integration networks. The label EMISSION applies to an *image schema*.²⁸ Image schemas are condensed redescriptions of perceptual experience,

²⁷This does not mean that there are no structural differences between these integration networks: *Abstract Cause Personification* just reflects their invariant commonalities. There can be, for instance, different cross-space relations: the killer space is not indispensable to conceptualize the experience of death, since death does not require such an agent, while the beloved space is a necessary element for love, which can hardly take place without a loved person. I thank Gilles Fauconnier for this observation.

²⁸Johnson 1987, Lakoff 1987, Talmy 1988.

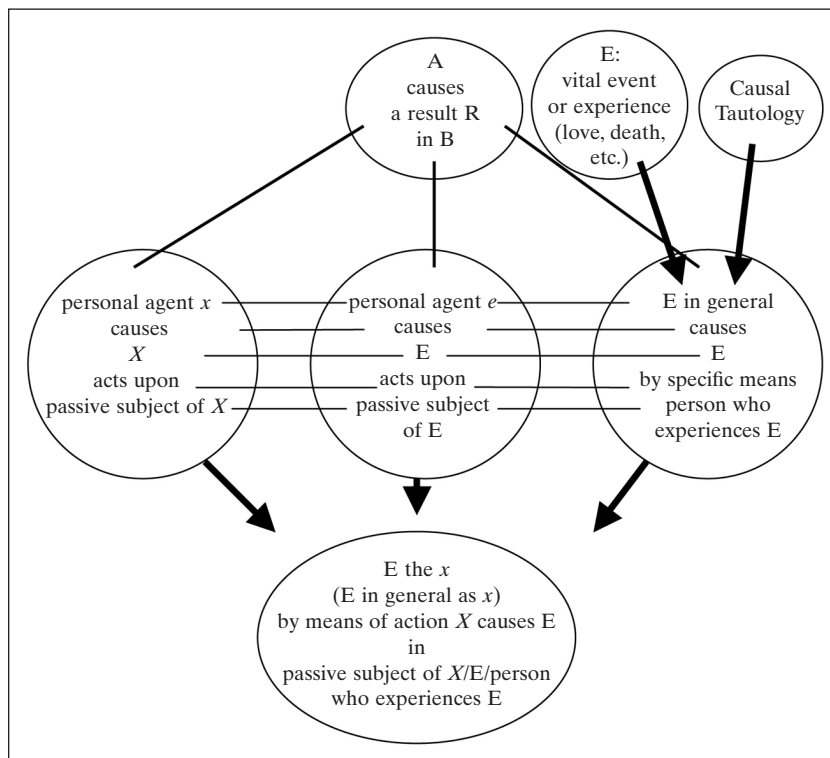


Figure 2. The generic integration network for *Abstract Cause Personification*.

which have been a productive tool of analysis in several fields related to meaning construction.²⁹ I propose the EMISSION schema (A emits *x*, B receives *x*, relevant changes take place in B) as an abstraction from everyday spatial interactions—e.g., throwing, shooting, pouring, and irradiation. The CAUSATION-EMISSION link is productively employed by grounded cognition³⁰ in everyday situations. It allows us, for example, to posit an emission story when we have only witnessed its effects, thus helping us to imagine the throwing of an object towards the windowpane we found broken, or to locate a source of light by retracing its path back from the illuminated point under observation.

²⁹ See Oakley 2007.

³⁰ The grounded or embodied cognition approach views cognitive operations as based on bodily perception and movement. See Anderson 2003 and 2005 and Barsalou 2008.

The CAUSATION-EMISSION link recurs in numerous integration networks underlying imagery in Greek love poetry.³¹ Some of these networks lack the Love-in-general space in figure 1 and just present the other two elements. Thus, in the blended space, beloved and emitter are fused, and the responsibility for the causation of love is not assigned to any power external to the participants but directly to the loved person. To give an example, the act of glancing is a typical instantiation of the causation of love, and the EMISSION schema can be specified as light irradiation. This is what Pindar does when he describes the rays coming from Theoxenus' eyes, which Pindar says will make anyone feel waves of desire (fr. 123 Snell-Maehler, 1–7). But the emission story can also consist of, e.g., shooting an arrow—coming from the eyes in the blend—as in the case of the examples from Aeschylus above (*Suppliants* 1003–5 and *Agamemnon* 742).

Nevertheless, we very often encounter the external emitter version of the network with three inputs, including one of Love in general as causal tautology. *Love the Archer* is the most salient example, but there are many other possible instantiations of the EMISSION schema. We have a simile of Eros as a wind falling upon the oaks (Sappho, fr. 47 Voigt), or even a blend of Boreas and Eros (Ibycus, *PMG* 286) sent by Aphrodite. We have the scene in which Eros throws a ball at an old man watching a group of young girls (Anacreon, *PMG* 358), awakening his desire. There are also wedding rituals in which throwing a fruit at the bride will provoke her sexual desire or love. In all of them it is receiving the fruit that matters, not eating it, for the CAUSATION-EMISSION link is at work. Faraone has analyzed the documents:³² Stesichorus' description of Helen's nuptial procession (*PMG* 187), Atalanta's footrace, or the colloquial Athenian expression μήλα βάλλειν / βαλεῖν ("throwing an apple"), referring to the experience of falling in love or being sexually aroused. I would also add Eris' apple of discord³³ and the legend of Acontius and Cydippe.³⁴

³¹In fact, the phenomenon seems to recur throughout the whole diachrony of Greek poetry up to our own time, and it could be cross-cultural, or perhaps even universal, in the conceptualization of certain emotions. See Pagán Cánovas 2004, 2007, 2008, 2009, and 2010.

³²Faraone 1999, 44–45, 70–72. See also Anagnostou-Laoutides 2005, 46–49. Spells could also be thrown—as in the expression "cast a spell" (ρίχνω ξόρκι) in modern Greek—with erotic effects, as also shown by Faraone 1999, 44, and 2002.

³³Practically all relevant instances of apple symbols in ancient Greek literature have been collected by Littlewood 1968 (for the erotic connotations, see 148–57).

³⁴Callimachus fr. 67–75 Pfeiffer, Aristaenetus *Epistolae* 1.10, Ovid *Heroides* 20 and 21, *Ars Amatoria* 1.457, *Remedia Amoris* 381, *Tristia* 3.10, 73. I thank Mariano Valverde for bringing both the legend and these passages to my attention.

The arrows of love are, as we see, a widely generalized blend³⁵ belonging to two big families of generic integration networks: *Abstract Cause Personification* and *Erotic Emission* (CAUSATION – EMISSION + LOVE). It is difficult to know for certain whether they were invented or imported³⁶ by an individual and then incorporated into the tradition or gradually developed by several generations of poets and painters—a process that continued after classical times—or constructed within popular folklore. In fact, it is possible that all these types of creativity played some role in the forging of the symbol at one point or another. In any case, as scaffolding is always necessary for conceptual integration, the process must have built on pre-existing networks with congenial features. Our conceptual analysis alone cannot explain why a deadly weapon was selected for the *X* input space of the network, but it can help us understand how the arrows of Apollo and the erotic emission imagery may have inspired the arrows of love, influenced their meaning, and contributed to their initial success in crucial ways.

3. THE ARROWS OF APOLLO AND THE ARROWS OF LOVE

When he punishes the Greeks for Agamemnon's offence to Chryses in the *Iliad* (1.43–52), Apollo is *Death the Grim Archer*. If, in the *Grim Reaper* blend, we replace the reaper space with an archer space, we have an integration network describing how the meaning of Apollo's action is

³⁵The technical term would be *generalized integration network*, from Fauconnier 2009.

³⁶It is unlikely, but not impossible, that the arrows of love were imported from another culture. In Sanskrit narratives we find a very similar deity, Kāmadeva (literally, “the god of desire”), who causes passion by shooting arrows that are also flowers. Given the controversial dating of many ancient and classical Indian texts, it is hard to rule out completely the possibility of a Sanskrit influence. Kāmadeva does not appear in written texts until the second century B.C.E., a time by which *Eros the Archer* had been a well-developed mythological character for over three centuries. Of course, the Indian deity may have evolved from an older oral tradition, but the available data rather indicate that this is a case of Greek influence on Indian mythology (Benton 2006, 127–29). In any case, the present article tries to offer the conceptual and cultural keys to explain why the invention became successful and widely accepted in classical Greece. I have the impression that a comparison of the conceptual functioning of the arrows of love in both mythologies might support the hypothesis of a Greek invention. The arrows as an emission bringing divine punishment seem to emerge quite naturally from archaic Greek culture, while they seem less necessary for Kāmadeva, who could in principle deliver his flowers in many other ways. But to confirm this, a thorough comparison of both mythologies would be required, and that would deserve a study of its own.

constructed. Note that the archer space, although more related to human death than reaping, is not merely a specification of the killer space, because shooting an arrow does not automatically imply the target's death, since it is not necessarily something that can be killed. The arrows of Apollo never miss their target and cannot be avoided in any way, because he is the personification of Death in general, an event mortals cannot escape. The archer space, at the same time, is framed by the EMISSION schema. This schema provides control over a distance, and its instantiation as archery also allows for the placement of the god at an upper vantage point, corresponding to his superior nature.

The whole network, so closely resembling that of *Love the Archer*, is thoroughly grounded in embodied cognition: it contains the cause-effect vital relation, the EVENT AS ACTION link, the EMISSION schema (also linked to causation), the vertical scale for superiority-inferiority of status, and, crucially, it provides a human-scale, skeletal spatial story accounting for something that lacks an easily perceivable causal chain. The word or concept "disease" (mentioned in *Iliad* 1.10, where it is an event caused by the god), as we usually understand it, does not really add anything substantial to this reasoning. The complex biological system of causes and effects that a more scientific thought process would synthesize with that word simply does not exist for the mythic mind. The concept of disease here is very different from the one outside the religious context. That is why no allegorical interpretation can fully grasp what these arrows originally meant. The Greeks are not dying merely because they are ill, and Apollo is not an abstract symbol of a divine will that has human health at its mercy. The Greeks are dying because Apollo is actually killing them with the inexorable, grim arrows of death, which perhaps are not directly perceived but are felt to be as real as death itself, and precede any idea of illness or healing as they are understood outside the myth. The arrows of Apollo are central to the meaning of *nosos* here.

Apollo as *Death the Grim Archer* and the arrow wound as a conceptualization for mortal illness have at least one interesting parallel: Gamab, a god of the Bergdama people, from Southwestern Africa.³⁷ As Laín Entralgo notes,³⁸ there is a parallel between Apollo's behavior in this passage in the *Iliad* and the arrows of Gamab, who kills humans in the same implacable way—much like the Grim Reaper, too, albeit in the archer role. A person believed to have been wounded by one of his

³⁷Other African peoples also seem to have gods who shoot invisible arrows: see Silberbauer 1981, 54, and Barnard 1992, 260.

³⁸Entralgo 1987, 17, n. 19, quoting Vedder 1923, 103.

arrows is abandoned by her family, since all forms of care are deemed useless.³⁹ The victim is not ill, but dead, according to the functioning of the *Grim Archer* blend, which as we see can be so strongly entrenched as to influence basic behaviors such as looking after the sick. Even if they may produce symptoms similar to those of illness, Gamab's arrows, just like Apollo's, are not really disease but death, and death cannot be cured.

Nor can love. *Love the Archer*—mostly a grim archer for archaic and classical Greeks—is a blending network almost identical to that of *Death the Archer*. In figure 1, replace love with death, Aphrodite/Eros with Apollo, and there you are. There was none of our Saint Valentine Cupid's frivolousness in the conceptual process that originated the arrows of love, for there could be nothing positive nor trivial in one of the most terrible wounds an ancient Greek could suffer, as Thornton points out.⁴⁰ The paradigmatic victim of this "grim" passion, conceived as divine punishment, is of course Medea. This does not necessarily mean this was the only, or predominant, conception of love in the archaic period, but it was definitely the one behind the cultural genesis of the arrows, and the one that made them an acceptable symbol. Note that we also have early examples, not only of love as an emission causing a traumatic experience but also of love as an illness that can bring one close to death, as the celebrated fragment of Sappho (31 Voigt) shows in detail.⁴¹

Let us now try to reconstruct the conceptual structures that those who created the arrows of love had available from their culture. Archaic Greek religion was pervaded by the idea that anything relevant happening to mortals, emotions included, was the result of divine sending, sometimes in the shape of a more or less personified visitation, like the *ate* that obfuscates Agamemnon's reasoning and causes his conflict with Achilles in the *Iliad*.⁴² This sending often takes the form of an emission: for instance, the gods, from their superior position, can pour mist or grace over mortals in order to bewilder them or to make them beautiful and attractive. Love was not an exception to this ability. We see that, from nuptial rituals to the earliest lyric poetry, a variety of things could be thrown, poured, or sent to turn a subject into a lover. Of course, different

³⁹Hahn, Vedder, and Fourie 1966, 62; Knappert 1981, 78–79.

⁴⁰Thornton 1997, 29.

⁴¹One might say that here we are not merely dealing with the link that the literature on conceptual metaphor calls LOVE IS AN ILLNESS (Lakoff and Johnson 1980, 72; Barcelona 1992; Kövecses 2002, 32; Steen 2003, 70), but rather with love as a special case of extreme illness that seems able to kill its victims as in Sappho's case, or cause her to destroy her own family as in Medea's.

⁴²Dodds 1951, 3–18; Neuberg 1993.

emissions have different connotations, and invite different constructions of the erotic experience: a ball is better for playful flirting, while a fruit is appropriate for a bride because it is also connected with reproduction and prosperity. Neither of these of course is appropriate for the kind of passion that can, not unlike *ate*, “steal away your tender senses,” in Archilochus’ words.⁴³

While we have documents for all these visitations and emissions, the arrows of love are absent from every extant text from the eighth to sixth centuries B.C.E. This does not necessarily mean they did not yet exist, but quite probably they were not a central erotic symbol, and thus they are likely to have developed after the arrows of Apollo and Artemis. If we look at the fourth century B.C.E. and later, what we find is completely different: the arrows of love are present and conceptually stable across all poetic genres; they seem to have become the most typical attribute of Eros, and they can be expected to appear alongside the god of love, even in very short texts.

As I have said, the arrows of love do not appear at all in the small fraction of archaic lyric that we possess. We have much more of epic, but they do not appear in it either. It is quite revealing that the only arrows that we find in the *Hymn to Aphrodite*—three instances—belong to Artemis (19, 118, 152). Had the arrows of love been as important for the epic tradition as the arrows of Artemis, it is quite unlikely that the author of the hymn would have omitted them. This is not an easy text to date, but is surely later than the *Iliad* and the *Odyssey*, and perhaps later than Hesiod as well.⁴⁴

Of course, no hypothesis based on the absence of evidence can be conclusive. The treatment of emotion, especially love, and the relations between gods and mortals varied significantly among genres.⁴⁵ One need only contrast Homer and Sappho.⁴⁶ Moreover, the nature and importance of the erotic in literature changed greatly after Euripides.⁴⁷ Thus the only safe conclusion is that the arrows of love, if they existed at all in archaic poetry, were less widespread across genres than they were a few centuries later, and that they had little or no presence in epic. This

⁴³West 1990, 191.

⁴⁴See Faulkner 2008, 23–49. Janko 1982, 165–69, argues for a date between *Theogony* and *Works and Days*.

⁴⁵See, among many others, Snell 1961, 28–48; Rodríguez Adrados 1981, 122–42; Campbell 1983, 6; Gentili 1984, 101–40; Carson 1986, 39; Cyrino 1995; Carey 2009; and Griffith 2009.

⁴⁶See Hutchinson 2001, 168–69.

⁴⁷Rodríguez Adrados 1981, 58.

panorama invites us to think that their status in lyric was also of much less importance than in Hellenistic times, and that perhaps they were as absent from lyric as they were from epic. However, given our fragmentary texts, we will never be as certain for archaic lyric as we are for Homer, Hesiod, and the Hymns. All we can say is that, judging from the evidence that we now possess, at least at an early stage of the archaic period, and perhaps during most of it, some erotic emission blends and the arrows of Apollo and Artemis were available before the arrows of love came into existence.

In such a context there must have been considerable cultural pressure to produce a conceptualization of immoderate passion as a punishing divine emission. We should also remember that, as I have pointed out, another important conceptualization, also available in the early archaic era, viewed the erotic experience as a special type of illness. Love or desire (*pothos*) could put one's health on the verge of collapse, and make one lose control of mind and body; *lysimeles*, "limb-relaxing," is a usual epithet for love in that kind of imagery.⁴⁸ Quite naturally, Apollo, one of the most important deities in archaic religion in his role as *Death the Grim Archer* provided the perfect model for inflicting, through an emission, inescapable, fatal illness as a divine punishment. The similarities with the type of erotic passion attributed to Medea must have been so powerful that the arrows were imported for the *X* input space in the *Abstract Cause Personification* network for love.⁴⁹ Their speed and violence were also extremely appropriate for analogy with the instant of falling in love.⁵⁰ Perhaps the arrows of glance appeared before the arrows of love. In that case, they may have provided a conceptualization of an archetypical love-scene in which the eyes cause passion by shooting like an archer. This could have contributed to attracting the archer space from Apollo to the love network, but it does not seem crucial. All the most relevant meanings, such as distant punishment, sudden and violent action, and fatality, are available in the Apollo as *Death the Grim Archer* blend.

⁴⁸E.g., Sappho fr. 130 Voigt, Alcman *PMG* 3, 61–62. See also Hesiod, *Theogony* 121, although this refers to cosmic Eros, and 911, though this may be an interpolation.

⁴⁹The connection between the arrows of love and Apollo has also been suggested by Breitenberger 2007, 196.

⁵⁰The mental space of archery instantiates the emission schema in a sudden, violent, and targeted action, which is appropriate for many other emotionally loaded moments apart from the erotic. While these uses are not necessarily metaphorical, they strongly enhance causation. Perhaps the most famous in literary history is that of Odysseus revealing himself by shooting an arrow through the handles of the axes, and then another arrow at Antinous (*Od.* 21.419–34, 22.1–41). I thank Gregory Nagy for bringing this to my attention.

The first extant documents of the arrows of love are quite mature representations, and they seem to reflect a pre-existing mythological tradition. This should bring us back at least a few generations from the first examples, which could be as old as 500 B.C.E., if Pace is right about Anacreon. The adoption of Apollo's deadly arrows for the Love-in-general personification network is thus likely to have taken place in the heart of the archaic era, maybe even earlier. At that time, Aphrodite was a well-formed, anthropomorphic deity, but not so Eros, if we judge by what we have, and lack, in Homer, Hesiod, the earliest Hymns, Sappho, or Archilochus.⁵¹ It is quite possible then that Aphrodite was the archer in the first place—the earlier the arrows, the more likely this becomes—and then gradually passed on the job to her son Eros. Considered in a global perspective, our first documents, from the fifth century B.C.E., seem to reflect such a period of transition, as we will now briefly see.

4. CONCLUSION: APHRODITE AND EROS AS GRIM ARCHERS

One of our oldest documents, the aforementioned Pindaric epithet, is for Aphrodite as archer, while the other, the lekythos in Fort Worth, is for Eros.⁵² Neither one looks innovative or improvised. It is not easy to argue that Pindar's epithet was invented on the spot, as its synthetic form requires some background knowledge on the part of the audience. It is also difficult to maintain that the winged kouros representing Eros as an archer is an original creation of the Brygos Painter and not just another mythological theme. There seem to be neither name nor other clarifying clues in the painting. We may conclude that in the early fifth century, everyone was expected to recognize Eros as a winged archer without much difficulty, and that around the middle of the century Pindar's audience would accept the connection between Aphrodite and the arrows without further explanation. Neither example represents the arrows as something either desirable or frivolous. We are still in a period in which both deities can be archers. We do not know whether the transition to Eros' exclusivity as archer has begun, but we do know that, if these documents are not original creations, the traditions that inspired them must have been at least earlier than 500 B.C.E.: the Brygos Painter was already active around 490, perhaps even earlier; Pindar composed his *Pythian* 4 in 462 and was

⁵¹For an overview, see Breitenberger 2007.

⁵²A good photograph of the lekythos is available at: <https://www.kimbellart.org/Collections/Collections-Detail.aspx?prov=false&cons=false&cid=8372>.

born around 522. Both the arrows of Aphrodite and the arrows of Eros must have been active at least as early as the sixth century, quite possibly earlier, and since Aphrodite became anthropomorphic well before Eros, she was quite possibly the first to adopt the arrows.

Euripides' *Medea* then provides, as we have said, the first explicit examples of how the arrows of love worked in Greek mythology. In the play, Aphrodite and Eros coexist as archers, with no apparent tension or contradiction. Jason, quarrelling with Medea, tells her that Eros forced her to save his life with his inescapable arrows (530–31). A few lines later, the chorus fears “immoderate love” and sings a prayer to Aphrodite, with this final request (632–33):

μήποτ', ὦ δέσποιν', ἐπ' ἐμοὶ χρυσέων τόξων ἐφείης
 ἱμέρω χρίσασ' ἀφυκτον οἰστόν.

Do not shoot at me, my Lady, from your golden bow
 the inescapable dart smeared with desire.

In Euripides' *Hippolytus*, produced in 428 B.C.E., three years after the *Medea*, we find a very similar prayer, this time addressed to Eros. The meaning of the arrows remains the same. The chorus begs the god not to come without measure (529), and in the final praise of both deities suggests, for the first time in the extant texts, Aphrodite's renunciation of the arrows of love in favor of Eros (530–34):

οὔτε γὰρ πυρὸς οὔτ' ἄστρον ὑπέρτερον βέλος,
 οἶον τὸ τὰς Ἀφροδίτας ἴησιν ἐκ χερῶν
 Ἔρωσ, ὁ Διὸς παῖς.

For the arrow neither of fire nor of the stars is superior
 to the one from Aphrodite, which Eros, Zeus's child,
 hurls from his hand.

The specialization of roles was to be gradually completed in the course of the subsequent centuries, as Aphrodite increasingly gained a more stately position, detached from the active intervention in human affairs that she used to practice in Homer or Sappho.

As we have seen, the arrows of love are neither the product of a single imagistic mapping from everyday language nor of a flash of inspiration based on the knowledge of specific literary texts. A process of conceptual integration, taking place probably through several centuries of Greek culture, shaped and refined the religious symbol. Then it

was passed on to posterity as a literary and artistic motif, which became all-pervasive during the Hellenistic period. Both culture and conceptual integration are opportunistic and tend to build on pre-existing structures. The conceptual link shared with Apollo's *Abstract Cause Personification* network for death, facilitated by the erotic emission and the love-as-illness background, gives us a more accurate chronology for the arrows of love and helps explain their genesis and initial success within the culture. Beyond the symbol's avatars through history, the conceptual analysis can also account for its great popularity. This magnificent blend perfectly realizes the major goals and principles of conceptual integration. It offers a simple and cohesive spatial schema grounded in embodied cognition and in very relevant cultural materials. It achieves human scale by compressing the multiple causes, effects, and participants of the erotic experience into a clear story of divine emission. Little wonder that the arrows of love are still useful and fashionable, and have no doubt a brilliant future ahead of them.⁵³

UNIVERSITY OF MURCIA, SPAIN
 CASE WESTERN RESERVE UNIVERSITY
 e-mail: cpcanovas@um.es

BIBLIOGRAPHY

- Ahl, Frederick. 1982. "Amber, Avalon, and Apollo's Singing Swan." *AJP* 103:373–411.
- Anagnostou-Laoutides, Evangelia. 2005. *Eros and Ritual in Ancient Literature: Singing of Atalanta, Daphnis and Orpheus*. Piscataway, N.J.: Gorgias Press.
- Anderson, Michael. 2003. "Embodied Cognition: A Field Guide." *Artificial Intelligence* 149:91–130.

⁵³The research for this article has been funded by the Project "Homero: texto y tradición" (05675/PHCS/07), through the Séneca Foundation of the Regional Government of Murcia, Spain, and by the Marie Curie International Outgoing Fellowships, "The Narrative Lyric: Conceptual Blending of Spatial Schemata with Emotion in Poetry and beyond" (235129), from the European Commission. I thank Mariano Valverde Sánchez and Alicia Morales Ortiz for their help with this research from beginning to completion. For help with the final version of the article, I thank Mark Turner, *AJP*'s anonymous referee, Lillian Doherty, and David Larmour. For many useful comments, I thank the participants in the 2008 Conference of the Spanish Cognitive Linguistics Association (esp. Charles Forceville, Dirk Geeraerts, and Javier Valenzuela), CWRU's Cognitive Science Colloquium, Seana Coulson's Cognitive Semantics Group at UCSD, José Miguel González's *Diachrony* conference at Duke, and Per Aage Brandt's Semiotic Circle at CWRU.

- . 2005. "How to Study the Mind: An Introduction to Embodied Cognition." In *Brain Development in Learning Environments: Embodied and Perceptual Advancements*, ed. Flavia Santoianni and Claudia Sabatano, 65–82. New York: Cambridge University Press.
- Barcelona, Antonio. 1992. "El lenguaje del amor romántico en inglés y en español." *Atlantis* 14:5–27.
- Barlow, S. A. 1971. *The Imagery of Euripides*. London: Methuen.
- Barnard, Alan. 1992. *Hunters and Herders of Southern Africa: A Comparative Ethnography of the Khoisan Peoples*. Cambridge: Cambridge University Press.
- Barret, W. S., ed. 1964. *Euripides: Hippolytus*. With intro. and comm. Oxford: Clarendon Press.
- Barsalou, Lawrence W. 2008. "Grounded Cognition." *Annual Review of Psychology* 59:617–45.
- Benton, Catherine. 2006. *God of Desire: Tales of Kāmadeva in Sanskrit Story Literature*. Albany, N.Y.: SUNY Press.
- Blanc, Nicole, and Françoise Gury. 1986. "Eros." In *Lexicon Iconographicum Mythologiae Classicae* III (1), 850–1049. Zurich: Artemis and Winkler.
- Breitenberger, Barbara. 2007. *Aphrodite and Eros: The Development of Erotic Mythology in Early Greek Poetry and Cult*. New York: Routledge.
- Buffière, Félix. 1956. *Les mythes d'Homère et la pensée grecque*. Paris: Les Belles Lettres.
- Campbell, David A. 1983. *The Golden Lyre*. London: Duckworth.
- Carey, Chris. 2009. "Genre, Occasion and Performance." In *The Cambridge Companion to Greek Lyric*, ed. Felix Budelmann, 21–38. Cambridge: Cambridge University Press.
- Carson, Anne. 1986. *Eros the Bittersweet: An Essay*. Princeton, N.J.: Princeton University Press.
- Conacher, D. J. 1980. *Aeschylus' Prometheus Bound: A Literary Commentary*. Toronto: University of Toronto Press.
- Cyrino, Monica S. 1995. *In Pandora's Jar: Lovesickness in Early Greek Poetry*. Lanham, Md.: University Press of America.
- Dancygier, Barbara. 2006. "What Can Blending Do for You?" *Language and Literature* 15.5:5–15.
- Dodds, Eric R. 1951. *The Greeks and the Irrational*. Berkeley: University of California Press.
- Faraone, Christopher A. 1999. *Ancient Greek Love Magic*. Cambridge, Mass.: Harvard University Press.
- . 2002. "Agents and Victims: Constructions of Gender and Desire in Ancient Greek Love Magic." In *The Sleep of Reason: Erotic Experience and Sexual Ethics in Ancient Greece and Rome*, ed. M. C. Nussbaum and Juha Sihvola, 400–426. Chicago, Ill.: The University of Chicago Press.
- Fauconnier, Gilles. 1985. *Mental Spaces: Aspects of Meaning Construction in Natural Language*. Cambridge: Cambridge University Press.

- . 1997. *Mappings in Thought and Language*. Cambridge: Cambridge University Press.
- . 2005. "Compression and Emergent Structure." *Language and Linguistics* 6:523–38.
- . 2009. "Generalized Integration Networks." In *New Directions in Cognitive Linguistics*, ed. Vyvyan Evans and Stéphanie Pourcel, 147–60. Amsterdam: Benjamins.
- Fauconnier, Gilles, and Mark Turner. 1994. "Conceptual Projection and Middle Spaces." *UCSD Cognitive Science Technical Report* 9401.
- . 2002. *The Way We Think: Conceptual Blending and the Mind's Hidden Complexities*. New York: Basic Books.
- . 2008. "Rethinking Metaphor." In *The Cambridge Handbook of Metaphor and Thought*, ed. Raymond W. Gibbs, 53–66. New York: Cambridge University Press.
- Faulkner, Andrew, ed. 2008. *The Homeric Hymn to Aphrodite*. With intro. and comm. Oxford: Oxford University Press.
- Furtwängler, Adolf. 1874. *Eros in der Vasenmalerei*. Munich: von Brunn.
- Geeraerts, Dirk, and Caroline Gevaert. 2008. "Hearts and (Angry) Minds in Old English." In *Culture and Language: Looking for the Mind inside the Body*, ed. Farzad Sharifian et al., 319–47. Berlin: De Gruyter.
- Geeraerts, Dirk, and Stephan Grondelaers. 1995. "Looking Back at Anger: Cultural Traditions and Metaphorical Patterns." In *Language and the Cognitive Construal of the World*, ed. John R. Taylor and Robert E. MacLauray, 153–80. Berlin: De Gruyter.
- Gentili, Bruno. 1984. *Poesia e pubblico nella Grecia antica*. Rome: Laterza.
- Gibbs, R. W. 1994. *The Poetics of Mind*. Cambridge: Cambridge University Press.
- . 2006. "Metaphor: Psychological Aspects." In *Encyclopedia of Language and Linguistics*. 2d ed. Oxford: Elsevier.
- Glebkin, Vladimir. Forthcoming. "Sociocultural History of the Machine Metaphor."
- Grady, Joseph E. 2000. "Cognitive Methods of Conceptual Integration." *Cognitive Linguistics* 11:335–45.
- Grady, Joseph E., Todd Oakley, and Seana Coulson. 1999. "Blending and Metaphor." In *Metaphor in Cognitive Linguistics*, ed. Gerard Steen and Raymond Gibbs. Philadelphia, Pa.: Benjamins.
- Graf, Fritz. 2009. *Apollo*. London: Routledge.
- Griffith, Mark. 1977. *The Authenticity of Prometheus Bound*. Cambridge: Cambridge University Press.
- . 2009. "Greek Lyric and the Place of Humans in the World." In *The Cambridge Companion to Greek Lyric*, ed. Felix Budelmann. Cambridge: Cambridge University Press.
- Grimal, Pierre. 1951. *Dictionnaire de la mythologie grecque et romaine*. Paris: Presses universitaires de France.
- Hahn, Carl H., Heinrich Vedder, and Louis Fourie. 1966. *The Native Tribes of South West Africa*. London: Routledge.

- Halleran, M. R., ed. 1995. *Euripides: Hippolytus*. With intro. and comm. Warminster: Aris and Phillips.
- Herington, C. J. 1970. *The Author of the Prometheus Bound*. Austin: University of Texas Press.
- Hermay, Antoine. 1986. "Trois notes d'iconographie." *Bulletin de correspondance hellénique* 90:219–23.
- Hiraga, M. K. 2005. *Metaphor and Iconicity: A Cognitive Approach to Analyzing Texts*. New York: Palgrave Macmillan.
- Hubbard, T. K. 1991. "Recitative Anapests and the Authenticity of *Prometheus Bound*." *AJP* 112:439–60.
- Hutchinson, G. O. 2001. *Greek Lyric Poetry: A Commentary on Selected Larger Pieces*. Oxford: Oxford University Press.
- Janko, Richard. 1982. *Homer, Hesiod and the Hymns: Diachronic Development in Epic Diction*. Cambridge: Cambridge University Press.
- Johnson, Mark. 1987. *The Body in the Mind*. Chicago, Ill.: University of Chicago Press.
- Karanika, Andromache. Forthcoming. *Voices at Work: Women, Labor, and Performance in Ancient Greece*.
- Knappert, Jan. 1981. *Namibia: Land and Peoples, Myths and Fables*. Leiden: Brill Archive.
- Kövecses, Zoltán. 1986. *Metaphors of Anger, Pride, and Love*. Amsterdam: Benjamins.
- . 1989. *Emotion Concepts*. New York: Springer.
- . 2002. *Metaphor: A Practical Introduction*. Oxford: Oxford University Press.
- . 2005. *Metaphor in Culture: Universality and Variation*. Cambridge: Cambridge University Press.
- Laín Entralgo, Pedro. 1987. *La curación por la palabra en la antigüedad clásica*. Barcelona: Anthropos.
- Lakoff, George. 1987. *Women, Fire, and Dangerous Things: What Categories Reveal About the Mind*. Chicago, Ill.: University of Chicago Press.
- . 1993. "The Contemporary Theory of Metaphor." In *Metaphor and Thought*, ed. Andrew Ortony, 202–51. Cambridge: Cambridge University Press.
- . 2008. "The Neural Theory of Metaphor." In *Cambridge Handbook of Metaphor and Thought*, ed. R. W. Gibbs, 17–38. New York: Cambridge University Press.
- Lakoff, George, and Mark Johnson. 1980. *Metaphors We Live By*. Chicago, Ill.: University of Chicago Press.
- Lakoff, George, and Mark Turner. 1989. *More than Cool Reason: A Field Guide to Poetic Metaphor*. Chicago, Ill.: University of Chicago Press.
- Lasserre, François. 1946. *La figure d'Éros dans la poésie grecque*. Lausanne: Imprimeries Réunies.
- Littlewood, A. R. 1968. "The Symbolism of the Apple in Greek and Roman Literature." *HSCP* 72:147–81.
- Murray, Gilbert, ed. 1902. *Euripidis fabulae*. Oxford: Clarendon Press.

- Neuburg, Matt. 1993. "Atê Reconsidered." In *Nomodeiktes: Greek Studies in Honour of Martin Ostwald*, ed. Ralph M. Rosen and Joseph Farrell, 491–504. Ann Arbor: University of Michigan Press.
- Oakley, Todd. 2007. "Image Schemas." In *The Oxford Handbook of Cognitive Linguistics*, ed. Dirk Geeraerts and Herbert Cuyckens, 214–35. Oxford: Oxford University Press.
- Pace, Cristina. 2001. "Le frecce degli Eroti." *Eikasmos* 12:19–26.
- Pagán Cánovas, Cristóbal. 2004. "El amor como emisión en las canciones populares neogriegas y en la lírica griega arcaica: estudio cognitivo de fenómenos imaginativos." *Estudios Neogriegos* 7:25–42.
- . 2007. "El amor como emisión en la poesía de Elytis." *Estudios Neogriegos* 9–10:65–88.
- . 2008. "Amor y luz como emisión en *Ερπινή Συμφωνία* de Giannis Ritsos." In *Cultura neogriega. Tradición y modernidad*, ed. J. A. Aldama and Olga Omatos, 535–48. Vitoria: Universidad del País Vasco.
- . 2009. *La emisión erótica en la poesía griega: una familia de redes de integración conceptual desde la Antigüedad hasta el siglo XX*. Universidad de Murcia. Ph.D. diss. Available at: http://www.thesisenred.net/TDR-0519110-103532/index_cs.html.
- . (Forthcoming 2010). "Erotic Emissions in Greek Poetry: A Generic Integration Network." *Cognitive Semiotics* 6.
- Page, Denys L., ed. 1962. *Poetae melici graeci*. Oxford: Clarendon Press.
- Rodríguez Adrados, Francisco. 1981. *El mundo de la lírica griega arcaica*. Madrid: Alianza Editorial.
- Ruiz de Elvira Prieto, Antonio. 1982. *Mitología clásica*. Madrid: Gredos.
- Silberbauer, George B. 1981. *Hunter and Habitat in the Central Kalahari Desert*. Cambridge: Cambridge University Press.
- Šklovskij, Viktor. 1925 (1990). *Theory of Prose*. Trans. by Benjamin Sher. Elmwood Park, Ill.: Dalkey Archive Press.
- Snell, Bruno. 1961. *Poetry and Society: The Role of Poetry in Ancient Greece*. Bloomington: Indiana University Press.
- Snell, Bruno, and Herwig Maehler, eds. 1990. *Pindaros I–II*. Leipzig: Teubner.
- Solomon, Jon. 1994. "Apollo and the Lyre." In *Apollo: Origins and Influences*, ed. Jon Solomon, 37–46. Tucson: University of Arizona Press.
- Spatafora, Giuseppe. 1995. "La metafora delle frecce di Eros nella poesia greca antica." *Orpheus* 16:366–81.
- Steen, Gerard. 2003. "Love Stories: Cognitive Scenarios in Love Poetry." In *Cognitive Poetics in Practice*, ed. Gerard Steen and Joseph Gavins, 66–82. London: Routledge.
- Sullivan, Karen, and Eve Sweetser. 2009. "Is 'Generic is Specific' a Metaphor?" In *Meaning, Form and Body*, ed. Fey Parrill, Vera Tobin, and Mark Turner, 309–27. Stanford, Calif.: CSLI Publications.
- Sweetser, Eve. 1995. "Metaphor, Mythology, and Everyday Language." *Journal of Pragmatics* 24:585–93.

- . 2006. "Whose Rhyme is Whose Reason? Sound and Sense in *Cyrano de Bergerac*." *Language and Literature* 15.1:29–54.
- Talmy, Leonard. 1988. "Force Dynamics in Language and Cognition." *Cognitive Science* 12:49–100.
- Thornton, B. S. 1997. *The Myth of Ancient Greek Sexuality*. Boulder, Colo.: Westview Press.
- Tsitsibakou-Vasalos, Evanthia. 2007. *Ancient Poetic Etymology. The Pelopids: Fathers and Sons*. Stuttgart: Steiner.
- Tsur, Reuven. 2000. "Lakoff's Roads Not Taken." *Pragmatics and Cognition* 7:339–59.
- Turner, Mark. 2002. "The Cognitive Study of Art, Language, and Literature." *Poetics Today* 23:9–20.
- Vedder, Heinrich. 1923. *Die Bergdama, Teil 1. Reihe B. Völkerkunde, Kulturgeschichte und Sprachen*. Hamburg: University of Hamburg Press.
- Voigt, Eva-Maria, ed. 1971. *Sappho et Alcaeus: Fragmenta*. Amsterdam: Athenaeum-Polak and Van Gennep.
- West, M. L., ed. 1990. *Aeschylus. Tragoediae*. Stuttgart: Teubner.

