

A Qualitative Approach Using Digital Analyses for the Study of Action in Narrative Texts: KTU 1.1-6 from the Scribe 'Ilimilku of Ugarit as a Case Study

Vanessa Bigot Juloux

Introduction

The hermeneutics of action is key to understanding both an action and the interpersonal relationships narrated in literature.¹ Consider this short example as an illustration based on a summary of KTU 1.3:ii:5b–6a: “Anatu fights in the valley.”

We can interpret this action in the sense of inflicting either humiliation or physical injury on a group of people. In order to determine the specific meaning of such a phrase, we need to consider its wider context. An investigation into the interactions between characters in narrative texts and their agency can shed light on the author’s intentions.² In this chapter, I outline a digital method that facilitates this approach in the study of Ugaritic literature.³ Rath-

1 *In memoriam* my mother, Madeleine Bigot-Bovia. I am very grateful to Nicolas Wyatt (my co-adviser, emeritus of the University of Edinburgh) for his kind advice, to Glenn Roe (Australian National University) for his English-editing suggestions, to Terhi Nurmikko-Fuller (Australian National University) for her useful suggestions in anticipation of a digital ontology of power relationships and for reviewing my English, and to Daniel Stockholm (École Pratique des Hautes Études, Paris Sciences et Lettres) for his valued assistance on R. I am also grateful to the internal committee and peer reviewers for their kind suggestions. Of course, the final content is my own responsibility.

2 This approach is also useful for the study of historical corpora (such as annals and chronicles) and some epistolary texts. According to Englehardt (2013, 4): “Agency is an open concept that can be employed in different theoretical contexts for different interpretative goals.” In a context of social construction, one speaks of behavior of agency that necessarily includes three elements: the ability to act, the willingness to act, and the power to act.

3 For other Ugaritic texts, see also in this volume, Prosser, 324–328. I will not dwell on Hebrew narrative traditions, especially since I am not a Hebrew scholar; I will rather refer to contemporary or previous cultures to Ugarit.

er than describe an interface for working with textual data, I will explain the encoding process and the rationale for this interdisciplinary methodology.

I focus on ‘Anatu in the Ba‘lu and the ‘Anatu Cycle (KTU 1.1–6),⁴ a narrative story, traditionally viewed as a “myth” by scholars, about the fight between two clans over the throne (likely of the kingdom of Ugarit).⁵ Written in alphabetic cuneiform on six double-sided clay tablets, the text is attributed to the scribe ‘Ilimilku the Šubbanite of Ugarit (modern name: Ras Šamra), a Bronze Age kingdom situated on the northwestern coast of what is now Syria.⁶ The date of the writing remains debated, but I follow Dennis Pardee’s hypothesis that it was composed during the last quarter of the thirteenth century BCE.⁷ However, our understanding of this literary composition is complicated for two main reasons: first, it follows the archeological gap of the fifteenth century, which renders the chronology difficult to establish due to a lack of evidence;⁸ and second, at least 50 percent of the text is missing, and only a single copy survives.⁹ This could explain why Ugaritic narrative texts assigned to ‘Ilimilku have been examined with great interest by Ugaritologists.¹⁰ Nevertheless, what existing studies have in common is a lack of analysis of the relationships be-

4 This myth is well known as the Ba‘lu Cycle, but, based on the preliminary results, I propose to rename it (as does Pitard [1999, 53]). The KTU reference follows *Die Keilalphabetischen Texte aus Ugarit (KTU)* (Dietrich, Loretz, and Sanmartín 2013–). Concordance: KTU 1.1 = RS 3.361; KTU 1.2 = RS 3.367 + 3.346; KTU 1.3 = RS 2.[014] + 3.363 + 3.364; KTU 1.4 = RS 2.[008] + 3.341 + 3.347; KTU 1.5 = RS 2.[022] + 3.[565]; KTU 1.6 = RS 2.[009] + 5.155.

5 See Fensham (1979, 273), who also postulates that they represent two clans in a struggle for supremacy between two groups from northern Syria.

6 For other narrative compositions by ‘Ilimilku, see: KTU 1.14–16, KTU 1.17–19. For the most recent research in favor of ‘Ilimilku’s authorship, see Wyatt (2015). See also Mazzini (2004, 68), who notes that it “is generally considered to have been written at the court of Niq-maddu II, so that ultimately he too might have been a witness of the political event mentioned.” The Kingdom of Ugarit had about two hundred villages, with an estimated population of thirty-five thousand inhabitants, including the capital (Liverani 2011, 326). The kingdom was destroyed at the end of the Late Bronze Age, c. 1200 BCE. For additional information about Ugarit (Ras Šamra), see in this volume, Prosser, 315–316.

7 Pardee 2012, 11–12, and following Mazzini (2004) and Wyatt (2015). However, I may enrich the discussion in my forthcoming doctoral dissertation.

8 Vidal 2006, 172–173.

9 Wyatt 2002, 36. The tablet was found in 1929 by Claude Schaeffer and Georges Chenet in the library of the chief priest.

10 Among other relevant research on KTU 1.1–6, see Smith and Pitard (2008), Wyatt (2002); on the kingdom of Ugarit, see Freu (2006), Yon (2006).

tween the characters and of the connection of the narrative to anthropological phenomena.¹¹

Investigating an action introduces a new perspective for interpreting the role of each character, and it can hint at the motivations of the author, be they social, political, or otherwise. To reveal how this hermeneutics of action works, we need to look at empirical testimonies (such as annals and chronicles). It is pertinent to compare contexts, such as war contexts, especially since ‘Anatu is traditionally known as a bloodthirsty goddess.¹² My concern is the role assigned to ‘Anatu and her actions, rather than her divine figure.¹³ The semantic field of a verb is one piece of evidence for identifying a role within the context of similar events.

For my initial analyses for my Master’s thesis, I counted all of the verbs used for each character in KTU 1.1–6.¹⁴ Preliminary results showed that in this episode, Ba’lu is in a secondary role almost a quarter of the time (24 percent of the

11 With the notable exceptions of Page (1998), Karkajian (1999), Schloen (2001), and Murphy (2010). Natan-Yulzary’s (2009) study of ‘Anatu and the Aquatu’s Legend should be noted; this study has the merit of highlighting the characters’ roles and their relationships. However, one can only regret the anachronistic comparison with the book of Job.

12 Scholars have fixated on ‘Anatu’s violence and sexuality (e.g., Kapelrud 1969; Gray 1979). For an overview of most hypotheses, see Walls (1992, 161–175). This significant violence defines her as a cruel goddess, full of bloody violence that would be linked to either a fertility or seasons rituals (Hentrich 2001). Even though she is primarily known as a war goddess, ‘Anatu is often associated to the so-called fertility cult. However, I strongly disagree with this interpretation, as do others (notably, Day [1991, 142] and Wilson [2013, 179]: “assumptions that cannot be justified, assumptions biased by Western notions of womanhood that are more androcentric than Ugaritic culture may have been.” As Wyatt (email to author, April 2017, quoted with his kind agreement), says: “Fertility cult’ is basically derogatory and hysterical language to characterize supposedly ‘orgiastic’ and ‘licentious’ cults, such as anything Canaanite, and Ugaritic by definition ([as proposed by scholars including] John Gray, Johannes de Moor, Leila Leah Bronner, Ulf Oldenburg *et al.*.” For an example, see Gray (1965, 45). Wyatt is currently working on a project dealing with ritual: “Ritual is essentially the repetition of a stylized form of activity, which, in conforming to an archetype, is believed to “re-member” it, and perpetuate it in the continuing life of the community.” For some scholars, ‘Anatu acts with violence toward others without specific reason; de facto, her violence would be associated with her intrinsic personality. Jeffery Lloyd quite well reminded us that it is difficult to judge ‘Anatu’s violence in KTU 1.3:ii: “Since we are unaware of the nature of the material that preceded and followed this episode this judgment might seem harsh.” He added that “we can legitimately compare this narrative to historical practice” (Lloyd 1994, 164, 166), pointing to ‘Anatu’s violence and her relation to history.

13 For further explanation see below, under “Category: Role (@xml:id="role").”

14 Juloux 2013.

verbs). Since in the same episode ‘Anatu is the most active over a third of the time (34 percent), we can conclude that, contrary to earlier studies, ‘Anatu is the main protagonist and Ba’lu plays a secondary role.

To my knowledge, there is, as of yet, no digital analysis of ʾIlimilku’s corpus that includes the analytical taxonomies that I am suggesting here.¹⁵ The approach presented here is experimental. I will first introduce the general methodology, in which useful definitions for understanding the chosen approach will be noted. The following two parts focus on an explanation of the digital humanities methodologies used for the analytical taxonomies and text mining, both encoded within TEI-XML.¹⁶ The final stage in the preparation for the creation of a hermeneutics of action is reserved for R (a free software environment that enables data manipulation).¹⁷ Here I will only give a short example illustrating the importance of my analytical taxonomies to the preliminary findings from parsing the text using an R environment.¹⁸

Prior Reflection

Let me introduce the thought process that has led to the analytical approach. A variety of approaches can be applied to the investigation of a narrative text: pragmatics, semantics, philosophy of action,¹⁹ empiricism, intersubjective phenomena, and Popperian deduction. These allow us to engage, *in fine*, an analysis close to anthroposocial sciences as defined by Jean-Michel Berthelot,²⁰

15 “The Ras Shamra Tablet Inventory” (RSTI) is a research project of the Oriental Institute of the University of Chicago co-directed by Miller C. Prosser and Dennis Pardee (<<http://ods.uchicago.edu/rsti/>> [accessed May 28, 2017]). RSTI uses the Online Cultural and Historical Research Environment (OCHRE) (<<https://ochre.uchicago.edu/>> [accessed May 28, 2017]). While a hermeneutics of action has not yet been attempted in OCHRE, the flexible data model makes this sort of research possible. I have already discussed the possibility of a future collaboration with Prosser. Regarding RSTI and OCHRE, see in this volume, Prosser, 317–322.

16 I will return to a discussion of Extensible Markup Language (XML) and the Text Encoding Initiative (TEI) in the subsection “Elementary Explanation” below.

17 As for data manipulation, see in this volume, Svärd, Jauhiainen, Sahala, and Lindén, 226.

18 For a short explanation on R, see below under “Text Mining.”

19 The French philosopher Maurice Blondel (1861–1949) first introduced the philosophy of action. See *Internet Encyclopedia of Philosophy*, s.v. “Maurice Blondel,” <<http://www.iep.utm.edu/blondel/>> (accessed May 28, 2017).

20 Berthelot 2004, 17: “Parler des sciences anthroposociales, c’est souligner une unité et interroger une diversité ... La diversité est celle des disciplines.” My translation: “To talk about

and that is, to some extent, similar to the ethnomethodological approach.²¹ This approach is no exception, since, as shown by Roberto P. Franzosi, “in recent decades, social scientists, from psychologists to sociologists and anthropologists, have paid increasing attention to the study of narrative.”²²

Hermeneutics

What is hermeneutics, other than a method for understanding a text?²³ There are abundant extant varieties.²⁴ We are indebted to Aristotle for the original conception of hermeneutics based on the logical approach, followed by the logician Petrus Ramus in the sixteenth century who used a substantially similar method while criticising the Greek philosopher.²⁵ In the seventeenth century, from the logical tradition, first Johann Conrad Dannhauer, then Johann Clauberg introduced the scope of hermeneutics,²⁶ although with two different views,²⁷ followed chronologically by Friedrich Schleiermacher, Wilhelm Dilthey, and Paul Ricoeur—just to mention some scholars who have influenced

the anthroposocial sciences is to emphasize a unity and to question diversity ... The diversity is that of disciplines.”

- 21 The ethnomethodological approach includes political, historical, geopolitical, cognitive, legal, philological, and iconographical fields of expertise.
- 22 Franzosi 2010, 600.
- 23 *Stanford Encyclopedia of Philosophy*, s.v. “hermeneutics,” <<https://plato.stanford.edu/entries/hermeneutics/>> (accessed May 26, 2017). Moreover, Jean-Claude Gens (2006) has clearly shown the connection between logic and hermeneutics.
- 24 Types of hermeneutics include cultural (deriving from the “writing culture” debate on the interpretative anthropology of Clifford Geertz), literary (based on philological concepts, mostly influenced by Friedrich Schlegel), and philosophical (inspired by Martin Heidegger and his reflection on “Dasein”).
- 25 The concepts of analysis developed by Aristotle and Ramus are opposed to those of Dannhauer (Gens 2006, 21). *Stanford Encyclopedia of Philosophy*, s.v. “Petrus Ramus,” <<https://plato.stanford.edu/entries/ramus/>> (accessed March 4, 2018).
- 26 The term *hermeneutica* had been used once in 1629 by the Ramist philosopher Alexander Richardson in a commentary on the dialectics of Ramus (Gens, 2006, 16). *Peri Hermeneias* (second book of *Organon*). See also Grondin (2006, 2) and Molinié (2007, 433–444). Grondin 2006, 1: “Il s’est ouvertement inspiré du traité d’Aristote intitulé *Peri hermeneias* (*De interpretatione*) et a soutenu que la nouvelle science de l’interprétation n’était effectivement rien d’autre qu’un complément à l’organon aristotélicien.” My translation: “He was openly inspired by Aristotle’s treaty entitled *Peri hermeneias* (*De interpretatione*), and he argued that the new science of interpretation was actually nothing more than an addition to Aristotle’s *Organon*.” See also Gens (2006).
- 27 (1) Aristotelician and (2) Cartesian views (Gens, 2006, 5).

my approach, first for the practice of observation, second for investigating the observed data.²⁸

With the digital age, two new types of hermeneutics have arisen: digital hermeneutics, based on digital ontologies,²⁹ and computational hermeneutics for big data studies.³⁰

Within the scope of literature, specific hermeneutics have arisen, of which various methods are borrowed from more general hermeneutic methods: among others, Biblical hermeneutics, Talmudic hermeneutics, Babylonian hermeneutics, and Mesopotamian hermeneutics. Although the genre of texts is different (Mesopotamian commentaries about divination versus narrative literature), I will briefly talk about Mesopotamian hermeneutics,³¹ in particular Uri Gabbay's notable approach that focuses on, among other topics, the intention of Mesopotamian commentaries.³² One may think *prima facie* that Gabbay's approach is close to the intentionality concept (defined below), since we both focus on the same questions (what, how, and why). But in fact, it is not: our methods and purposes are different. While Gabbay examines the intention of the commented text according to the commentator's interpretation,³³ I am

28 Ricœur 1969 and 1986; Laks and Neschke 2008.

29 Capurro 2010, 37–38: “It deals with processes related to the digital network at the social level, autonomous systems of interpretation, communication and interaction (robotics), as well as all kinds of hybrid biologic systems (bionics) and digital manipulation at the nano level ... It aims at translating and interpreting *logos* and *arithmos* within the human realm but it is not restricted to this sphere.”

30 Mohr, Wagner-Pacifici, and Breiger 2015, 3–4: “The central idea of a computational hermeneutics is that all available text analysis tools can and should be drawn upon as needed in order to pursue a particular theory of reading ... Instead of focusing on the main communicative intentions of a text, we are now able to push toward the kind of close reading that has traditionally been conducted by hermeneutically oriented scholars who find not one simple uncontested communication, but multiple, contradictory and overlapping meanings.” Big data: large and complex datasets that require computational methods for their analysis (Dutcher, 2014, <<https://datascience.berkeley.edu/what-is-big-data>> [accessed June 2, 2017]).

31 Selz 2013, 48: “The term ‘Mesopotamian hermeneutics’ is used in the following contribution in a very broad and modest sense. We will search for indications of epistemic self-reflexivity within the framework of early Mesopotamian scholarship. Mesopotamian scholarship is always empirically based—that means knowledge is founded on various sorts of observations.” It is based on signs signification according to the diviner who “holds the ‘hermeneutic keys’ to the divinatory code” (Koch 2010, 44).

32 Gabbay 2016.

33 The intention here relies on the literal meaning rather than philosophical scope described below. “The concept of ‘literal meaning’ can relate to two different categories. It can refer

concerned with the author's intention regarding his motivated choices of characteristics and the action's characters, by investigating characters intentionality. Actually, intention and choices are related in that both attempt to answer the questions: why does the author assign such and such characteristics to a specific character rather than to another, and how does this help the anthropological interpretation? Whereas Gabbay uses hermeneutical procedures based on "the lexical tradition and the divinatory tradition,"³⁴ I consider empiricism (mainly politico-historical) and pragmatics (defined below), which are essential in order to prepare to a hermeneutics of action.³⁵

Pragmatics, Semantics, and Intentionality

A text includes sentences and utterances. A sentence has grammatical units; an utterance has contextual information and relevant elements for the interpretation. These elements have several meanings. Using pragmatics, in particular those of Herbert Paul Grice,³⁶ invites us to consider the implicature,³⁷ or what is suggested by an utterance—in other words, what is beyond the conventional linguistic meaning: what the author wants to tell the audience according to both the context of the composition and the utterance itself.³⁸ From my point of view, the relevance of pragmatics lies here.

To get back to my first example, "Anatu fights in the valley," one needs to consider the two interrelated criteria: the implicature according to the author's intention, and semantics. On the latter criterion, my first concern is the verb,

to a lexical understanding of a word or phrase regardless of its context, for example, when figurative language occurs; or it can refer to the obvious intention of a sentence or passage, usually agreeing with the basic lexical meaning of the words that comprise it, as opposed to a more expository meaning achieved through exegesis. The lexical meaning of a word usually fits its meaning in the context it is found in, and the formulation of a text usually reflects the intention of the text" (Gabbay 2014, 335).

34 Gabbay 2014, 335.

35 Within the scope of Mesopotamian hermeneutics, "action" has different meanings. For example, for extispicy, action's diviner has to be understood as "instrument" (Koch 2010, 54). For further discussion of "action," see the subsection "Actancial Event," below.

36 Grice 1975; *Stanford Encyclopedia of Philosophy*, s.v. "implicature, Gricean theory," <<https://plato.stanford.edu/entries/implicature/#Grice>> (accessed April 25, 2017).

37 Implicature is a specific term for pragmatics (*Stanford Encyclopedia of Philosophy*, s.v. "implicature," <<https://plato.stanford.edu/entries/implicature>> [accessed April 25, 2017]).

38 For example, "It is twelve" may mean either "It is lunchtime" or "It is time to leave for my appointment."

which has several senses belonging to significantly distinct semantic fields that affect its interpretation.³⁹

However, I will mostly observe the character's intentionality rather than the authors's intention. I will, of course, explain the reason.

In the scope of philosophy of action, "intentionality" has a significantly different meaning than "intention." One speaks of intentionality when the action is achieved, and one speaks of intention when the action is hoped to be achieved. For example, (A) "Lena wants to go to the concert." There are two possible outcomes: either she goes or not. If (B) "Lena went to the concert," the action was achieved, and one would talk of Lena's intentionality. But if (C) "Lena did not go to the concert," then one would talk of her intention, albeit unachieved in this case. To sum up, intentionality includes states A, B, and C,⁴⁰ while intention is only demonstrated by state C.⁴¹ Thus, whether the action is voluntary or not, intention to act is not always achieved. Regarding the intentionality, one looks to know for what reason the action was performed, while for intention, one only wonders about the motivation of the foreseen action.

One might object: what about an action of motion, since some actions may be not voluntary? For example, slipping on the floor is an involuntary action, while dancing is voluntary. Honestly, no one has a voluntary intention to slip on the floor—with few exceptions (theater, circus). But, nonetheless, it happens: the action of slipping is achieved, as is the action of dancing. Both no longer fall within intentional actions. A reason for acting in a particular way can also justify the action itself;⁴² this is the case with dancing.

However, both "intention" and "intentionality" have consequences which need to be investigated, since an action achieved or not was decided for one or several reasons. These consequences concern either the person who performs the act, or other only or both.

39 I will return to this topic below in the subsections titled "Actancial Event" and "Category: Verb (@xml:id="Action")."

40 Davidson 2008, 129: "Former une intention peut être une action, mais ce n'est pas une réalisation." My translation: "To form an intention may be an action, but it is not a realization."

41 Anscombe 2002, 45. For additional information about several states of reason, see Audi (2003, 77, 102–104). According to Ricœur (1977, 13): "Le transfert de la connaissance à l'action repose sur le parallélisme entre l'objet et l'événement, entre être vrai et rendre vrai." My translation: "The transfer of awareness to action is based on the parallel between the object and the event, between being true and making true."

42 See Davidson 2008, 17.

Empiricism and Intentionality

Of course, I am not considering the act of writing words on a clay tablet. To do so, one needs to consider that first the scribe 'Ilimilku intended to narrate a story, and he did. The act of writing was indeed achieved; thus, all three states A, B, and C would support the analysis of the author's intentionality.⁴³ The main problem is that we are not able to analyze the consequences of state B, among other reasons, we have no evidence for its reception by an audience of readers and listeners (in the case of oral delivery) in antiquity. Furthermore, I prefer to avoid assumptions for state B, so I only will look to the author's intention by investigating intentionality of characters in the narrative story.

I will use an empirical approach to observe an action that needs to be understood as a change of conditions from state A to state B. Regarding an act of violence, it needs to be contextualized according to a place where a parallel can be drawn with a similar event and place. For example, somebody beats a group of people: in which texts do we find this event other than the one we are currently studying? This analogical event needs to be known by the author and/or associated with an intersubjective phenomenon.⁴⁴ Based on the assumptions of Nicolas Wyatt about 'Ilimilku's authorship of this text,⁴⁵ it is quite believable that this scribe has accumulated much useful knowledge about history testimonies, since literature competencies are the highest level of his training.⁴⁶

Going back to the previous example, "somebody" can be a sovereign. Before a military campaign, he requested a god's approbation in some ways—an intersubjective phenomenon. Then the question arises as to why the author has chosen a god to beat a group of people in a similar event—and beyond this by

43 See also the auctorial intentionalism (Bühler 2015, 240).

44 A community network is connected by a subjective consciousness. Harari 2015, 144–145: "Est intersubjectif ce qui existe au sein du réseau de communication qui lie la conscience subjective de nombreux individus ... Nombre de moteurs les plus importants dans l'histoire sont intersubjectifs: loi, argent, dieux et nations." My translation: "It is intersubjectivity that exists within the communication network that links the subjective consciousness of many people ... Many of the most important driving forces in history are intersubjective: law, money, gods, and nations." Harari takes the example of human rights. They belong to the imagination of billions of people. If one person no longer believes in human rights, there will be no overall impact, but if, during a long time, a very large group of people stop believing in them, then they may be called into question.

45 See note 6, above.

46 The training of an Ugaritic scribe included five levels: (1) lists of syllabic signs, (2) thematic lists of word signs, (3) model documents, (4) thematic list of "knowledge," and (5) "poetry/literature" (Hawley 2008, 59).

choosing a verb from a similar semantic group to the one used to describe the sovereign's action. Then it is easier to suggest the intention of an author, *in fine*, by the signification of an utterance, as well as his or her will to make significant reference to the mental realities of the addressee according to socialized codification.⁴⁷ This is particularly true when taking the assumption of Donald Davidson:

Les croyances et les désirs nous disent quelles raisons un agent a d'agir seulement si ces attitudes se trouvent reliées de manière appropriée à l'action telle que l'agent lui-même la considère.⁴⁸

Regarding the previous explanation, the author of a narrative text is the primary agent. So the question is simple: why has the author intentionally assigned a type of action to a specific person? First one needs to analyze each action performed by a substitute agent, a fictional character, since I believe that the intentionality of a character in a literary narrative is intrinsically dictated by the author's will—for example, motivated by the correlation with history.

Actancial Event

It goes without saying that such an analysis cannot be performed by a text-oriented approach alone.⁴⁹ I believe that the weakness of such an approach is due mainly to the negligence of analytical criteria.⁵⁰ These are also required in order to determine the analytical variables that, *de facto*, help to avoid a biased reading.

I describe the notion of action as an “actancial event” because it necessarily jointly implies an actant (subject = main agent, mostly active) and an event

47 Following Le Ny (2001, 32): “Chaque fois qu'un verbe désignateur d'événement est utilisé dans une phrase, la signification de celle-ci comporte une référence à un exemplaire de l'ensemble général de ces réalités du monde qu'on appelle des événements, c'est-à-dire une exemplification du concept d'événement.” My translation: “Each time a verb that shows an event is used in a sentence, its signification includes a reference to a model of the general set of these realities that is an exemplification of the event concept.”

48 Davidson 2008, 120. My translation: “Beliefs and desires tell us what reasons an agent has to act only if these attitudes are linked in an appropriate manner to the action as the agent himself understands it.”

49 This is also known as a “literary approach”: “In summary, a text-oriented approach focuses on the text” (Sun 2008).

50 Juloux 2016a.

(verb).⁵¹ The focus on an actantial event will be useful within the scope of the study of a narrative story since a story “refers to a skeletal description of the fundamental events in their natural logical and chronological order or sequence” and the roles of the actants.⁵² Thanks to the philosophy of action, an observation of all of the components related to an actantial event can be used to appraise quantifiable variations linked to the change of a state of the agent through an event.

These variations, like the actantial event itself, belong to distinct groups, and are sorted systematically prior to the extraction. I have defined three analytical taxonomies to investigate an actantial event: primary data, objective variables, and subjective variables—which I will address in detail in the next section.

What are objectivity and subjectivity? Their common characteristics are their affiliation with the field of knowledge. I will not dwell on definitions here. However, I will rely on the explanation of Popper, who defined objective knowledge as demonstrable knowledge that follows a certain truth, while subjective knowledge is linked both to our own beliefs and opinions.⁵³ Following Popper’s assumption, objective variables are lexical items for which meaning can easily be identified according to common knowledge (such as context, biological sex, verb).⁵⁴ Subjective variables fall within our own interpretations (consider, for example, an emotion). Popper suggested that subjective knowledge may become objective by deduction. In this, the proposed taxonomies find their pertinence for the purpose of a hermeneutics of action that follows the principle of a Popperian deduction, as soon as empiricism is also taken into account.

51 Following Greimas’s theory (1987, xxxiv) on the role of the actant subject and its competency: the actant subject will be endowed successively with the modalities of competence, and in this case the “subject assumes those actantial roles which manifest the subject in terms of wanting, the subject in terms of knowing, and the subject in terms of being able to do.” The main agent’s antonym is the auxiliary agent, which comes after the verb.

52 See Franzosi 2010, 597.

53 See Popper (1998, 138–139), in particular: “La connaissance subjective est un genre de disposition dont l’organisme peut parfois prendre conscience sous la forme d’une croyance, d’une opinion ou d’un état d’esprit.” My translation: “Subjective knowledge is a kind of disposition from which the being may sometimes become aware either of an opinion or a state of mind, in the form of a belief.”

54 Later in this paper, I come back to each of these terms as well as to the concept of “subjective variables.”

To get back to an actantial event, one has to distinguish the action itself from the result of the action. The two are intrinsically linked. Both can be useful to measure the capacity for setting up authority and power. There can be several outcomes from a single action, each with its own consequences. The result of an action is not necessarily what was anticipated at the outset. It is not always straightforward to take into account the reason for an action that assumes the notion of belief, notably as defended by Davidson;⁵⁵ thus, following the intersubjective phenomenon, an agent performs an action if he believes he will have a positive result.

More importantly, this process enables us to set up analytical taxonomies and a structural framework for a preliminary step toward an interpretation. I begin by focusing on 'Anatu's actions, establishing the groundwork for a hermeneutics of her action. This preliminary step, which uses mixed methods, includes three parts: analytical taxonomies, text mining both with TEI, and parsing with R. In this paper, I will mostly focus on TEI.

Analytical Taxonomies in TEI

Research Method

Quantitative and qualitative approaches are analytical methods of text and data mining.⁵⁶ This broad range of techniques enables the extraction of available knowledge from a large dataset in order to find correlations between variables and unexpected items or models (similar arguments). Among a wider range of datasets, there is textual data.

Quantitative methods allow the researcher to count and measure a group of data;⁵⁷ they use mathematical formulas and statistics to express results in terms of numbers or sets of numbers. Graphics or templates are often used to communicate results. In contrast, qualitative methods can be employed independently or in conjunction with quantitative methods. Qualitative methods

55 Davidson (2008, 17, 20) talks about a primary action that is its cause: a pro-attitude (the agent's mental attitude, which implies desire) and the associated belief. However, I will not develop both types of action here. For further discussion on the topic, see *Stanford Encyclopedia of Philosophy*, s.v. "action," <<https://plato.stanford.edu/entries/action/>> (accessed May 27, 2017).

56 In this volume, a) for qualitative method applied to objects, see Martino and Martino, 120; b) for quantitative method applied to semantics, see Svård, Jauhainen, Sahala, and Lindén, 238–240; c) for measuring intertextual relationships, see Monroe, 266–268.

57 In 1851, Augustus de Morgan first proposed to use a quantitative method of text analysis for the study of the authorship of the Pauline Epistles (Hughes et al. 2012).

enable the collection of data by observation through the researcher's participation in the investigation; in order to show the purpose of the analysis, the most relevant data is used for a deeper investigation, such as parsing with R.⁵⁸ This data is recorded and sorted according to its nature in order to match categorical data. Data can be classified into two types: numerical and categorical data. Numerical data is used quantitatively to measure the numerical values' outcome, and categorical data is used qualitatively to organize nominal values into categories. Categorical data is used for text- and data-mining processes.⁵⁹ Qualitative methods do not necessarily exclude quantitative methods, because, in some cases, calculations based on significant data types are needed. This combination of approaches, which I have chosen to use in my research, is known as the mixed method. In the context of this essay, I will focus mainly on text mining. The technologies I employed in this analysis are TEI (an XML encoding standard) and, to some extent, R. I used the TEI to record and sort some textual data of KTU 1.1–6, and I relied on R for the data extraction and for the counting of occurrences of the relevant data.

Elementary Explanation

Before going further, I will provide an elementary explanation of TEI-XML for neophytes.

My approach relies mostly on markup tagging. Marking up online content can be compared to annotating a hard-copy text by hand (i.e., writing notes with a pen on the paper manuscript).⁶⁰ As James Coombs, Allen Renear, and Steven DeRose wrote, "The markup is not part of the [online] text or content of the expression, but tells us something about it."⁶¹ A tag is rather an indication of the classification of what is described: after a tag "word," one either has a verb, adverb, noun, or adjective, under its inflectional form or not.⁶²

Standardized in the late 1990s, Extensible Markup Language (XML) is a pre-defined markup language that follows a standard syntax, enabling data

58 Relevant data are different, depending on whether the analysis is philological, anthropological, geographical, etc.

59 I provide an explanation below in the "Text Mining" section.

60 For further explanation of "markup" syntax, see W3C (last revised 2008, <<https://www.w3.org/TR/xml/#syntax>> [accessed June 10, 2017]). See also in this volume, Eraslan 289–290, for the markup in EpiDoc.

61 Coombs, Renear, and DeRose 1987, 934.

62 In this volume, a) for additional explanation, see Eraslan, 302n72, and Nurmikko-Fuller, 339; b) for an example of tagging a person in Oracc, see Pagé-Perron, 203–204; c) for further examples used for semantic analyses, see Svärd, Jauhiainen, Sahala, and Lindén, 234–238.

exchange to be easily machine readable.⁶³ One speaks then of interoperability data—for example, XML would be a kind of artificial constructed language such as Esperanto.⁶⁴

The Text Encoding Initiative (TEI) was created in 1987. Then, in 2000, the TEI Consortium (TEI-C) was established. The TEI-C is a group of international scholars who collaborate on the development of a dedicated encoding standard for text analysis.⁶⁵ Unfortunately, using TEI is a “paradox,” since it does not yet enable interoperability, but rather the interchange of cross-corpora text analysis.⁶⁶ However, using TEI semantics, such as elements and attributes, enables one to structure a document for highlighting relevant pieces of data and the relationships between them for text analysis—one of the goals of TEI was

63 XML also offers to withstand time and new technologies deployed on the internet or locally (on a computer)—in other words, the current methodology is sustainable even as technology evolves (w3c, last revised 2016, <<https://www.w3.org/XML/>> [accessed April 1, 2017]). For other languages that are easily machine-readable, see in this volume, Matskevich and Sharon, 46; Pagé-Perron, 200; Nurmikko-Fuller, 336, 339–340.

64 Interoperability: “a measure of the degree to which diverse systems, organizations, and/or individuals are able to work together to achieve a common goal” (Ide and Pustejovsky 2010, <<https://www.cs.vassar.edu/~ide/papers/ICGL10.pdf>> [accessed April 1, 2017]). On the interoperability of transcription, see Schmidt (2014, 8): “The ability to load a transcription into various programs without modification.” See also Unsworth (2011, <<http://jtei.revues.org/215>> [accessed April 12, 2017]). For further explanation about interoperability, especially on epigraphy, see in this volume, Eraslan, 284–285, 292–295, 309–310. Esperanto: an artificial international language (*Encyclopaedia Britannica*, s.v. “Esperanto,” <<https://www.britannica.com/topic/Esperanto>> [accessed May 2, 2017]).

65 For the history of TEI, see Ide and Sperberg-McQueen (1995); on TEI and TEI-C, see Vanhoutte (2004), and about XML and TEI, consult Nellhaus (2001, 257–260). Unsworth 2011: “The ‘t’ in TEI sometimes stands for interchange, but it never stands for interoperability. Interchange is the activity of reciprocating or exchanging, especially with respect to information (according to Wordnet), or, if you prefer the Oxford English Dictionary, it is ‘the act of exchanging reciprocally; giving and receiving with reciprocity.’” See also Nellhaus (2001, 258). A great advantage of TEI is that it can be readily understandable, even by a non-expert. Its encoding includes (1) elements (500 to date), (2) attributes, and (3) values, according to a pre-defined standard syntax. Generally, the semantics of the elements and attributes follows those proposed by the TEI, unlike the values that are mostly defined by the project manager. Its structure is hierarchical: each element has descendants and can have ancestors, in the manner of a family tree (see <<http://www.tei-c.org/index.xml>> [accessed April 15, 2017]). See also in this volume, Eraslan, 289–290, who describes EpiDoc, a structured markup language for epigraphic documents in TEI.

66 TEI interoperability is very difficult because of the level type of the tag (type 1 often used for TEI and type 2 for XML). See Schmidt (2014, <<http://jtei.revues.org/979>> [accessed April 12, 2017], 4–5).

“to provide a markup scheme that will permit scholars to encode linguistic analyses of any text in any language to any desired degree of detail.”⁶⁷ TEI markup can be compared to either (1) a syntactic unit or (2) a lexical unit. Both are comparable in some ways to elements, and their values (e.g., adjective, common noun, subject) to attributes. An element, which is a markup tag, is the first criterion to analyze data (in the form of text, image, sound, etc.).⁶⁸ Each piece of text data is a glyph,⁶⁹ a word, a group of words, a reference, or a concept. An attribute adds useful precision both for text analysis and for interpretation during the process of the exchange of data.⁷⁰ An attribute stands within the element tag.

67 Langendoen and Simons 1995, 191.

68 An element is conventionally marked up `<element>`. The markup data in between the opening tag “<” and the closing tag “>” indicates the type of information analyzed: for example, `<persName>‘Anatu</persName>`. One can easily understand that the element refers to a personal name, in this case ‘Anatu. One can also notice that the first opening tag, which is followed by “Anatu,” is then followed by a slash “/” to indicate the end of information related to that element `<persName>`, ‘Anatu. However, it is also possible to include information within `<element>`; it would be written `<persName [attribute] />`. One can notice that the slash precedes the closing tag. Generally, the semantic of an `<element>` is very close in its abbreviation to its English vocabulary. For example, `<interp>` stands for “interpretation,” `<w>` for “word,” `<l>` for “line,” and `<text>` for “text.” For a further explanation of “element,” see <http://www.tei-c.org/release/doc/tei-p5-doc/en/html/SG.html#SG13> (accessed June 10, 2017). By convention, I will write an element between open and closing tags, and when I refer to an attribute, the name will be preceded “@.”

69 Glyph: a graphical representation, such as a character or an accent. In Ugaritic cuneiform script, it is one or several carved lines or impressed wedges expressing a letter, syllable, logogram, or separation mark (a dot) between two words. For the current text analysis, all glyphs, including the separation mark under the element `<g>`: `<g> . </g>`, are encoded. See also in this volume, Eraslan, 291.

70 An attribute is conventionally preceded by “@” within a tutorial, to distinguish it from an element. An attribute is always followed by an equals sign “=” with its value between quotation marks: `attribute name="value"`. Consider, for example, the attribute `@xml:id`, which always has a unique value: `xml:id="ktu1.1"`. I have defined the value of this attribute in KTU 1.1, a very well-known text of the Ba’lu and ‘Anatu Cycle. To refer to this unique attribute’s value within the TEI file, one uses the analytical pointer `@ana`. The value associated with `@ana` is preceded by a hashtag “#.” That is the main difference with the majority of other attributes. Therefore, when referring to `xml:id="ktu1.1"` within the text, one would write: `ana="#ktu1.1"`. Coming back to the syntactic and lexical units, consider the following example: “Anatu fights in the valley”: `<l><name type="character">‘Anatu</name><w pos="verb"> fights</w><w pos="prep">in</w><w pos="noun">valley</w></l>` Syntactic

Categorical Data: Taxonomies

Coming back to markup tags, which are already predefined in TEI P5,⁷¹ their choice results from each project's focus. Regarding author intention and character action, I have used markup tags in order to work with analytical taxonomies and a structural framework (see the section "Analytical Taxonomies in TEI" below). Taxonomies allow one to classify, index, and search types of data by groups of categories and subcategories, which are also called categorical data. Analytical taxonomies are based on criteria for extracting information that is not always noticeable with more standard text-oriented approaches. I have defined three intrinsic analytical taxonomies as key components for a hermeneutics of action:⁷² (1) primary data, (2) objective variables, and (3) subjective variables.

Prior to the Analysis: Transcription and Pre-processing

The transcription of the text needs to be completed prior to the analysis in order to contextualize an actantial event,⁷³ and, de facto, to make the identification of the value of each category.⁷⁴ This is called the pre-processing step in order to tokenize the text. The tokenization process consists of splitting the group of words into individual words. Each word is sorted into a category, the equivalent of a TEI attribute value.⁷⁵

unit: <l> for line; lexical unit, <w> for word. Example of <w> attribute and values: @pos="verb", @pos="noun". For further reading about "attribute," see <<http://www.tei-c.org/release/doc/tei-p5-doc/en/html/SG.html#SG16>> (accessed April 27, 2017). On "exchange of data," see "interchange," note 65.

71 For TEI P5 guidelines, see <<http://www.tei-c.org/Guidelines/P5/>> (accessed June 10, 2017).

72 For specific guidelines for a preliminary hermeneutics of action on the internet, see Bigot Juloux (2017, <<https://vbigot-juloux.github.io/hermeneutics-of-action/UserManual/out/webhelp/index.html#process.html>> [accessed April 2, 2017]).

73 Since Ugaritic is a cuneiform language, one needs to transcribe the cuneiform signs into Latin glyphs. For example, this Ugaritic verb: Unicode: 𐎗𐎟𐎧 is transcribed as "mḥṣ."

74 In various aspects, this analytical method is close to the "PropBank" annotation of English verbs (see English Propbank Annotation Guidelines, <<https://github.com/propbank/propbank-documentation/blob/master/annotation-guidelines/Propbank-Annotation-Guidelines.pdf>> [accessed April 15, 2017], 3). As shown by Langacker and Vandeloise (1991, <http://www.persee.fr/doc/comm_0588-8018_1991_num_53_1_1804> [accessed April 12, 2017], 103), a category is defined by a set of criteria.

75 An example is given below under "Semantic Categories (@xml:id="verb.category")."

Taxonomy: Its Framework

For my project, each taxonomy has different criteria related to the philosophy of action. This approach is influenced by the action-oriented solution.⁷⁶ This involves determining whether an action is willed and the “personal” aim of a character. In addition to investigating an action, I am considering whether the actant achieves an action according to his will or not. This question is relevant both for sphere of influence (to which I will return [category: sphere]) as well as for the agency.

Taxonomies (1) and (2) jointly contribute to an actantial framework of intelligibility. This framework enables us to study a character’s action in a way that tends to be closer to impartiality. The exception is the verbal semantic classification that will be developed below. Taxonomy (3), although subjective, proposes to provide measuring elements for evaluating the action according to objective variables.

In order to extract the required information according to categorical data, these three taxonomies are first introduced in the TEI code within the elements `<taxonomy>/<category>` related to the structural classification before the encoded transcription, and identified by `@xml:id`, respectively with:⁷⁷

```
xml:id="primaryData",      xml:id="objectiveVar",      xml:
id="subjectiveVar".
```

The value enumeration follows a common schema for each taxonomy:

```
<taxonomy xml:id="taxonomy's value (1), (2) or (3)">
  <category xml:id="category's value"/>
</taxonomy>
```

The `@xml:id` within the taxonomic elements is necessary for counting the verbal occurrences and for the action’s interpretation for each character. This data will be used to parse relevant attributes’ values in R.

⁷⁶ Massin 2014, 91.

⁷⁷ `<category>` is a child of `<taxonomy>`, which can also have one or several children and grandchildren—in other words, the descendants of `<taxonomy>`. This notion of hierarchical structure is one of the most important for parsing with R (see an example below in the “Text Mining” section).

Primary Data and their Semantic Values

Primary data is at the core of the analysis.⁷⁸ It represents the actancial event that was described above under “Actancial Event.”⁷⁹

Category: Verb (@xml:id=“Action”)

In a previous paper,⁸⁰ I explained the role of a verb in a sentence. According to Louis Tesnière,⁸¹ a verb is the node of a sentence—or of a group of words, for this study. According to Maurice Grevisse,⁸² from a semantic point of view, a verb expresses an action made or undergone—in other words, a change of state from A to B. It acts as bridge between the subject (the agent = character) and the complement.⁸³ Therefore, within the framework of a hermeneutics of action, a verb is undoubtedly to be considered in two primary manners 1) in infinitive inflectional forms and 2) for the analysis of Semitic verbs, in terms of gender (which is essential to analysis of the gender role).⁸⁴ The latter can be defined thanks to the agency.

78 For all taxonomies, I have chosen to write the first letter of each value's word in lowercase, except for some values that are borrowed from an existing ontology in anticipation of a new ontology on power relationships. These primary data are located after the following elements /teiCorpus/TEI/teiHeader/encodingDesc/classDecl/taxonomy—thus these elements are the common ancestors of each category. For additional information on ontology, see in this volume, Nurmikko-Fuller, 347–348. Primary-data syntax is fully described within the guidelines, see Bigot Juloux (2017, <<https://vbigot-juloux.github.io/hermeneutics-of-action/UserManual/out/webhelp/index.html#PrimData.html>> [accessed April 15, 2017]).

79 See above, pages 160–162.

80 “Herméneutique de l'action pour l'étude des relations entre les entités animées et leur *agency* au Proche-Orient ancien: Hypatia *et alii*” (forthcoming in *Proceedings of the 61st RAI, Geneva and Bern, 22–26 June 2015*).

81 Tesnière 1959, 6.

82 Grevisse 1986, 1159.

83 The complement is made of one or several words subordinated to the verb, which bring additional information for the understanding of the sentence or a group of words.

84 In particular, for Semitic languages, a verb has three inflectional forms in order to indicate the gender, number, tense, voice, stem, or mood. The three inflection possibilities are the affix, suffix, and prefix. Although I will not go into details, among many cases, in this paper I will show four examples for the verb *mḥṣ*. (1) Its inflectional form “t-mḥṣ” provides the following information: the prefix /t-/ first, the verb is imperfective (“imperfective” refers to the actuation of an action; in other words, it expresses a present state), the person, gender, number, and tense is either third feminine singular indicative or second masculine singular indicative (I do not consider tenses apart from the indicative here). (2) Its inflectional form “t-m-tḥṣ” has a prefix /t-; the infix /-t-/ (after the first radical) means a reflexive function (derived stem I called Gt). (3) Its inflectional form “t-m-t-ḥṣ-n,” the

Category: Animated Entity (@xml:id="Being")

In order to avoid biased interpretations of actions, especially when studying an action, I have decided not to differentiate between divine and human words; this is why I opted for the expression "animated entity" (AE) to describe a character in the text. An AE is an agent (a "being") associated with a verb.⁸⁵

Each AE is named, one by one, with @xml:id="Character" within <text>/<stage>/<listPerson>/<person>:

```
<persName xml:id="character">'Anatu</persName>
```

The element <stage> was seen as the best element, as it captures the dramatic quality of the text. The element <text> is used following the sections of the taxonomies.⁸⁶ Besides, <stage> is also used within the text-mining section.

Objective Variables

Objective variables have been set up according to pragmatics and semantics.⁸⁷

An action belongs to a semantic category. It is performed by an agent, male or female, in a given context and acts with a peculiar role within a sphere. Each of the following categories is included within:

```
<taxonomy xml:id="objectiveVar" ana="#taxonomies">
  [Category]
</taxonomy>
```

For some cases, we cannot clearly identify one of the objective variables (for example, unknown context), the glyphs are unreadable or lost, or there are two common values. It is the same for subjective variables.

prefix /t-/ with the suffix /-n/ indicates either the third male/female, second masculine/feminine, all plural. (4) Without a prefix, "mḥṣ-t," its suffix /-t/ indicates that the verb is in the perfective (simple past) form: third female, second masculine/feminine, first, all singular, or third feminine dual. Regarding the imperfective/present-tense in Ugaritic narrative verse, I follow Greenstein (2006, 102), who has suggested that rather than the present-future/imperfective default sense of YQTL, "the action taking place as current, present-tense, dramatic."

85 "Being" was taken from OntoMedia ontology (<<http://www.contextus.net/ontology/onto-media/ex/ext/common/being>> [accessed April 5, 2017]).

86 The transcription is also located within <text>. Objective variables are located within /teiCorpus/TEI/teiHeader/encodingDesc/classDecl/taxonomy.

87 Objective variables are located within /teiCorpus/TEI/teiHeader/encodingDesc/classDecl/taxonomy.

Semantic Categories (@xml:id="verb.category")

The defining of semantic categories is an essential stage in qualitative methodologies, as it enables the usable quantification of verbal occurrences. A verb (@xml:id="Action") is associated with a semantic category. This association includes three distinct stages: (1) defining verbal categories, (2) identifying verbal subcategories, and (3) assigning a verb to one of the subcategories. Unfortunately, since a semantic database for ancient Near Eastern languages does not exist yet,⁸⁸ I have used four online databases of English semantic relations: BabelNet, FrameNet, VerbNet, and WordNet.⁸⁹ It goes without saying that the known analyses of verbs—in particular, synchronic semantic variations of Bronze Age verbs—needs to be considered, especially during the development of a hermeneutics of action. For the first stage, I selected fourteen verbal categories from WordNet, in order to follow its model of cognitive synonyms, which is significant given that verbs have several cognitive meanings:⁹⁰ for example, verbs may relate to realms of the body, change, cognition, communication, competition, consumption, contact, creation, emotion, motion, perception, possession, social interaction, and stative conditions.

For the second and third stages, I have mostly used the cognitive linguistics approach for the correlation of semantic contexts (in some ways such as a prototype),⁹¹ from the four databases that make it possible to check whether the choice of classification is coherent—even though attention should be paid to the diachronic components, due notably to cultural variations. Of course, these two stages of classification can only be done during the transcription process, since verbal category assignment depends on the group of words of an actual event.

A practical example for the category of emotion relating to humiliation is:

```
<category n="8" xml:id="verb.emotion" ana="#verb.
category #action">
  <!-- according to WordNet [37]: "verbs of feeling" -->
  <catDesc>taxonomy: emotion or psych verbs</catDesc>
```

88 I am currently developing an online, open-source semantic dictionary for Ugaritic.

89 BabelNet: <<http://babelnet.org/>>, FrameNet: <<https://framenet.icsi.berkeley.edu/fndrupal/>>, VerbNet: <<http://verbs.colorado.edu/>>, and WordNet: <<https://wordnet.princeton.edu/>> (all accessed April 15, 2017). For WordNet, see also Miller (1995).

90 The fourteen verbal categories are included in the WordNet lexicographer file as numbers 29 to 42 (<<https://wordnet.princeton.edu/documentation/lexnames5wn>> [accessed, April 25, 2017]). On cognitive linguistics, see also in this volume, Svärd, Jauhiainen, Sahala, and Lindén, 230, who proposed another approach applied to Akkadian semantics.

91 Langacker and Vandeloise 1991, 103.

```

<category n="1" xml:id="humiliation" ana="#verb.emotion">
  <catDesc>subcategory of emotion's verb as a concept of:
humiliation
  <term ana="#mḥṣ02" type="baseForm">
    <ptr n="1" target="http://babelnet.org/
synset?word=bn:00086117v" source="BabelNet" />
    <ptr n="2" target="http://wordnet-
rdf.princeton.edu/id/01804206-v" source="WordNet" />
    <ptr n="3"
target="http://verbs.colorado.edu/propbank/framesets-eng-
lish-aliases/humiliate.html" source="VerbNet" />
    <ptr n="4"
target="http://verbs.colorado.edu/html_groupings/wound-
n.html" source="VerbNet" />
    <ptr n="5"
target="https://framenet2.icsi.berkeley.edu/fnReports/data/
frameIndex.xml?frame=Stimulate_emotion" source="FrameNet" />
  </term>
</catDesc>
<category ana="#verb.emotion #humiliation
" xml:lang="uga">
  <gloss n="1" xml:id="mḥṣ02" cert="high" />
</category>
</category>92

```

For the following transcription example, I will take the verb *mḥṣ*, which means “to destroy” or “to fight.” Our understanding of “destroy” depends on the verbal semantic categories to which it belongs—more specifically, the categories of

92 Additional explanation for the elements and attributes within the elements <category> and <catDesc>: @n="8" indicates the eighth category of the semantic verbal categories. @n="1" refers to the first subcategory of this eighth category. Within the element <ptr>, each attribute @target points to (the destination of) the lexical and/or semantic website that is used to refer to a semantic category. The attribute @source indicates the semantic database's name to which @target points. The value “uga” of the @xml:lang specifies that Ugaritic is the reference language. The element <gloss> means that the verb *mḥṣ* (o2, second meaning) has shared affinities (in the sense of cognitive meanings) with the @xml:id="humiliation" subcategory. I indicate that its level of certitude, according to my evaluation, is high (@cert="high").

competition and humiliation.⁹³ In the current example, the occurrence of “mḥṣ” is related to the humiliation concept (verb.emotion), to which I will return:⁹⁴

```
<l n="7" xml:id="ktu1-3_ii_17" ana="#ktu1-3_ii_17_int">
  <w pos="verb" ana="#mḥṣ02 #yQTL #verb.emotion #humiliation
  #ANT" xml:id="ktu1-3_ii_17_tmḥṣ" lemmaRef="../uga/verb.
  xml#mḥṣ">tmḥṣ</w>
  <g>.</g>
  <w pos="noun" lemmaRef="uga/noun.xml#l'im">l'im</w>
  <g>.</g>
  <w pos="noun" lemmaRef="uga/noun.xml#ḥp">ḥp<gap
  unit="chars"/></w>
  <lb/><w pos="noun" lemmaRef="uga/noun.xml#ym">y<damage
  agent="unknown"><supplied resp="KTU">m</supplied></damage>
  </w><gap unit="chars"/>
</l>95
```

93 “To humiliate” is defined as “to reduce (someone) to a lower position in one’s own eyes or others’ eyes” (*Merriam-Webster*, s.v., “humiliate,” <<https://www.merriam-webster.com/dictionary/humiliate>> [accessed July 29, 2017]).

94 Located within /teiCorpus/text/body/div1/div2/div3/div4/lg/1—the number of <div4> may vary since I have not completed my study of all the previous tablets.

95 The attribute <lemmaRef> and its value refer to an open-source Ugaritic semantic dictionary that am I currently developing. It will be specific to the corpus of the scribe ʾIlmilku. Each occurrence of a verb that refers to one or several interpretations has a short grammatical analysis—once again, *mḥṣ* as a case studied (for additional information see Budin, Majewski, and Mörth, 2012, <<http://journals.openedition.org/jtei/522>> [accessed April 1, 2017]):

```
<entryFree n="6" xml:id="mḥṣ">
  <form type="verb">
    <orth>mḥṣ</orth>
  </form>
  <form type="inflected">
    [other forms of mḥṣ]
    <w n="2" lemma="tmḥṣ" xml:id="tmḥṣ" ana="#mḥṣ">
  <m type="base">
  <m type="pref" ana="#aff-pref.t">t</m>
  <m type="baseform">mḥṣ</m>
</m>
```

```

    <gramGrp type="baseform" ana="#mḥṣ">
    <gramGrp>
    [other forms of mḥṣ]
    <gramGrp ana="#tmḥṣ">
        <iType ana="#stem.D" value="D" type="semantic-
variations"/>
        <mood ana="#mood.ind" value="ind"/>
        <tns ana="#tns.perf" value="perf"/>
        <subc ana="#prop.trans" value="trans"/>
        [just an example]
        <gramGrp n="1.1" ana="#actor-affixes"/>
        <per ana="#pers.s3" value="3"/>
        <gen ana="#gen.fem" value="f"/>
        <number ana="#num.sg" value="sg"/>
    </gramGrp>
    <cit ana="#tmḥṣ">
        <quote n="1" xml:id="tmḥṣ01">
            <ref target="corpus_ilimilku.xml#ktul-
3_ii_17_tmḥṣ">ktul.3:ii:17</ref>
        </quote>
    </cit>
    </gramGrp>
</form>
[...]
```

<sense n="1" ana="#mḥṣ #tmḥṣ01" xml:id="mḥṣ01 xml:lang="en">to fight</sense>

<sense n="2" ana="#mḥṣ #tmḥṣ01" xml:id="mḥṣ01 xml:lang="en">to destroy</sense>

[other senses of mḥṣ]

```

<re n="2" ana="#tmḥṣ #mḥṣ02" type="inflected">
    <sense>she destroys</sense>
    <span type="interp">hermeneutics
        <ref
            target=" ../computation/corpus_ilimilku.xml#ktul-
3_ii_17_int">(1)
        </ref>
    </span>
    <span ana="corpus_ilimilku.xml#humiliation"
type="category">taxo., subcat. Of emotion's v. as a
concept of <ref
target="corpus_ilimilku.xml#mḥṣ02">humiliation
    </ref>
```

I will not go into details, since this is not the main topic of this paper, although the following text mining also relies on transcription and pre-processing. Rather, I will focus on the second line, starting with the element `<w>` with the `@ana="#mḥṣ02"`. In this example (`@xml:id="ktu1-3_ii_17"`),⁹⁶ the hypothesis about the concept of humiliation was suggested by following the contextualized examples from the four databases, compared to the context from KTU 1.3;ii:17 as similar as possible.

Further to the previous example:

line 5b–6a: *w hln 'nt tmḥṣ b 'mq* (then, 'Anatu fights in the valley)

line 7 (previous example): *tmḥṣ lim ḥp ym* (she destroys the clan [coming] from the sea-shore).

In both lines, the verb *mḥṣ* is used to describe 'Anatu's performance. But there are minor variations of meanings that I have seen following the same process: *mḥṣ*, line 5b–6a, belongs to competitive subcategory.

Although I agree with Ronald Langacker, who suggests that a semantic category does not lie in an objective reality,⁹⁷ I think the affiliation of a specific verb to a semantic category can be readily demonstrated, at least, based on a substantial majority of objective components, related to other objective categories.

Category: Context (`@xml:id="context"`)

I am not considering the context of writing but in what context the action is or was performed. Concept has an important scope for helping both in the assignment of verb semantics and in interpretation. By saying this, each action needs to be contextualized according to the pragmatics evidenced either by an explicit word or by the utterance itself. For example:

```

</span>
</re>
</entryFree>

```

96 My translation: "She destroys the clan [coming] from the seashore." In my opinion, the psychological dimension prevails over the physical context. This assumption is further developed in my forthcoming work on the hermeneutics of action.

97 Langacker and Vandeloise 1991, 107.

line 23: *mid tmthšn w t'n* (they vigorously fight, and she looks).

The verb *mḥš* is under its inflectional form “t-m-t-ḥš-n” (prefix /t-/, infix /-t/, suffix /-n/).⁹⁸ Previous lines tell us that a fight has been organized between two warriors in the courtyard of a palace. By deduction, ‘Anatu (she) is looking (*t-’n*) to a single combat.

Its non-exhaustive list of values is proposed according to different contexts in the studied text—in others words, contexts may be different according to the contexts found in a text: assembly, battle, burial, care, feast, hunt, landscaping project, lawsuit, maintenance, ritual, single combat, trade, visit, wedding.

Category: Result (@xml:id=“result”)

All action leads to a result distinct for the action itself.⁹⁹ Generally, a result is distinctly identified within the group of words to which the verb belongs or in the following lines. According to the action-oriented solution, the actantial event precedes a result. Of course, this list is non-exhaustive: death of opponent, injury of opponent, trauma, defeat of the opposition, deportation, reach household, regaining strength, take over the throne.

Following the example of lines 5b–6a (‘Anatu fights in the valley), the result was clearly given in lines 7 and 8, where both verbs belong to the humiliation subcategory, which means the defeat of the opposition.

Category: Sphere (@xml:id=“sphere”)

By considering a sphere, my interest focuses first on interactions within a political context—since the main story is about a fight between two clans—and to what extent these interactions can interfere within public and private relationships in regards of power and authority. As explained by Remigiusz Rosicki:

In the political context, it is attempted to connect sphere with a description of political phenomena, power, violence, force, the sphere of freedom, etc.¹⁰⁰

The agent behavior is different according to whether the event takes place inside or outside a sphere that can be both a political and cultural center of

98 See note 84.

99 Massin 2014, 97.

100 Rosicki 2012, 11.

power (such as a palace or temple). The palace can be owned either by the agent or a close member of the clan to which he or she belongs. In this manner, I am considering a spatial delimitation, where the agent performs an action to suggest his or her sphere of influence within a political context, more precisely with regard to deontic powers.¹⁰¹ Since I am using a spatial criterion, the tag <location> is appropriate. Finding the sphere is easy, either thanks to the inflectional ending of a noun or the geographical indication:

line 3b-4a: *kl̄t t̄ḡrt bht ʿnt* (‘Anatu closes the doors of her temple).

In the first example, *bht* means “her temple” (*bh*),¹⁰² and the inflectional ending /-t/ is a personal pronominal suffix. Here ‘Anatu is performing the action inside her sphere.

line 6b: *t̄h̄t̄sb̄ bn q̄r̄t̄ym* (Once again, she strongly fights the sons of Ugarit).¹⁰³

‘Anatu is performing the action outside her sphere.

Category: Role (@xml:id=“role”)

In what manner is the AE performing the action? It either active or passive.

Coming back to deontic powers, looking at the role of an AE is relevant to investigating whether she has the right to be active within a spatial delimitation, according to a context. The same question is also useful for the character

101 “Deontic powers,” as described by John Searle (1995, 133–134), are political powers that structure relationships between individuals who evolve in an institutionalized society, thus relying on conventional power. These individuals are called “agent” (Y, X) and belong to two major categories of deontic properties (or deontic status-functions): (1) “right” (positive power) where agents (Y) are vested with powers, (2) “duties” (negative power) where agents (X) have an obligation to act according to the powers of agents (Y). As stated by Searle, conventional power does not preclude physical power. For further consideration, see Juloux (2016, 134).

102 If we accept ‘Anatu’s ritual performance as preparation for a battle (KTU 1.3.ii:2–3a), translating *bht* as “her temple” seems appropriate, especially if we consider the gold cup RS 5.031 representing a hunting action found in the temple of Ba’lu (Yon 2006, 165; Vidal 2007, 710). In other words, this is a symbolic image of an armed hero leading a battle.

103 *q̄rt* means either the toponym *Qarītu* or “the City,” with implicit understanding that the city is “Ugarit.” The suffix /-y/ indicates the gentilic (*q̄rty* is also attested; see Huehnergard [1987, 239]); thus, with the plural suffix /-m/, one can translate by the inhabitants of the city of ‘Ugarit, translation that I am more inclined to consider. For additional information regarding gentilic and *q̄rty-m*, see Soldt (2005, 39). Also see Smith (2012, 112–117).

following the verb (complement). Does she have the obligation to endure the action of the AE actant? This is particularly relevant in such cases as in the context of an assembly where political issues are discussed in KTU 1.2.i:21–47.

Category: Biological Sex (@xml:id="Genetic-sex")

As previously explained, I have chosen not to differentiate the origin of the character, either divine or human. By saying this, I apply the sexual distinction in a broader sense (“male” or “female”).

Biological sex is innate; gender role is acquired through experience. The latter can be suggested by using the agency’s approach during the hermeneutics of action process. Obviously, my ultimate concern is not the sexual distinction but rather the gender-related role, which relied on social constructions. Investigating the character agency then becomes relevant in order to suggest a social role gendered “male” or “female.” This investigation is based on the number of occurrences and not based on gender-marked stereotypes or conventional codifications that rather fall under Judeo-Christian heritage in Western societies—a point that is especially relevant for power-relationship studies.¹⁰⁴ These conventional codifications created expectations for masculine and feminine behavior, as we are reminded by Jean Lipman-Blumen.¹⁰⁵ In fact, it has affected previous interpretations of a character’s action, and it is not so easy to change

104 “Professional and popular historians in these fields continued to carry forward pre-modern Judeo-Christian and Classical historiographic traditions for generations” (Richardson 2011, 12). For a simple example of gender-marked stereotypes, consider the main actors in a television commercial: house-cleaning is (still) mostly cast as a feminine task, while driving a truck is more often cast as a masculine task. Returning to conventional codification in Ugaritic literature, Murphy (2010, 532) cautions us: “Anat’s role in the Ba’al Cycle should not be assumed to have something to do with fertility simply because she is female.” On secular institutions and their roles in gender systems within power relationships, see Lipman-Blumen (1984, 13–17). Regarding conventional codifications, my assumption is that they can be attributed to the “cultural lag” described by Lipman-Blumen (1984, 53–64).

105 Lipman-Blumen 1984, 2: “Gender roles ... are socially created expectations. Exaggerating both real and imagined aspects of biological sex, each society sorts certain polarized behaviors and attitudes into two sets it then labels ‘male’ and ‘female.’ Gender roles are social constructions; they contain self-concepts, psychological traits, as well as family, occupational, and political roles assigned dichotomously to members of each sex. For example, the traditional female gender role includes expectations for females to be passive, nurturant, and dependent. The standard male gender role incorporates alternative expectations—behavior that is aggressive, competitive, and independent. Women as mothers, nurses, and teachers, men as doctors, generals, and legislators are part of this pattern.” See also Lipman-Blumen (1984, 21–54).

these interpretations. One way to help, however, is to present data—that is, to count the number of verbal occurrences and then to check the biological sex of the character who is performing the actions (either with name or prefix/suffix of the inflectional form of the verb). This also helps to analyze the agency's behavior of this character.¹⁰⁶

Subjective Variables and its Semantic Values

Category: Consequence (@xml:id="consequence")

The consideration of consequence is based on the actantial event and the result according to three possibilities:¹⁰⁷ 1) effect on the AE, 2) effect on the AE and other(s), or 3) effect on only the other(s). This analysis is relevant for the political scope (power and authority) of the AE, as well as his or her involvement in his or her performance to act. This evaluation is suggested by stage indications as well as by previous and future anecdotal evidence of the result of an event. The death of a warrior caused by the AE can have a consequence toward the AE, the clan of the AE, and the clan of the opponent; it is particularly true for the result of a single combat.

Category: Emotion and its Strength (@xml:id="Emotion
Category", @xml:id="hasEmotionIntensity")

An emotion may fall within a range of subjectivity while being conceptualized, since we need to find what Robert Plutchik calls a "stimulus event."¹⁰⁸ This stimulus event in turn brings about an emotion. For example, a war's context brings out a trigger for anger that leads to a desire to kill. When observing this desire in you, your enemy wants to kill you to protect himself or herself. Observing that desire in them to kill you makes you want to protect yourself from death.

Emotion is the result of a mindful judgment when facing a situation,¹⁰⁹ and its intensity may be caused by a domino effect. The judgment of an AE is based

¹⁰⁶ Juloux 2016b, 131 n. 58.

¹⁰⁷ Located within /teiCorpus/TEI/teiHeader/encodingDesc/classDecl/taxonomy. For guidelines about subjective variables, see Bigot Juloux (2017, <<https://vbigot-juloux.github.io/hermeneutics-of-action/UserManual/out/webhelp/index.html#SubjVar.html>> [accessed April 15, 2017]).

¹⁰⁸ Plutchik 1980, 4–5, 11.

¹⁰⁹ Lyons 1985, 72, 85. Livet 2004, 136: "Emotions can thus be seen as linked to situations in which we are led to reassess our beliefs, expectations, and even our preferences." For Anna Wierzbicka, "emotions are founded on beliefs: in an emotion, one feels something similar to what one normally feels when one has such beliefs. In the revision-based analysis of emotions, beliefs correspond to the information that survives the revision process."

on her objective or subjective appraisal—even if irrational.¹¹⁰ Of course, the emotion is often not explicitly stated; nonetheless, the six elements (indicated below as a thought of) relating to an emotion, as defined by Johnny Fontaine, Klaus Scherer, Etienne Roesch, and Phoebe Ellsworth, act as indices to define an emotion:

- (a) appraisals of events, (b) psychophysiological changes (bodily sensations), (c) motor expressions (face, voice, gestures), (d) action tendencies, (e) subjective experiences (feelings), and (f) emotion regulation.¹¹¹

Their method enables us to take into account empirical considerations related to the human experience. The description of an emotion therefore relies on empirical observation, as suggested also by Plutchik: “inner emotional states usually are retrospective and depend on memory.”¹¹² Thus, an actantial event and its context, the verbal pattern of an action, the adverb, the emotional component (i.e., the gesture),¹¹³ and the previous utterance are among the clues for suggesting a type of emotion. Of course, the consequence of an actantial event is a relevant criterion to ascertain the agent’s (AE) emotion. Among several emotion typologies, my first choice is that described above by Fontaine et al., who have developed a typology that includes languages other than those from Western civilizations.¹¹⁴ I have selected twenty-four emotions from their typology:¹¹⁵ anger, anxiety, being hurt, compassion, contempt, contentment, despair, disappointment, discouragement, disgust, fear, guilt, happiness, hate, interest, irritation, jealousy, joy, love, pride, sadness, shame, stress, surprise. To this list, I have added one more emotion: satisfaction.

Emotions enable us to propose character traits that will be suggested within the hermeneutics of action according to the number of occurrences of each emotion of an AE within a specific context.¹¹⁶

¹¹⁰ Lyons 1985, 78–84, 100.

¹¹¹ Fontaine et al. 2007, 1050. See also James (2006, 60) and Plutchik (1980, 5): “There are physical symptoms, attitudes toward oneself, impulses to action, and physiological changes.”

¹¹² Plutchik 1980, 6.

¹¹³ See the template of Fontaine et al. (2007, 1052–1054).

¹¹⁴ Fontaine et al. 2007, 1056.

¹¹⁵ These twenty-four emotions are known as the “FSRE categories,” as they were “used in the study by Fontaine, Scherer, Roesch and Ellsworth (Fontaine et al. 2007, 1055)” (W3C, 2014, <<https://www.w3.org/TR/emotion-voc/#fsre-categories>> [accessed April 25, 2017]).

¹¹⁶ Following the proposition of Plutchik (1980, 21).

The strength of an emotion is a matter for consideration to temper (or not) the behavior. Its evaluation is made possible by the verbal pattern of the utterance to which the action belongs, in particular for the Ugaritic D verb (also called stem II).¹¹⁷ The intensity is expressed according to five value levels: feeble, medium, normal, high, very high. The emotion intensity enables us to judge, even if expressed irrationally, what to do later on, following here the theory of William Lyons.¹¹⁸ This judgment, which depends upon the author's intention, enables us to comprehend the result that follows the actantial event, as well as both the desire degree and the motivation of the AE.

Category: Degree of Desire (@xml:id="degreeDesire")

According to Andrew Ortony, Gerald Clore, and Allan Collins:

Affective reactions arise when a person construes the consequences of an event as being desirable or undesirable, so that judged desirability (including undesirability) is the most important, or the central, variable that affects the intensity of all these Event-based emotions ... The structure that falls below the *pleased/displeased* node divides first according to whether the person who experiences the emotions is reacting to the consequences of the focal event with respect only to himself, or also with respect to some other person.¹¹⁹

Here I focus on the notion of desirability, a reaction linked to the node "pleased/displeased." In other words, an action often gives rise to an affective reaction in response both to the actantial event and its consequences for others.¹²⁰ The affective reaction is closely linked to the emotion. Ortony, Clore, and Collins respectively define pleased/desirable and displeased/undesirable as "pleased about a desirable event" and "displeased about an undesirable event" that is eventually quite distant from the motivation of a voluntary intentionality. I am more interested in the AE's desire to act and that desire's quantifiable intensity.¹²¹

¹¹⁷ Stem II or *Doppelungsstamm*, in German, is also called "intensive," since it shows the intensive aspect, both qualitatively and quantitatively (Lipiński 2001, 390). The group to which the verbs belong is very important in particular for the evaluation of the character's emotion and its strength.

¹¹⁸ Lyons 1985, 72.

¹¹⁹ Ortony, Clore, and Collins 1998, 20.

¹²⁰ Ortony, Clore, and Collins 1998, 92, table 5.2.

¹²¹ Ortony, Clore, and Collins 1998, 87.

Category: Voluntary Intentionality and its Degree of Motivation

```
(@xml:id="voluntaryIntent", @xml:id="
motivation_vI")
```

Even though this category may be considered objective, it is not obvious from the Popperian point of view. It may be understood as the intentional nature of an action.

Text Mining

Having defined analytical taxonomies (primary data, objective and subjective variables), one must next apply data processing in order to discover useful information.¹²² The method used is “text mining” which, as defined by Marti Hearst, is

the discovery by computer of new, previously unknown information, by automatically extracting information from different written resources ... Text mining is a variation on a field called data mining, that tries to find interesting patterns from large databases.¹²³

The purpose of this text mining is to find patterns that match shared analytical variables in order to suggest a first interpretation of the transcription. As a preliminary step in the hermeneutics of the action,¹²⁴ it follows a structural unit that provides some clear answers to seven key issues: (1) what action, (2) what result, (3) what character, (4) what role, (5) what context, (6) what sphere, and (7) what behavior. Roberto P. Franzosi has demonstrated different disciplinary backgrounds, which are similar to mine in some ways:

a common understanding of narrative and social action in terms of agents (Who) and actions (What) in time (When) and space (Where), for some reasons (Why) and with certain outcomes and instruments.¹²⁵

¹²² “Data processing” is also called “data analysis.”

¹²³ Hearst 2003, <<http://people.ischool.berkeley.edu/~hearst/text-mining.html>> (accessed April 12, 2017). For additional information, see Kumar and Bathia (2013).

¹²⁴ Located within `teiCorpus/text/body/div1`. For guidelines about text mining, see Bigot Juloux (2017, <<https://vbigot-juloux.github.io/hermeneutics-of-action/UserManual/out/webhelp/index.html#TextMining.html>> [accessed April 15, 2017]).

¹²⁵ Franzosi 2010, 600.

Franzosi has designed a method that is based on story grammar and uses semantic triplets.¹²⁶

Coming back to my approach, each element of the structural unit refers to a category of the analytical taxonomies:

```
<interpGrp xml:id="hermeneutics" type="structuralUnit"
  ana="#taxonomies">
  <interp n="1" xml:id="whatAction" ana="#primaryData #ob-
    jectiveVar #action #verb.category"/>
  <interp n="2" xml:id="whatResult" ana="#objectiveVar
    #result"/>
  <interp n="3" xml:id="whatCharacter" ana="#primaryData
    #objectiveVar #Character #Genetic-Sex"/>
  <interp n="4" xml:id="whatRole" ana="#objectiveVar
    #role"/>
  <interp n="5" xml:id="whatContext" ana="#objectiveVar
    #context"/>
  <interp n="6" xml:id="whatSphere" ana="#objectiveVar
    #sphere"/>
  <interp n="7" xml:id="whatBehavior" ana="#subjectiveVar
    #consequence #EmotionCategory #hasEmotionIntensity #de-
    greeDesire
    #voluntaryIntent"/>
</interpGrp>
```

The attributes @xml:id and @ana are of utmost importance, both for the parsing in R and the preliminary hermeneutics of the action within the elements <interp>/<desc>.¹²⁷ To explain the text mining clearly, I think it is most efficient to give a specific example:

```
<interp xml:id="ktul-3_ii_17_int" ana="#ktul-3_ii_17">
```

126 Franzosi 2010, 602: "The relational properties of the grammar (e.g., with actors related to actions, actions to time and space and objects) make a story grammar a far more superior tool than content analysis, the traditional quantitative social science approach to texts." The semantic triplets used by Franzosi look like this: <semantic triplet> → {<participant>}, {<process>}; [{<participant>}]. For further explanation of the syntax and values within the angular brackets, see Franzosi (2010, 601).

127 R: an open-source software environment, mostly used for statistics, graphics, and data manipulation. One of the major benefits of R is its popularity, which guarantees regular developments by a broader community of R users. See <<https://www.r-project.org>> (accessed April 25, 2017).


```

<desc>
  <ref n="1" target="#whatAction #ktu1-3_ii_17_
tmḥṣ" ana="#verb.emotion #humiliation #mḥṣ02"/>
  <ref n="2" target="#whatResult"><stage
ana="#defeat_ofOpposition"/>
  <castList>
    <castItem n="1">
      <ref n="3" target="#whatCharacter">
        <persName type="character" ana="#ANT #Female"/>
        </ref>
        <ref n="4" target="#whatRole">
          <state ana="#active" cert="high"/>
        </ref>
      </castItem>
      <castItem n="2">
        <persName type="character" ana="#UNK
#Unknown_Sx" cert="low">
          Clan (coming) from the sea-shore
        </persName>
        <state ana="#passive" cert="medium"/>
      </castItem>
    </castList>
    <view>
      <ref n="5" target="#whatContext">
        <placeName ana="#battle"/>
      </ref>
      <ref n="6" target="#whatSphere">
        <location ana="#outside"/>
      </ref>
    </view>
    <stage>
      <ref n="7" target="#whatBehavior">
        <span ana="#toDestroy #free #five_dD"/>
        <span ana="#affectEntity_and_other"/>
      </ref>
    </stage>
  </desc>
</interp>128

```

128 <ref n="1">: Action belongs to verb emotion, subcategory humiliation: mḥṣ. <ref n="2">: defeat of opposition. <ref n="3">: Anatu. <ref n="4">: role: active. <ref

Each `<interp>` has a `@xml:id` and `@ana`, which refers to a group of words of the transcription within `<text>/<div>/<lg>/<l>`. I focus, in this example, on the line `KTU 1.3:ii:17`.¹²⁹

Each taxonomic category is analyzed within the tag `<ref>` in which the pointer `@target` refers to an item for the structural unit, as this is the case for `<ref n="1">`; it gives semantic information for the verb of the referenced line.

The elements `<stage>`, `<castList>`, `<castItem>`, and `<view>` come from the vocabulary related to the dramatic aspect of the narrative text, which enables us to improve the contextualization of the actantial event.

The verb *mḥš* in the current example, under its inflectional form *tmḥš*, is an emotion verb—more precisely, one of humiliation as a conceptualized approach.¹³⁰ The result of this action is the defeat of the opponent. The feminine gender of the actant subject ‘Anatu is confirmed by the inflectional form of the verb. ‘Anatu is active and is facing the Western clan, which seems to suffer from the action, according to the author’s will. The actantial event takes place during a battle outside of ‘Anatu’s household. Her behavior characterizes a voluntary intentionality of destruction with a free will and a high level of rage toward the opponent. The consequence of this action affects ‘Anatu and the others, notably the clan of the West.

Although I will not go into computational details for the pre-processing step with R in order to refine methods for the quantification process, here a short example highlights the relevance of the structural unit for the last step of the preliminary of a hermeneutics of action:

```
listInterp=matrix(nrow=20,ncol=9)
colnames(listInterp)=c("Character", "TAXO", "subTAXO",
  "Role", "Context", "Sphere", "Behavior",
  "Consequence", "KTU")
for (i in 1:length(whatCharacter))
  listInterp[i,1]=word(xmlGetAttr(whatCharacter[[i]],"
  ana"), 1)
for (i in 1:length(whatActionSem))
```

`n="5">`: battle. `<ref n="6">`: outside her household. `<ref n="7">`: (a) to destroy of her free will, with rage (level five), (b) and consequence: an impact on ‘Anatu and others.

¹²⁹ See my previous transcription, page 172.

¹³⁰ The translation of *mḥš* is “to destroy,” which I understand first as the humiliation of an opponent, and, second, according to the previously introduced semantic analysis, a discussion of which follows.

```

listInterp[i,2]=word(whatActionSem[[i]], 1)
for (i in 1:length(whatActionSem))
  listInterp[i,3]=word(whatActionSem[[i]], 2)
for (i in 1:length(whatRole))
  listInterp[i,4]=xmlGetAttr(whatRole[[i]],"ana")
for (i in 1:length(whatContext))
  listInterp[i,5]=xmlGetAttr(whatContext[[i]],"ana")
for (i in 1:length(whatSphere))
  listInterp[i,6]=xmlGetAttr(whatSphere[[i]],"ana")
for (i in 1:length(whatBehavior))
  listInterp[i,7]=xmlGetAttr(whatBehavior[[i]],"ana")
for (i in 1:length(whatConseq))
  listInterp[i,8]=xmlGetAttr(whatConseq[[i]],"ana")
for (i in 1:length(whatAction))
  ListInterp[i,9]=(stri_replace_all_fixed(word
(xmlGet
Attr(whatAction[[i]],"target"), -1, "_", ":"))131

```

The results of the pre-processing steps are summarized in templates (e.g., Appendix 5.1 for ‘Anatu’s actions), and ordered in the following way: data (@ana or @target) from each objective and subjective variable within the text mining are displayed by row (@xml:id of the transcription = a line of KTU) and column (colnames, a total of nine columns), according to each @xml:id of the structural unit and the line’s text reference (KTU). Among other parsings, this template is used to count the occurrences of each variable. Afterward, one can proceed to some statistics for each character (AE) versus all characters (Being) and verbs (Action)—for example, one could quantify the verbs of emotion for each AE by context and sphere, as well as where the actant is active.

Concluding Remarks

In this paper, I have attempted to show the usefulness of analytical taxonomies and text mining with TEI-XML as the first two preliminary steps for a new hermeneutics of action, in order to investigate the actions between AE using

¹³¹ listInterp is the variable assigned to data within the template (matrix). I am currently developing a guide for parsing with R.

Popperian deduction. Of course, tagging words is time-consuming, but analytical markup makes data analysis easier with R, in order to manipulate the data (`@xml:id, @ana`) in many ways, to determine, for example, (1) how many times a character AE_x is performing an action in a specific context and sphere versus all AE and all actions?, or (2) what type of action (semantic category) is AE_x performing, in what context and sphere, with what result and consequence versus all characters AE? Afterward we can identify the distribution of action types for AE_x by increasing order versus all other AE.

In this project, a qualitative method was first used to sort relevant variables by category. Next, text mining was employed as an intermediate qualitative stage to enable parsing with R. This should not only make it possible to quantify occurrences related to the analytical taxonomies but also to suggest one or several authors' intention, thanks to his choice of occurrences according to the objective and subjective variables. The evidence of intention will also rely on the agency of a character, which will be displayed after the quantification, as well as an action between AE, especially according to a context and a sphere. So the first question will be: for n actancial events related to a peculiar subcategory of verbal semantics,¹³² how many times did the actant achieve an action with free will, and in what context, sphere, and consequences?

A second concern is the question of whether the author's choices in the character of 'Anatu's characteristics could have been derived from a real-life experience, or whether they could be a reflection of gender roles in ancient Ugarit.¹³³

These results and considerations, combined with the empirical observation of intersubjective phenomena, will enable us to suggest a hermeneutics of action for each AE, especially 'Anatu. But above all, this approach should be relevant for highlighting the weakness of the (un-)shared analytical variables that would have been preferable to support the consistency of previous interpretations—in particular, regarding the role of a female entity and her influence on others (including a community), notably from social and cultural anthropology's point of view.

To push the analysis further, and regarding the intersubjective phenomena and mental realities touched upon here in the introduction, it would be interesting to apply the same approach to historical texts (i.e., annals, chronicles) for counting semantic verbal occurrences for each actant (historical figure)

132 Where n is a numerical value that is equal to the real actancial events' number.

133 The answer to this question can provide a complementary perspective to Christine Neal Thomas's (2013) dissertation on gender roles at Ugarit.

according to a context and a sphere, in order to gain a better understanding of codification used by the elites, especially for political purposes—this falls within the analysis of a cognitive psychology of the elites, regarding their power and authority. By doing so, it would then be easier to speak of an objective interpretation of narrative texts according both to empirical context and to the codification used by the elites, who themselves authored the narratives.

Appendix 5.1. An Overview of 'Anatu's Actions

TAXO	subTAXO	Role	Context	Sphere	Behavior	Consequence	KTU
verb.contact	closing	active	battle	inside	toFight free unknown_E_NA_E unknown_dD	affectEntity_and_other	ktu1-3:iii:3b-4a:kl'at
verb.motion	meeting	active	unknown_C	outside	unknown_Vol free unknown_E_NA_E unknown...	affectEntity_and_other	ktu1-3:iii:4b-5atqry
verb.competition	contend	active	battle	outside	toDestroy free veryHight rage five_dD	affectEntity_and_other	ktu1-3:iii:5b-6atmthş
verb.competition	contend	active	battle	outside	toDestroy five_dD rage	affectEntity_and_other	ktu1-3:iii:6b:thtşb
verb.emotion	humiliation	active	battle	outside	ToDestroy free five_dD	affectEntity_and_other	ktu1-3:iii:7:tmhş
verb.emotion	humiliation	active	battle	outside	ToDestroy free rage five_dD	affectEntity_and_other	ktu1-3:iii:8:tsmt
verb.contact	attaching	active	battle	outside	ToDestroy free contentment five_dD	affectEntity_and_other	ktu1-3:iii:11b-12a:tkt
verb.contact	attaching	active	battle	outside	ToDestroy free contentment five_dD	affectEntity_and_other	ktu1-3:iii:12b-13a:şnst
verb.contact	placing	active	ritual	outside	toPerform_aRitual free pride five_dD	affectEntity_and_other	ktu1-3:iii:13b-14a:tğl
verb.contact	removing	active	battle	outside	toThreaten free contempt five_dD	affectEntity_and_other	ktu1-3:iii:15b-16a:trş
verb.motion	self_motion	active	battle	outside	toProve free pride five_dD	affectEntity_and_other	ktu1-3:iii:17:tmğyn
verb.motion	arriving	active	battle	inside	toProve free pride five_dD	affectEntity_and_other	ktu1-3:iii:18:ts'tql
verb.stative	satisfaying	active	battle	inside	toComplain free unsatisfaction five_dD	affectEntity	ktu1-3:iii:19:şbt
verb.contact	placing	active	battle	inside	toKill free unsatisfaction five_dD	affectEntity_and_other	ktu1-3:iii:20b-21a:tf'r
verb.competition	contend	active	singleCombat	inside	toRevenge free happiness five_dD	affectEntity	ktu1-3:iii:24:thtşb
verb.stative	fill_withEmotion	active	singleCombat	unknown_S	toKill free interest five_dD	affectEntity	ktu1-3:iii:25a:tdğdd

References

- Anscombe, Gertrude E. M. 2002. *L'Intention*. Paris: Gallimard.
- Audi, Robert. 2003. "Acting for Reasons." In *The Philosophy of Action*, edited by Alfred R. Mele, 74–105. Oxford: Oxford University Press.
- Berthelot, Jean-Michel. 2004. *Les vertus de l'incertitude*. Paris: PUF.
- Bigot Juloux, Vanessa, and Alessandro di Ludovico. 2018. "Digital Practices vs. Digital Humanities: Reflections to Bridge the Gap in Order to Improve Research Methods and Collaboration." Paper presented at the CAA annual meeting, Tübingen, Germany.
- Budin, Gerhard, Stefan Majewski, and Karlheinz Mörth. 2012. "Creating Lexical Resources in TEI P5." *JTEI* 3. <<http://journals.openedition.org/jtei/522>>.
- Bühler, Axel. 2015. "Intention, Intentionnalisme." In *L'interprétation: Un dictionnaire philosophique*, edited by Christian Berner and Denis Thouard, 235–247. Paris: Vrin.
- Capurro, Rafael. 2010. "Digital Hermeneutics: An Outline." *AI Society* 35 (1): 35–42.
- Coombs, James H., Allen H. Renear, and Steven J. DeRose. 1987. "Markup Systems and the Future of Scholarly Text Processing." *Communications of the ACM* 30: 933–947.
- Davidson, Donald. 2008. *Actions et événements*. Paris: PUF.
- Day, Peggy L. 1991. "Why Is Anat a Warrior and Hunter?" In *The Bible and the Politics of Exegesis: Essays in Honor of Norman K. Gottwald on His Sixty-Fifth Birthday*, edited by David Jobling, Peggy L. Day, and Gerald T. Sheppard, 141–146. Cleveland, OH: The Pilgrim Press.
- Dietrich, Manfred, Oswald Loretz, and Joaquín Sanmartín. 2013–. *Die Keilalphabetischen Texte aus Ugarit, Ras Ibn Hani und anderen Orten*. 3rd ed. AOAT 360 (1). Münster: Ugarit-Verlag.
- Dutcher, Jennifer. 2014. "What is Big Data?" Online Data Science Degree blog, Berkeley School of Information. Last modified September 3, 2014, <<https://datascience.berkeley.edu/what-is-big-data>>.
- Englehardt, Joshua. 2013. *Agency in Ancient writing*. Boulder: University Press of Colorado.
- Fensham, F. Charles. 1979. "Notes on Treaty Terminology in Ugaritic Epics." *UF* 11: 265–274.
- Fontaine, Johnny R. J., Klaus R. Scherer, Etienne B. Roesch, and Phoebe C. Ellsworth. 2007. "The World of Emotions Is Not Two-Dimensional." *Psychological Science* 18 (12): 1050–1057.
- Franzosi, Roberto P. 2010. "Sociology, Narrative, and the Quality Versus Quantity Debate (Goethe Versus Newton): Can Computer-Assisted Story Grammars Help Us Understand the Rise of Italian Fascism (1919–1922)?" *Theory and Society* 39 (6): 593–629.
- Freu, Jacques. 2006. *Histoire politique du royaume d'Ugarit*. Paris: L'Harmattan.
- Gabbay, Uri. 2014. "Actual Sense and Scriptural Intention: Literal Meaning and Its Terminology in Akkadian and Hebrew Commentaries." In *Encounters by the Rivers of Babylon*, edited by Uri Gabbay and Shai Secunda, 335–370. Tübingen: Mohr Siebeck.

- Gabbay, Uri. 2016. *Exegetical Terminology of Akkadian Commentaries*. Leiden: Brill.
- Gens, Jean-Claude. 2006. *La logique herméneutique du XVII^e siècle*. Argenteuil: L'association Le Cercle Herméneutique.
- Gray, John. 1965. *The Legacy of Canaan*. Vetus Testamentum Supplements 5. Leiden: Brill.
- Gray, John. 1979. "The Blood Bath of the Goddess Anat in the Ras Shamra Texts." *UF* 11: 315–324.
- Greenstein, Edward L. 2006. "Forms and Functions of the Finite Verb in Ugaritic Narrative Verse." In *Bible Hebrew in its Northwest Semitic Setting*, edited by Steven E. Fassberg and Avi Hurvitz, 75–102. Jerusalem: The Hebrew University Magnes Press.
- Greimas, Algirdas J. 1987. *On Meaning: Selected Writings in Semiotic Theory*. Theory and History of Literature, vol. 38. Minneapolis: University of Minnesota Press.
- Grevisse, Maurice. 1986. *Le bon usage*. Paris: Ducolot.
- Grice, Herbert Paul. 1975. "Logic and Conversation." In *Syntax and Semantics 3, Speech Acts*, edited by Peter Cole and Jerry Morgan, 41–58. New York: Academic Press.
- Grondin, Jean. 2006. "La tâche de l'herméneutique dans la philosophie ancienne." In *Klêsis* 1: 1–18.
- Harari, Yuval N. 2015. *Sapiens: Une brève histoire de l'humanité*. Paris: Albin Michel.
- Hawley, Robert. 2008. "On the Alphabetic Scribal Curriculum at Ugarit." In *Proceedings of the 51st Rencontre Assyriologique Internationale, Held at the Oriental Institute of the University of Chicago, July 18–22, 2005*, edited by Robert D. Biggs, Jennie Myers, and Martha T. Roth, 57–67. Chicago: The Oriental Institute of the University of Chicago.
- Hearst, Marti. 2003. "What is Text Mining?" Last modified October 17, 2003, <<http://people.ischool.berkeley.edu/~hearst/text-mining.html>>.
- Hentrich, Thomas. 2001. "The Fertility Pair Ba'al and 'Anat in the Ugaritic Texts." In *Recherches canadiennes sur la Syrie*, edited by Michel Fortin, 115–122. Bulletin of the Canadian Society for Mesopotamian Studies 36. Montréal: Musée de la Civilisation.
- Huehnergard, John. 1987. *The Ugaritic Vocabulary in Syllabic Transcription*. Atlanta: Scholars.
- Hughes, James M., Nicholas J. Foti, David C. Krakauer, and Daniel N. Rockmore. 2012. "Quantitative Patterns of Stylistic Influence in the Evolution of Literature." *PNAS* 109 (20): 7682–7686.
- Ide, Nancy, and James Pustejovsky. 2010. "What Does Interoperability Mean, Anyway? Toward an Operational Definition of Interoperability for Language Technology." In *Proceedings of the Second International Conference on Global Interoperability for Language Resources, Hong Kong, 18–20 January 2010*, edited by Alex Chengyu Fang, Nancy Ide, and Jonathan Webster. Hong Kong: City University of Hong Kong. <<https://www.cs.vassar.edu/~ide/papers/ICGL10.pdf>>.
- Ide, Nancy, and C. M. Sperberg-McQueen. 1995. "The TEI: History, Goals, and Future." *CH* 29: 5–15.
- James, William. 2006. *La théorie de l'émotion*. Paris: L'Harmattan.

- Juloux, Vanessa. 2013. "Les liens de parenté entre les divinités dans le Cycle de Ba'lu: étude de genre et analyse ethno-historique." MA thesis, École Pratique des Hautes Études (EPHE).
- Juloux, Vanessa. 2016a. "Is the Violence of 'Anatu a Criterion of Sovereign Power? Using Combined Anthropological and Philosophical Approaches to the Study of Power and Agency in the Cycle of Ba'lu." Paper presented at the Society of Biblical Literature annual meeting, San Antonio, TX.
- Juloux, Vanessa. 2016b. "Prolégomènes de l'étude des relations de pouvoir entre les entités animées dans KTU 1.1–6." *RANT* 13: 123–164.
- Juloux, Vanessa. 2017. *Guidelines for a Hermeneutics of Action*. <<https://vbigot-juloux.github.io/hermeneutics-of-action/UserManual/out/webhelp/index.html>>.
- Juloux, Vanessa. Forthcoming. "Herméneutique de l'action pour l'étude des relations entre les entités animées et leur *agency* au Proche-Orient ancien: Hypatia et alii." In *Proceedings of the 61st RAI, Geneva and Bern, 22–26 June 2015*.
- Kapelrud, Arvid S. 1969. *The Violent Goddess. Anat in the Ras Shamra Texts*. Oslo: Universitetsforlaget.
- Karkajian, Lourik. 1999. "La maisonnée patrimoniale divine à Ougarit: Une analyse webérienne du dieu de la mort, Mot." PhD diss., Université de Montréal.
- Koch, Ulla S. 2010. "Three Strikes and You're Out! A View on Cognitive Theory and the First Millenium Extispicy Ritual." In *Divination and Interpretation of Signs in the Ancient World*, edited by Amar Annus, 43–59. Chicago: The Oriental Institute of the University of Chicago.
- Kumar, Lokesh, and Parul Kalra Bhatia. 2013. "Text Mining: Concepts, Process and Applications." *JGRSC* 4 (3): 36–39.
- Laks, André, and Ada Neschke, eds. 2008. *La naissance du paradigme herméneutique: De Kant et Schleiermacher à Dilthey*. Villeneuve d'Ascq: Presses Universitaires du Septentrion.
- Langacker, Ronald W., and Claude Vandeloise. 1991. "Noms et verbes." *Communications* 53, 103–153. <http://www.persee.fr/doc/comm_0588-8018_1991_num_53_1_1804>.
- Langendoen, Terence D., and Gary F. Simons. 1995. "A Rationale for the TEI Recommendations for Feature-Structure Markup." *CH* 29: 191–209.
- Le Ny, Jean-François. 2001. "La sémantique des verbes et la représentation des situations." *Syntaxe et sémantique* 2: 17–54.
- Lipiński, Edward. 2001. *Semitic Languages Outline of a Comparative Grammar*. Orientalia Lovaniensia Analecta 80. Louvain: Uitgeverij Peeters and Departement Oosterse Studies.
- Lipman-Blumen, Jean. 1984. *Gender Roles and Power*. Englewood Cliffs, NJ: Prentice-Hall.
- Liverani, Mario. 2011. *The Ancient Near East: History, Society and Economy*. London: Routledge.
- Livet, Pierre. 2004. "Emotion: Philosophy." In *Dictionary of Cognitive Science*, edited by Olivier Houdé, 134–137. Hove: Psychology.

- Lloyd, Jeffery B. 1994. "The Goddess Anat: An Examination of the Textual and Iconographic Evidence from the Second Millennium BCE." PhD diss., The University of Edinburgh.
- Lyons, William. 1985. *Emotion*. Cambridge: Cambridge University Press.
- Massin, Olivier. 2014. "Quand vouloir c'est faire." In *Analyses contemporaines: Recherches sur la philosophie et le langage* 30, edited by Rémi Clot-Goulard, 79–114. Grenoble: Université Pierre Mendès France.
- Mazzini, Giovanni. 2004. "Baal and Niqmaddu: A Suggestion to Ugaritic KTU 1.2 I, 36–38." *SEL* 21: 65–69.
- Miller, George A. 1995. "WordNet: A Lexical Database for English." *Communications of the ACM* 38 (11): 39–41.
- Mohr, John W., Robin Wagner-Pacifi, and Ronald L. Breiger. 2015. "Toward a Computational Hermeneutics." *Big Data & Society* 2: 1–7.
- Molinié, Georges. 2007. "Rhétorique et herméneutique." *Dix-septième siècle* 236 (3): 433–444.
- Murphy, Kelly J. 2010. "Myth, Reality, and the Goddess Anat." *UF* 41: 525–541.
- Natan-Yulzary, Shirly. 2009. "Divine Justice or Poetic Justice?" *UF* 41: 581–599.
- Nellhaus, Tobin. 2001. "XML, TEI, and Digital Libraries in the Humanities." *Libraries and the Academy* 1 (3): 257–277.
- Olmo Lete, Gregorio del. 1981. "Le mythe de la Vierge-Mère 'Anatu: une nouvelle interprétation de CTA/KTU 13." *UF* 13: 49–62.
- Ortony, Andrew, Gerald L. Clore, and Allan Collins. 1988. *The Cognitive Structure of Emotions*. Cambridge: Cambridge University Press.
- Page, Hugh R., Jr. 1998. "The Three Zone Theory and Ugaritic Conceptions of the Divine." *UF* 30: 615–631.
- Pardee, Dennis. 2012. *The Ugaritic Texts and the Origins of the West-Semitic Literary Composition*. Oxford: Oxford University Press.
- Pitard, Wayne. 1999. "The Written Source: The Alphabetic Ugaritic Tablets." In *Handbook of Ugaritic Studies*, HdO 39, edited by Wilfred G.E. Watson and Nicolas Wyatt, 46–57. Leiden: Brill.
- Plutchik, Robert. 1980. "A General Psychoevolutionary Theory of Emotion." In *Emotion Theory, Research, and Experience. Theories of Emotion*, vol. 1, edited by Robert Plutchik and Henry Kellerman, 3–33. Boston: Academic Press.
- Popper, Karl. 1998. *La connaissance objective*. Paris: Flammarion.
- Richardson, Seth F. C. 2011. "Mesopotamia and the 'New' Military History." In *Recent Directions in the Military History of the Ancient World. Publications of the Association of Ancient Historians*, edited by Lee L. Bryce and Jennifer T. Roberts, 11–51. Claremont, CA: Regina Books.
- Ricoeur, Paul. 1969. *Le conflit des interprétations: Essais d'herméneutique* 1. Paris: Le Seuil.
- Ricoeur, Paul. 1977. "Le discours de l'action." In *La sémantique de l'action*, edited by Dorian Tiffeneau, 1–137. Paris: CNRS.
- Ricoeur, Paul. 1986. *Du texte à l'action: Essais d'herméneutique* (2). Paris: Le Seuil.

- Rosicki, Remigiusz. 2012. "Public Sphere and Private Sphere—Masculinity and Femininity." In *Some Issues on Women in Political, Media and Socio-economic Space*, edited by Iwetta Andruszkiewicz and Alina Balczyńska-Kosman, 9–19. Poznań: Faculty of Political Science and Journalism, Adam Mickiewicz University.
- Schloen, John D. 2001. *The House of the Father as Fact and Symbol*. Winona Lake, IN: Eisenbrauns.
- Schmidt, Desmond. 2014. "Towards an Interoperable Digital Scholarly Edition." *Journal of the Text Encoding Initiative* 7. <<https://journals.openedition.org/jtei/979>>.
- Searle, John R. 1995. *The Construction of Social Reality*. New York: The Free Press.
- Selz, Gebhard J. 2013. "Texts, Textual Bilingualism, and the Evolution of Mesopotamian Hermeneutics." In *Between Text and Text—The Hermeneutics of Intertextuality in Ancient Cultures and Their Afterlife in Medieval and Modern Times*, edited by Michaela Bauks, Wayne Horowitz, and Armin Lange, 47–65. Göttingen: Vandenhoeck & Ruprecht.
- Smith, Mark S. 2012. "The Concept of the 'City' ('Town') in Ugarit." In *Die Stadt im Zwölfprophetenbuch*, edited by Aaron Scharf and Jutta Krispenz, 107–146. Berlin: De Gruyter.
- Smith, Mark S., and Wayne T. Pitard. 2008. *The Ugaritic Baal Cycle*, vol. 2. Leiden: Brill.
- Soldt, Wilfred H. van. 2005. *The Topography of the City-State of Ugarit*. Münster: Ugarit-Verlag.
- Sun, Chloé. 2008. *The Ethics of Violence is the Story of Aquat*. Piscataway, NJ: Gorgias Press.
- Tesnière, Louis. 1959. *Les éléments de syntaxe structurale*. Paris: Librairie C. Klincksieck.
- Thomas, Christine Neal. 2013. "Reconceiving the House of the Father: Royal Women at Ugarit." PhD diss., Harvard University.
- Unsworth, John. 2011. "Computational Work with Very Large Text Collections." *Journal of the Text Encoding Initiative* 1. <<http://jtei.revues.org/215>>.
- Vanhoutte, Edward. 2004. "An Introduction to the TEI and the TEI Consortium." *Literary and Linguistic Computing* 19 (1): 9–16.
- Vidal, Jordi. 2006. "The Origins of the Last Ugaritic Dynasty." *AoF* 33 (1): 168–175.
- Vidal, Jordi. 2007. "Ugarit at War (2): Military Equestrianism, Mercenaries, Fortifications and Single Combat." *UF* 38: 699–716.
- Walls, Neal. 1992. *The Goddess Anat in Ugaritic Myth*. SBL Dissertation Series 135. Atlanta: Scholars Press.
- Wilson, Eleanor A. 2013. *Women of Canaan. The Status of Women at Ugarit*. Whitewater, WI: Heartwell Productions.
- Wyatt, Nicolas. 2002. *Religious Texts from Ugarit*. London: Sheffield Academic Press.
- Wyatt, Nicolas. 2015. "The Evidence of the Colophons in the Assessment of Ilmilku's Scribal and Authorial Role." *UF* 46: 399–446.
- Yon, Marguerite. 2006. *The City of Ugarit at Tell Ras Shamra*. Winona Lake, IN: Eisenbrauns.