The Battlefield of the Human Body Revisited – Metaphors and Cancer

A Comparison between Genres

Maria Zetterström
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Abstract

The purpose of this essay is to examine metaphors in cancer contexts, and in particular war and military metaphors. A four step approach was performed for the examination. The use over time has been studied for metaphorical linguistic expressions including the words *fight* and *battle* in the Corpus of Contemporary American English in the categories Academic Journals, Magazines and Newspapers. A general corpus search for the word *cancer* in the same categories has been made to investigate what kinds of metaphorical linguistic expressions could be found. The goal was to examine possible development of the use of other expressions than the dominant martial ones for the period 2005 - 2011. The findings were also investigated to see which thematic role for the word *cancer* was the most frequent in the categories. To complement the corpus findings, an inquiry was sent out to explore how writers of research articles reason when they use expressions such as *fight against cancer* or *battle with cancer* in their texts.

The corpus findings show that the martial metaphorical linguistic expressions are more often used within the categories Newspapers and Magazines. In the category Academic journals the occurrences are fewer. The most common metaphor alternatives were within the area of sports. The study of semantic roles shows that the word *cancer* appears most often in the role of *patient*. The *agent* role occurred slightly more often in the newspaper category than in the other text categories investigated. The result of the inquiry suggests that some researchers use martial metaphors out of routine.

The four step approach of the study reveals a complex image of the use of metaphors in cancer contexts. Detection of trends for the use of metaphorical linguistic expressions possibly demands a longer time interval than the studied period.

Keywords
Metaphors, cancer, discourse analysis, genre analysis, corpus analysis, semantic roles.
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1. Introduction

The use of figurative language is a common method to create more interesting and catching texts. Metaphors are often used for this purpose to help explain abstract concepts. War and military metaphors are quite frequently used this way, and are common in many kinds of discourse, for example within the fields of sports, or health and medicine. In the last few decades or so, however, the use of this kind of metaphors has received criticism within the field of health and medicine. Mongoven (2006) is one who criticised this use. In her article the nexus between disease discourse and the current war on terrorism is discussed, and one step of her analysis covers the dangers of “defining patients as enemies and their bodies as battlefields” (p. 404). Larson, Nerlich and Wallis (2005) report the somewhat habitual use of these expressions in science-society discourse. One of their examples is within the area of cancer research, where war metaphors are almost inevitable (Larson, Nerlich and Wallis, 2005, p. 263). Also, Willig (2011) discusses the current dominant discourses of cancer, which she states can have an effect on the trauma of illness in some cases. These works raise an important awareness of the impact of this type of language, and they will be discussed further in section 2.2. However, it is unclear if this type of critique has reached a wider circle of readers and writers, thus causing a change for the use of these expressions. 

The purpose of the essay is to obtain perspective on the use of metaphors in cancer contexts through a multiple step approach. The project investigates if there has been a development over time for the use of war and military metaphors in cancer contexts the last few years, as a possible response to the criticism discussed above. The study compares the use of these phrases in different text genres, and the method used is discourse analysis. Corpus analysis, analysis of how words or linguistic features occur in texts, is performed. The objective is to investigate what other metaphorical linguistic expressions than the martial ones are used in cancer related discourse, to see if the use of these has changed as a result of the mentioned criticism. The corpus findings are also studied in search for linguistic patterns, in particular the semantic role of cancer in the different genres investigated. The reason is to search for indications regarding the linguistic properties of the expressions. An inquiry complementing the corpus findings explores how writers of academic journals reason when they use these metaphors. 

The essay is organized as follows. In the Background section (section 2), the Conceptual Metaphor Theory (Kövecses, 2002; Lakoff & Johnson, 1980) will be outlined. The Background section also includes outlines of the approaches used in the study, such as discourse and corpus analysis, as well as typical features of the discourse genre of academic articles. The methods used – corpus analysis and an inquiry – are described in the Methods section (section 3), and the findings are presented in the combined Results and Discussion section (section 4). Section 5, Conclusions, is the final part of the text.
2. Background

The goal of this section is to present some basic definitions used in the essay. A general definition of the word *metaphor* is followed by a presentation of *Conceptual Metaphor Theory* (Kövecses, 2002; Lakoff & Johnson, 1980). Alice Deignan (2005) presents *Conceptual Metaphor Theory* as an “approach taken in much current writing on metaphor” (p. 4). Some of the main tenets of the theory regard how metaphors structure thinking and knowledge, and it also describes how metaphor is grounded in physical experience (Deignan, 2005, p. 13). These tenets are vital to describe the elements of the metaphors in focus of this essay, and therefore the *Conceptual Metaphor Theory* was chosen to help explain what metaphors are, and how they work. The examples below, written in SMALL CAPITALS, are taken from Kövecses (2002) and Lakoff & Johnson (1980), unless otherwise stated.

The Background section also contains some views on war and military metaphors in cancer contexts. Discourse and corpus analysis were implemented in order to perform the intended comparisons of the study. Short introductions to these approaches are given below, as well as the detailed goals of the study.

2.1 Conceptual Metaphor Theory

The *Oxford Advanced Learner's Dictionary* (Hornby, 2010) includes a popular definition of the word *metaphor*, which is “a word or phrase used to describe somebody/something else, in a way that is different from its normal use, in order to show that the two things have the same qualities and to make the description more powerful” (p. 965).

The *Conceptual Metaphor Theory* gives a more technical definition of metaphor than the lexical meaning of the word from the dictionary, and the framework of the theory is given in this section. The theory explains what metaphors are, how they work, and how they are perceived. It was originally introduced by Lakoff and Johnson (1980), and Kövecses (2002) has presented a more recent version of it.

Kövecses (2002, p. 4) defines the conceptual metaphor theory as when using a well-known, well described, or easily understood, domain or concept – this is called the source domain – to explain something more abstract or difficult – the target domain. That is, the target domain is understood by the help of the source domain. According to the theory, metaphors have their motivation grounded in experience: this is called their *experiential basis*, or motivation – that is, they have their root in experience in culture, biology, or in perception (Kövecses, 2002, p. 69).

A typical example is the metaphor:

(1)   **LIFE IS A JOURNEY.**
This example uses different stages of a journey (a concrete domain = the source) to give a status report about a situation in life (an abstract, or unknown domain = the target). In a situation in reality one might use the metaphor in an expression such as:

(2) I’m at a crossroads.

This example used to describe a person’s contemplation of the next action in life, is a **metaphorical linguistic expression**. Those are defined as “words or other linguistic expressions that come from the language or terminology of the more concrete conceptual domain” (Kövecses, 2002, p. 4). These expressions are used to illustrate the corresponding abstract conceptual metaphors in real situations.

The conceptual metaphors only go from the concrete to the abstract, and they are in most circumstances not reversible. The reason for this irreversibility is that the tangible world is the basis for the understanding of more abstract areas (Kövecses, 2002, p. 6), and it does not work to explain concrete concepts with abstract ones. This is also called the **principle of unidirectionality**. (Kövecses, 2002, p. 6) In the case of cancer and war and military metaphors, which are the focus of this study, those expressions are not reversible. However, *cancer* is sometimes used as a metaphor for an *enemy*, for example in the context of the war against terrorism (see also section 2.2 below).

Kövecses (2002, p. 33-36) explains how the conceptual metaphors can be divided into **structural**, **ontological** and **orientational** metaphors, according to their cognitive functions. Correspondingly, Lakoff and Johnson (1980, p. 14, 19) describe the classification, as “according to their cultural or experiential basis”. However, only **ontological** metaphors will be outlined here. The reason is that **structural** metaphors offer structures for abstract domains, and **orientational** metaphors involve spatial orientation. Thus, these two categories are not relevant in the cancer context. **Ontological** metaphors are relevant, on the other hand, as they help understanding complex or abstract domains by using for example containers or objects. We can, for example, understand the concept of the intangible mind as an object in this way. **Personification** is a form of an extended ontological metaphor, which uses ourselves as source domain (Kövecses, 2002, p. 35), and makes it possible to see a nonhuman concept as human. Personification is sometimes used as a way to understand an illness, such as for example cancer, as in:

(3) Cancer finally caught up with him (Kövecses, 2002, p. 35).

A useful term in the case of this essay is **metaphorical entailments**, which is a term described by Kövecses (2002, p. 94) as a means to map additional understanding about a source onto a target. In the case of war and military metaphors for example, all kinds of facts about battling become accessed when thinking about a life threatening disease described in warfare terms. Examples are when we use expressions like tumours being
“bombarded”, or the immune system “fighting” cancer cells. One can easily imagine the personified body parts in action – using different strategies struggling and defending themselves – and this is thanks to metaphorical entailments.

Kövecses (2002, p. 6) describes the expression *mappings of conceptual metaphors* as a way to explain (or map) the correspondences between the knowledge structure of the source mapped onto the target domain. Trim (2011, p. 142) describes how the origin of the mapping to the target *disease*, started from the source *war* in connection to the crusades to the holy land in the medieval period. The crusades were a means for the participants to wash away sin, which was looked upon as dirt of the soul. The purification was made this way: “by taking up the cross and entering the Crusades, a soldier would be washing away his sins”. Sin, in turn, was related to disease, which was considered as dirt. Trim continues: “A common disease at the time was leprosy and lepers were often associated with sin, in the same way as cancer is a common metaphor today for the enemy”, thus concluding that the identity “DISEASE = ENEMY” holds (Trim, 2011, p. 142). That is, the relevant metaphor is:

(4) DISEASE IS AN ENEMY.

This metaphor entails other related actions as being relevant. For instance, if there is an enemy, it has to be controlled. Thus it is fought, whether it is in the shape of an enemy in the real world, or a disease. Hence, the martial expressions are used in disease contexts.

The idea of conceptual metaphor theory leads to the fact that metaphors contribute to give a specific perspective to a concept, or a domain (Evans and Green, 2006, p. 304). Kövecses (2002, p. 79) describes this as how only some parts of a source B is mapped onto a target A. That is, source B highlights certain aspects of target A. Kövecses gives an example in the metaphor:

(5) AN ARGUMENT IS A CONTAINER

The content of the argument is highlighted in this metaphor, as it addresses “the issue of the content of the argument” (Kövecses, 2002, p. 79). One example that highlights how a corresponding metaphorical linguistic expression could be structured is shown in (6):

(6) What is the core of his argument? (Kövecses, 2002, p. 80).

Other aspects of an argument, like for example progress or control, are hidden in this case (Kövecses, 2002, p. 80). Metaphors where war terms are used, on the other hand, focus on control. That is, for example in the case of illness, the metaphors highlight the
controlled, war-like actions to become well. The dangers of being in the midst of these war-like actions, for example in a battlefield (Mongoven, 2006, p. 405), and the possible emotional response to those dangers, are hidden.

After this basic introduction of the notion metaphor and Conceptual Metaphor Theory, an outline of metaphor in cancer contexts is presented as a background to the study.

2.2 War and Military Metaphors and Cancer

In 1971 Richard Nixon, President of the United States of America, declared “war on cancer” in a public speech when the so called “National Cancer Act” was presented (Mongoven, 2006). Phrases like these have of course been used before this specific occasion, and are still popular. Nixon’s speech, however, triggered critics like Sontag (1977) to start the discussion of the appropriateness of this type of language in disease contexts.

Sontag (1977) was among the first to write critical texts about this language use in general. Mongoven (2006), who is an assistant Professor at the Centre for Ethics and Humanities in the Life Sciences at Michigan State University, refers to Sontag in her article. Mongoven’s article was published in an academic journal called Cambridge Quarterly of Healthcare Ethics, a journal with a target group of professionals within the area of healthcare ethics (Cambridge Quarterly of Healthcare Ethics Website). Mongoven states that even though it is true that many people who are seriously ill (for example cancer patients) are “literally fighting for their lives” (p. 404), she also criticises the increased use of war and military metaphors within the area of medicine. Mongoven (2006, p. 404) exemplifies by listing dangers connected to this language use, such as:

- “it implicitly defines patients as enemies and their bodies as battlefields, traumatizing patients and generating high rates of iatrogenic illness that are accepted as normal”
- “it presents medicine as facing perpetual crisis (because illness is never totally defeated)”

Seale (2001), a Professor of Sociology, states in his work regarding the language of struggle in news reports of people with cancer that many analyses made of military terms in cancer contexts are associated with the opinion that “such language is harmful to the interests of people with cancer” (p.309). Seale’s article was published in an academic journal called Sociology of Health & Illness. The journal publishes sociological articles covering all aspects of health, illness, medicine and health care (Sociology of Health & Illness Website).

Willig (2011), who is a Professor of Psychology, discusses the current dominant discourses of cancer. Her article was published in an academic journal called Social Science & Medicine. The journal publishes material relevant to aspects of health from a wide range of social science disciplines (Social Science & Medicine Website). In the
article Willig (2011) states that dominant language can have an effect on the trauma of a serious illness in some cases:

(...) the image of the immune system as the body’s army trained to fight foreign invasion which, in the case of cancer, has failed to recognise an internal enemy bent on self-destruction. The result is a construction of cancer as the patient’s own creation and, therefore, ultimately their responsibility. (Willig, 2011, p. 899)

Trim, a historical linguist, reports that “cancer is also a conventional metaphor today for any phenomenon considered to be negative” (2011, p. 142). Trim’s text deals with the conceptual mapping of metaphor, and he continues by referring to a speech given by US President Obama in 2009, where Obama refers to terrorists as a cancer spreading in Afghanistan and Pakistan. Obama thus makes a connection between cancer and the war on terrorism, the nexus between disease discourse and the war on terrorism, which also Mongoven (2006, p. 414) discusses:

The metaphorical nexus by which struggles against disease and terrorism are called wars, diseases called terrorists, and terrorists are called diseases has led to continuous deflections of important health and social agendas while we fight war without end on multiple fronts.

That is, the combat and the action seem to obtain more focus than important health issues by using this type of language.

Larson, Nerlich and Wallis (2005), who are all scholars in various fields, report in an academic journal called Science Communication, the somewhat habitual use of martial metaphors in science-society discourse. Science Communication is an academic journal which “examines the nature of expertise, the diffusion of knowledge, and the communication of science and technology among professionals and to the public” (Science Communication Website). One of Larson, Nerlich and Wallis’ examples is within the area of cancer research, where war metaphors are almost inevitable (Larson, Nerlich and Wallis, 2005, p. 263).

A general example from the media of this kind of language is an article in The Guardian, where Fahey (2010) states “Let’s declare war on these tired military metaphors”. The writer exemplifies how these types of metaphors are used in a range of contexts, concluding that it may be an insensitive use (Fahey, 2010).

These varied examples of martial rhetoric, disease and cancer in different types of discourse raised an interest to investigate the area further. The aim is to see the distribution of these kinds of metaphors in the genres academic journals, magazines and newspapers. The aim is also to see if the mentioned criticism has had any effect on the language use. The goal of the study is presented in the next section.

2.3 Aim of the Study, and Analytical Tools

The main purpose of the study is to obtain a general view on the use of metaphors in cancer contexts in the genres investigated. The deployed four step approach contributes to the main objective by:
investigating the use over time of certain martial metaphorical linguistic expressions;
searching for possible trends for the use of other metaphors;
investigating linguistic properties, specifically the thematic role for the word cancer;
exploring the academic writers’ reasons behind using specific metaphors in their texts.

The four research questions are:

1. What is the distribution of the use of martial metaphorical linguistic expressions in academic writing compared to the genres of newspapers and magazines in cancer contexts?

The purpose of the first research question is to search for differences between the genres. The base for the investigation is genre descriptions of academic writing by Parkhurst (1990) and Vincent (2007). Parkhurst studied the composition process of scientific writing, and she states that “scientific information must be communicated very precisely to avoid ambiguity and communication breakdown (this is the reason behind the conventional nature of this kind of writing)” (Parkhurst, 1990, p. 177). Hence, metaphors may be considered to be less precise, and too figurative language in scientific contexts by some people. Vincent (2007) also studied language use in research writing, within the area of anti-aging, and presents the language of martial metaphors as used by those who have a somewhat limited scientific credibility (p. 954). These two studies by Parkhurst and Vincent propose a norm of less figurative language in academic writing. The present study examines these aspects, comparing academic writing to the more popular genres of magazines and newspapers.

2. Has the criticism discussed above influenced the use of this type of language?

That is, the second research question investigates if a change over time of the use of other metaphorical linguistic expressions than the martial ones in cancer contexts could be detected for the period 2005 - 2011. The reason was to investigate if the criticism discussed above has had an immediate impact on the language use.

The approaches chosen to perform these two parts of the study were discourse and corpus analysis. Paltridge (2006, p. 2) describes discourse analysis as a way to view language beyond the micro level of sentences, phrases, clauses and words. Discourse analysis examines language on a higher level, including social and cultural contexts, as well as relationships and patterns across texts and contexts. Within discourse analysis a genre is defined as a text (or spoken words) with a specific purpose, or function, aiming to communicate with a specific target group (Paltridge 2006, p. 84). Corpus analysis was the method chosen to get an overview of the metaphors used in the different discourse genres. Paltridge (2006, p. 156) presents corpus analysis as a way to get an overview of how, and where, words or specific linguistic features have occurred in the past. A general corpus is a collection of a certain size of spoken and written discourse that can be used to make generalizations about findings (Paltridge, 2006, p. 157). Therefore, the present study searched large general corpora – see section 3. Methods. The need to complement the corpora searches was suggested by the findings, and a possible means was a survey.
3. What is the semantic role of cancer in the expressions found?

In connection with the search for metaphorical linguistic expressions, the third research question investigates the sentences in which the metaphorical expressions occur in search for linguistic patterns. The pattern in focus is the semantic role of cancer. The goal is to determine the distribution of cancer in the roles agent and patient, as these thematic roles describe essentials about the linguistic properties of the expressions. For example, such an investigation would show how cancer is metaphorically seen, perhaps as some entity on which activities have to be focused (patient), or instead the doer of events (agent).

4. What reasons may writers of scientific articles have for using this type of language?

The fourth research question complements the corpus findings with direct feedback from writers of academic texts who have used martial metaphors. An inquiry was sent out to investigate the writers’ purposes for writing metaphors in their academic texts, despite the mentioned risks connected to using imprecise language. Occasionally, they must have specific communicative reasons to express themselves in these figurative terms, for example to make connections to texts previously published in other genres. Hence, a survey was sent out as a complement to the corpus study in the form of a follow-up inquiry, in order to explore the writers’ reasons when they do use martial metaphors in their texts about cancer.

The methods used to achieve these four goals are presented in more detail in the next section, 3. Methods.
3. Methods

The goal of this section is to describe the methods employed in the present study. Some general issues are presented followed by a description of the corpora searches for the long term study of expressions including two specific words. The corpora search for all kinds of metaphors in cancer contexts is outlined, and the investigation of linguistic patterns is presented. Finally, the method used for the inquiry is described.

3.1 General

The corpus searched in this project was the Corpus of Contemporary American English (COCA) (Davies, 2008), which has 450 million words from the period 1990 – the present. The reason for investigating COCA in this study was that it is a very extensive corpus, it is the “largest freely-available corpus of English” (Davies, 2008), and it is updated with more material regularly. The British National Corpus (Davies, 2004) has, for example, as a comparison 100 million words, and covers the period 1980s – 1993. According to the homepage of COCA, the number of words is equally divided over the text categories presented. The five categories in the corpus are spoken, fiction, popular magazines, newspapers, and academic texts. This means that each category has 90 million words (the total number 450 million divided by 5 categories, equals 90 million words).

The most recent texts in COCA are from the summer of 2012, meaning that the material for the whole year of 2012 was not registered at the time for this study (spring 2013). Therefore the corpus material for year 2012 was excluded.

The categories, or text types, investigated in COCA in this study were of the types Academic Journals, Magazine and Newspapers. The categories Fiction and Spoken were not investigated. The reason for this limitation of the study that was that the chosen categories were all written non-fiction, and therefore considered to give a more homogenous and comparable material.

Davies (2009) has defined the Academic genre of COCA as covering nearly 100 different peer-reviewed journals. The academic fields include health and medicine, as well as philosophy, psychology, religion, history, technology, etc. and cover the “entire range of the Library of Congress classification system” (Davis, 2009, p. 162). That is, the category Academic Journals consists of many different kinds of academic texts, not just within the field of health and medicine, which was the focus of the discussion in section 2.2. However, the corpus chosen was considered to give the indicative status desired for the project.
3.2 Long Term Use of Studied Phrases

The time period investigated in COCA for the long term use of the phrases was 1990 – 2011. A search of the Corpus of Historical American English (COHA) (Davies, 2010), was also made in order to obtain an overview for a longer time period, see section 4.1.

Metaphorical linguistic expressions including the words battle and fight were extracted for the first part of the study, after preliminary searches of the database. The reason for choosing these two words, or group of words (see below), was that they had the highest number of occurrences – approximately 600 together, leading to a material of suitable size for the present study. The discarded expressions, including for example struggle or combat, had considerably fewer occurrences.

So called “lemma searches” (searches based on word stem) were made for the “[battle]” and “[fight]” tokens to receive the occurrences for the phrases. That way, the search result lists all word forms of a given word. In this case, the following words were found:

- battle (both as noun and verb), battles (both as noun and verb), battled and battling
- fight (both as noun and verb), fights (both as noun and verb), fought and fighting

The “collocates function” 3 + 3 was used in the corpus database. This means that words within the span three words before, and three words after, battle and fight respectively, were listed in the resulting searches. This procedure led to occurrences with all kinds of prepositions and other words in between the searched word and cancer. These matches were selected from the resulting lists, and the excerpt for every occurrence was scrutinized. Trial searches with the collocates function 4 + 4 were made, but then the “cancer matches” were not on the top 500-list, and therefore these searches were discarded.

3.3 Metaphorical Linguistic Expressions

Searches for the word cancer were also made in COCA for the same text categories. The intention was to obtain an overall view of all metaphorical linguistic expressions used in texts about cancer for the period 2005 - 2011. The chosen period includes the years of publication for some of the critical articles mentioned in section 2.2, and the aim was to see if the critique has had any impact on the language use. The occurrences were scrutinized in search for all types of metaphors, that is, including martial expressions as well as other kinds of metaphorical linguistic expressions. The aim was to examine how the use of these expressions changed during the investigated period.

In this study, battle and fight were considered having a martial interpretation. Seale (2001, p. 309) states that:

(…) linguistic terms do not have fixed meanings but derive these from their context and relationships with other terms (…). Others, such as “fight”, “victory” and “defence”, seem to have more potential for non-military connotation, even as they use, metaphorically, a military context.
What is intended here, is for example that a word such as *fight* can have a specific meaning which is non-military, for instance in a sports context. In another context, the same words may be considered having a religious or spiritual interpretation, as Hoffman-Goetz states (as cited in Seale, 2001, p. 310). The examples used in Seale’s article are for instance *battle, fight* and *challenge*, which were associated with words such as, for example *God, faith* and *miracle* in Hoffman-Goetz’ study. However, in the present study, the martial interpretation was chosen for *battle* and *fight*, to correspond to the critical texts discussed above.

The Military subject section of Oxford English Dictionary Online, from now on referred to as OED (n. d.), was used to determine what words are considered as martial. The phrases including those words were thus defined as martial metaphorical linguistic expressions. The words included in the investigated expressions are listed in Appendix A.

In order to get a starting point for the study of other metaphorical linguistic expressions used in cancer contexts, a list in Seale’s article (2001, p. 316) was used. Seale studied what he refers to as “struggle words” with a sports interpretation. To define what expressions are considered to belong to the world of sports, the Sports and Leisure subject section of OED (n. d.) was used. The words in Seale’s list were verified with OED’s section of Sports and Leisure, and the remaining words were used in the search of the corpus excerpts. The words included in the studied expressions are listed in Appendix A.

All occurrences for the period 2005 to 2011 were scrutinized in search for metaphorical linguistic expressions. Reisfield and Wilson (2004) have studied metaphors in cancer related contexts, and they found that the war and military metaphors dominate. Reisfield and Wilson (2004) also present an array of other metaphors, such as journeys, climbing a mountain, some sort of sports competition, or a building project. Their findings were considered in the searches for metaphorical linguistic expressions.

### 3.4 Linguistic Patterns

The *semantic role* of *cancer* was also investigated in the findings described in section 3.3. A *semantic role* is attributed to nouns with certain functions in discourse. The role can, for example, demonstrate if a word is metaphorically seen as some entity on which activities have to be focused, or if the word is instead seen as the active doer of events. That is, the investigation aimed to explore if the word *cancer* was used in the thematic role of *agent* or *patient*. The *Glossary of Linguistic Terms* (Loos, 2004) defines these technical notions as follows:

- a *semantic role* is the underlying relationship that a participant has with the main verb in a clause
- the *agent role* can be defined as the doer of an event, or usually the subject of the verb in an active clause
- the *patient role* is usually the object of the verb in a sentence
Thus, the semantic role of a word helps describe the linguistic properties of the expressions. Some occurrences consisting of headings or imperative moods were discarded in the investigation, as those occurrences lacked normal clause structure.

### 3.5 Inquiry

The objective of the inquiry was to complement the corpus findings by investigating the reasoning behind the writing, as this type of metaphorical, or figurative, language is not considered to be very academic, see section 2.3. The inquiry had one question regarding the specific use of metaphorical linguistic expressions in health and medical research articles, and was sent out in the form of an e-mail to twenty writers of such articles. The articles were picked by random sample searching article databases through the Stockholm University Library portal. The articles were searched for phrases including *fight* or *battle cancer*, and also with a wild card (“*”) in between the verb and *cancer*. The resulting expressions in the articles were, for example, of the kind “fight against cancer” or “battle with cancer” (see appendix B for more details). These searches were limited to scholarly articles within the area of health and medicine. The twenty inquiries sent out resulted in six answers with “free text” replies.

The small number of inquiries sent out can be explained by the fact that it was quite difficult to find contact persons for the articles. The article searches gave hundreds of hits, but then it was difficult to locate the contact persons, and confirm e-mail addresses.

The specific phrases studied and the result of the inquiry are presented and discussed in section 4.4.
4. Results and Discussion

This section presents and discusses the results: the long term overview of the use, the search for all kinds of metaphorical linguistic expressions, the semantic roles, and the inquiry.

4.1 Long Term Use of Studied Phrases

The first part of the study was made in order to get an overview of the long term use of the studied metaphorical linguistic expressions including the words battle and fight in the genres investigated for the period 1990 – 2011. The overview gives an indication regarding how frequently these kinds of expressions are used. There were 577 occurrences in COCA for the searched expressions including all forms of the words battle and fight. The distribution is shown in table 1 below, the subcorpora of each category is equal in size (90 million words, see section 3.1).

Table 1. Distribution for battle and fight for the three categories studied for the period 1990-2011

<table>
<thead>
<tr>
<th>Category</th>
<th>Fight</th>
<th>Battle</th>
<th>Sum</th>
<th>(% of total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magazines</td>
<td>178</td>
<td>123</td>
<td>301</td>
<td>52 %</td>
</tr>
<tr>
<td>Newspapers</td>
<td>95</td>
<td>165</td>
<td>260</td>
<td>46 %</td>
</tr>
<tr>
<td>Academic Journals</td>
<td>9</td>
<td>7</td>
<td>16</td>
<td>3 %</td>
</tr>
<tr>
<td>Category</td>
<td>282</td>
<td>295</td>
<td>577</td>
<td>100 %</td>
</tr>
</tbody>
</table>

The figures in table 1 show that the metaphorical linguistic expressions are most frequently used in the genre Magazines, followed by the genre Newspapers. The expressions are not that frequently used in the genre Academic Journals. This finding supports the discussion in section 2.3, where figurative language is argued to be less frequent in academic texts as it is considered to be less precise.

An indicative search of the Corpus of Historical American English (COHA) (Davies, 2010), was also made in order to get an overview over a longer time period. COHA does not have the category Academic Journals, and therefore the detailed COHA search results were not included in the study. The reason was that these findings would give misalignment, as they would only present occurrences within the categories Magazines and Newspapers. The result of the indicative search of COHA showed that the first instance of the searched phrases was “the fight to wipe out cancer”, which appeared in 1925 in the Magazine category. All through the COHA period (in this case, form 1925 until 1989) there were just a few sporadic occurrences of the searched words and phrases. No increase was discovered after President Nixon’s speech in 1971 (see section 2.3), as one might possibly have expected.
There are considerably more occurrences from the starting year of COCA (1990). Then the size of the corpus becomes more extensive, and the increased number of occurrences is a logical result. The number of occurrences varies between 10 and 47 in total for battle and fight for the text categories investigated for the COCA period 1990 – 2011, see figure 1 and 2.

![Figure 1. Distribution of the occurrences for fight in the categories Magazine (MAG), Newspaper (NEWS) and Academic (ACAD) in COCA](chart)

The peak for the years 1998-2000 in figure 1 for the Magazine category depends on a number of articles in several magazines covering diets that help “fighting cancer”. For example, in a magazine called Prevention there are seven occurrences in an article published in 2000 called The Breast Cancer Diet.
Figure 2. Distribution of the occurrences for battle in the categories Magazine (MAG), Newspaper (NEWS) and Academic (ACAD) in COCA

There was a small predominance for phrases and expressions including battle: 51% compared to 49% for fight. An observation is that there is a slightly declining trend for the use of expressions including fight at the end of the time span investigated for the Magazine category, even though the frequencies fluctuate between the years.

A general observation is that expressions including battle are more popular than expressions including fight in the Newspaper category. In total 63% of the occurrences are for battle, and 37% for fight in the News category. For the categories Magazines and Academic Journals expressions including fight are slightly more frequent: 59% for the Magazine category and 56% for the Academic Journal category. A possible explanation for this distribution can be that the lexical meaning of the word battle includes fights between large entities, such as armies. In this case these armies would be the united force of medicine facing another united force (cancer). The lexical meaning of the word fight, on the other hand, includes taking part in a battle, that is, on a more individual level. Writers of newspaper articles may perhaps be more accustomed to writing about large battles, and wider scopes. Thus, their custom is possibly to use the word battle more frequently than fight, even when the article covers the fate of an individual.
The peaks in the Newspaper category for 1997, 1998 and 2006 in figure 2 above seem to resist explanation. A possible pattern could be that quite many articles these years covered people with a public position, or their relatives, who had died of cancer.

4.2 Metaphorical Linguistic Expressions

Searches were also made in COCA for the word cancer for the same corpora categories; Academic Journals, Magazines and Newspapers. The purpose was to see what metaphorical linguistic expressions – war and military as well as other types – could be found. The search results for 2005 – 2011 were examined.

Summarized findings for this part of the study (out of 9991 occurrences for the word cancer in COCA):

- 435 of the occurrences had metaphorical linguistic expressions within the area of war and military
- 106 of the occurrences had metaphorical linguistic expressions within the area of sports and leisure
- five occurrences mention a journey, three occurrences include a form of a spiritual journey, and 21 other occurrences were found (see Appendix A)
- metaphorical linguistic expressions could not be detected in the remaining 9421 occurrences with the employed method

The findings in the present study support Reisfield and Wilson’s study (2004), as the war and military metaphors clearly dominate. The alternative metaphors found were mainly within the area of sports, which reached approximately one fourth of the amount of the martial expressions. The results for the martial, as well as the sports expressions, are presented in more detail below. The other metaphorical linguistic expressions found were few, and scattered in time (see Appendix A).
The findings for war and military metaphors are shown in figure 3 below. The percentages show the relative frequencies, which means that the number of martial expressions per category has been divided with the total number of occurrences per category, multiplied by 100. The Magazine and News categories had the highest number of occurrences of martial metaphors, and the Academic category the lowest. This relationship was not surprising considering the result of the first search where the occurrences for Academic Journals for battle and fight were far below the occurrences for Magazines and Newspapers (see figure 1 and 2).

Figure 3. Occurrences of war and military metaphorical linguistic expressions for the years 2005 - 2011 in COCA for the categories Academic, Newspapers and Magazines (relative frequencies, see explanation in the text, %)

The peak for the Academic category in 2010 in figure 3 depends on two articles in a journal called Mechanical Engineering. These two articles alone had eight occurrences of a variety of very combative language. Therefore, these two articles caused a skewed result, as the total number of occurrences in 2010 for the Academic category was 14.

The News category shows a more varied result than the other categories. A possible explanation is that some events causes a series of articles, and those events can be unpredictable. An example is the media coverage of celebrities with cancer.
For the expressions within the area of Sports and Leisure (figure 4), which were the starting point for the search of other metaphors than the martial ones, the results are quite similar in the genres investigated. An explanation for the fact that the curves follow each other quite well is hard to detect.

An extensive article in the Academic category, which was published in 2011 in the *American Journal of Public Health*, was considered to be a so called “rogue text”. The reason was that the text (some sort of review of a statistical report) had 39 occurrences of one of the words, many of them appearing in headings. Therefore the article was counted as if it had only one occurrence, as otherwise the result would have been very imbalanced.

![Figure 4. Occurrences of sports metaphorical linguistic expressions for the years 2005 - 2011 in COCA for the categories Academic, Newspapers and Magazines (relative frequencies, see explanation in the text, %)](image)

This part of the study gave an overview of the use of metaphorical linguistic expressions in the text categories investigated for the time period. The sports and leisure expressions were more evenly distributed than the martial ones for the categories examined. A possible explanation for this could be that these expressions may be considered more neutral to use than the more dramatic martial expressions, thus the more even distribution. The critical articles mentioned in section 2.2 were published in 2005, 2006, 2010 and 2011. It is difficult to observe any connections to the findings; however, the article in the Guardian was published in 2010, and the next year there is a drop for martial expressions in all categories. The findings signal that linguistic changes are not that immediate and take longer time to observe than the investigated time period.
4.3 Linguistic Patterns

The semantic role of cancer was also investigated in the metaphorical linguistic expressions found as described in section 3.3. It was investigated if cancer appeared in the semantic role of agent or patient as these roles can tell something about the properties of the expressions. Hence, the semantic role indicates how the writer sees the entity cancer, which gives perspective to the understanding of the use of the expressions. If the role of the word mainly is the role of agent, it will be seen as a metaphorical entity that is the performer of events. On the other hand, if the word has the role of patient in the majority of the cases, it is mainly seen as a metaphorical entity which is the recipient of events. The roles of the word cancer were therefore investigated in the found expressions including both martial and sports expressions.

The result for the martial expressions demonstrates that cancer was used in the semantic role of patient in a majority of the occurrences. In the Newspaper category the agent role was somewhat more frequent, or 18 %, compared to 12 % for Magazines and 4 % for Academic Journals. The distribution of the semantic roles for cancer for the martial expressions is shown in figure 5 below.

For the sports expressions the result was similar compared to the martial expressions: cancer appeared in the semantic role of patient in most of the occurrences. In the newspaper category the agent role was more frequent, or 13 %, compared to the other
categories: 5% for Academic Journals and 2% for Magazines. The distribution of the semantic roles for cancer for the sports expressions is shown in figure 6 below.

![Figure 6. Distribution of the semantic roles agent versus patient for SPORTS expressions for the text types investigated (%)](image)

The few occurrences detected where cancer had the agent role (in total 53 occurrences for the martial expressions, and six for the sports expressions), were generally of the type cancer strikes or cancer took. Cancer had the agent role most often in the Newspaper category. This distribution is quite logical, as news articles may be anticipated to include these kinds of theatrical words more often than articles in Magazines or in Academic Journals, because of the inclination, of especially tabloid newspapers, to amplify information.

The semantic role of patient for cancer is the most frequent, as cancer is most often viewed as a problem which has to be solved. The agent in these occurrences is most likely to be, for example, some treatment aiming to cure cancer, or a person diagnosed with the disease trying to get well. This means that cancer is most often metaphorically seen as some entity on which the subjects of the clause have to focus their activities.

**4.4 Inquiry**

The goal of the inquiry was to complement the view that was obtained from the corpus analysis, as a means to widen the picture of the use of the expressions. The inquiry was sent out in order to get a better understanding of how researchers reason when they use...
martial metaphors in cancer contexts. As this type of writing is not considered very academic (according to Parkhurst and Vincent, see 2.3) the writers may have had specific needs to communicate in the given context. The inquiry was sent to twenty contact persons of research articles in scientific journals within the field of health and medicine. Six answers were received, three of the authors were native English speakers, and three were non-native English speakers. See table 1 in appendix B for the question sent out and the complete free text replies.

Three of the replies indicate that the respondents usually express their work this way. The numbers below refer to the numbering of the answers in appendix B:

- No. 1 answers that war terms and weapons are good expressions to describe the stepwise process of cancer illness,
- No. 2 states that fighting a battle is a good description of being ill in cancer as the entailment includes challenges and threats
- No. 3 answers that they consider (lung) cancer a dangerous enemy – and thus they fight with the tools available to scientists.

Respondent No. 4 motivates the use of the phrase by referring to that they were using phrases that their patients said.

Another respondent (No. 5) replies that they could not really think of another way to express what the patient does. The respondent states that they could have used other military expressions, or else they would have to rewrite the text in an awkward way.

One of the respondents (No. 6) explains that in the specific article it was a deliberate choice to use the phrase “battle with cancer”. The reason was that the writers wanted to make a clear connection to a previously published article in the same area, with a somewhat political focus. Otherwise the writer states that what he is aiming to do in his work is to “try to alleviate suffering, in this sense we are more priests than soldiers”, and “I am not sure that the metaphor is the best one to describe our professional activity”.

The result of the inquiry is in line with the study of Larson, Nerlich and Wallis (2005, p. 263) – these kinds of phrases are sometimes used out of routine in cancer contexts. This is suggested by the majority of the answers. However, one respondent referred to language used by participants in their study, thus giving authenticity to the material. Another one stressed the suitable entailments given by using the specific phrase, and a third respondent desired to create a connection to a previously published text. Thus, the reasonable generalization is language use out of routine, but a more varied image also appears.

The conclusions of the study are presented in the next section.
5. Conclusions

The purpose of this four step examination was to obtain a perspective on how metaphors are used in cancer contexts in the genres investigated.

The first step of the study was to investigate the distribution of martial metaphorical linguistic expressions in the genres examined. The findings confirm that metaphors are used less frequently in the academic context compared to the more popular fields of magazines and newspapers. This result supports Vincent’s (2007) and Parkhurst’s (1990) findings: academic writers tend to use a less figurative language.

The second step was to search for indications of a possible shift into using other metaphorical linguistic expressions than the war and military ones, as a possible response to criticism. Other metaphorical linguistic expressions were detected, mainly within the area of sports. The interpretation chosen in this study for the words (see section 3.3) could of course be discussed further. Trends for the use, however, seem to resist generalization. The studied period was 2005 – 2011, and a study covering a longer time span could investigate what drives the trends of this kind of language. Such an investigation could be more specifically aimed at health and medicine discourse, to see what impact criticism has on the use of martial metaphors in this context. An observation is that the assumption that the critical articles discussed in section 2.2 would have a general and immediate impact on the language use in the investigated genres was quite optimistic. Particularly, as the critical articles were mainly published in rather narrow contexts.

The third step was to examine the findings in search for linguistic patterns. The distribution of the semantic roles agent and patient for cancer indicates a more frequent use of the agent role in newspaper texts, compared to the other genres. However, cancer had the patient role in the majority of the occurrences in all categories. Thus, it can be concluded that cancer is metaphorically seen as an entity which obtains the focus of activity.

The fourth step explored how the writers of research articles reason when they use martial metaphors in their texts. The majority of the respondents to the inquiry essentially answered that they are used to describing their work in these terms. As Larson, Nerlich and Wallis (2005, p. 263) report in their article – war metaphors are almost constitutive in cancer research – a fact which is in part supported by the result of the inquiry. The articles selected were clearly academic, and not within the field of “scientifically less credible”, as found by Vincent (2007, p. 954). The theory presented here, keeping the small sample in mind, is that this type of language is so frequent in cancer discourse, that everybody uses it – and credibility has little to do with it.

The starting point of the essay was the criticism aimed towards war and military metaphors in disease and cancer contexts. A complex image appears when considering the different aspects explored in the study. Writers of these texts have several reasons for using these expressions – communicative and emotive, to name a few. However, others state that there may be a risk that these expressions can imply a negative impact
on the patient (Willig, 2005; Mongoven, 2006). Seale (2001) summarises that many analyses made of military terms in cancer contexts are associated with the opinion that “such language is harmful to the interests of people with cancer” (p.309). Then he continues to state that “heroic fighting language” (p. 325) may, on the other hand, be experienced as an inspiration to do whatever is possible to become better.

To conclude – the metaphors used should be suitable to the context. In some cases these metaphors are appropriate for communicative purposes, for example to help explain the different steps in the intricate treatment of the disease, as mentioned by one of the respondents to the survey. However, another respondent to the survey mentions that he is “not sure that the metaphor (in this case “battle against cancer”) is the best one to describe our professional activity” as what he wants to do is to “try to alleviate suffering, in this sense we are more priests than soldiers”.

Language use out of habit, as reported by Larson, Nerlich and Wallis (2005, p. 263), can be uninspiring. Perhaps it is time to be creative and start using other metaphors than the martial ones in disease contexts. As stated in the article in The Guardian: “Let’s declare war on these tired military metaphors” (Fahey, 2010).
References


Appendix A – Martial and Sports Words, and Other Metaphorical Linguistic Expressions Encountered

Table 1. Metaphorical Linguistic Expressions including these words were studied. Martial and sports interpretation, based on OED.

<table>
<thead>
<tr>
<th>Martial</th>
<th>No. of occurrences</th>
<th>Sports</th>
<th>No. of occurrences</th>
</tr>
</thead>
<tbody>
<tr>
<td>aggressive</td>
<td>5</td>
<td>champion</td>
<td>1</td>
</tr>
<tr>
<td>arsenal + artillery</td>
<td>1+1</td>
<td>conquer, etc.*</td>
<td>3</td>
</tr>
<tr>
<td>assault</td>
<td>1</td>
<td>honor</td>
<td>1</td>
</tr>
<tr>
<td>attack</td>
<td>3</td>
<td>kick</td>
<td>3</td>
</tr>
<tr>
<td>battle, etc.*</td>
<td>127</td>
<td>lose, etc.*</td>
<td>40</td>
</tr>
<tr>
<td>beat</td>
<td>26</td>
<td>odds</td>
<td>1</td>
</tr>
<tr>
<td>bombs + bullet</td>
<td>1+2</td>
<td>rounds</td>
<td>1</td>
</tr>
<tr>
<td>combat</td>
<td>8</td>
<td>struggle, etc.*</td>
<td>10</td>
</tr>
<tr>
<td>crusade</td>
<td>1</td>
<td>survival</td>
<td>43**</td>
</tr>
<tr>
<td>defeat + defence</td>
<td>2+3</td>
<td>triathlon</td>
<td>1</td>
</tr>
<tr>
<td>enemy + fend off</td>
<td>2+1</td>
<td>win</td>
<td>1</td>
</tr>
<tr>
<td>fight, etc.*</td>
<td>86</td>
<td>winner</td>
<td>1</td>
</tr>
<tr>
<td>fighter</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>hit, etc.*</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>infiltrate</td>
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<td></td>
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<tr>
<td>invade, invasion,</td>
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<tr>
<td>invasive</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>kill, etc.*</td>
<td>55</td>
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<td></td>
</tr>
<tr>
<td>killer</td>
<td>19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>knock</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>missile + nuke</td>
<td>1+1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>regroup + resistance</td>
<td>1+1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sabotage</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>shot + siege</td>
<td>2+1</td>
<td></td>
<td></td>
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<tr>
<td>slash + stray</td>
<td>1+2</td>
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<td>strike, etc.*</td>
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<td>take</td>
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<td></td>
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<tr>
<td>target</td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>trace + track</td>
<td>2+1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vanquish</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>war + warfare</td>
<td>11+1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ward off</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>warrior + weapon</td>
<td>1+3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

435                  106
Other metaphorical linguistic expressions encountered (referring to the bullet point list in section 4.2):

- four occurrences mention a journey:
  in the Magazine category:
  in the Newspaper category:
  “this weird cancer journey” (2006);
- three occurrences include a form of a spiritual journey:
  in the Newspaper category:
  “emerging from the dark tunnel of cancer” (2011) and “surviving cancer can mean slipping into a rabbit hole” (2007)
  in the Magazine category:
  “out from under the shadow of cancer” (2005);
- a few other occurrences were found:
  in the Newspaper category:
  “have an envoy to cancer” (2009), “an alien called cancer” (2009), “cancer lurked in her body” (2005)
  in the Magazine category:
  “you're essentially courting cancer” (2008), “can fuel cancer” (four times, one in 2006, three in 2005), “cancer does rip off the blinders” (2005);
- a variety of metaphorical linguistic “compounds” were found:
  in the Academic Journal category:
  “the monster of (colon) cancer” (2007) and “cancer alley” (once in 2005, used to describe a small geographical area with many cancer cases)
  in the Magazine category:
Appendix B – Inquiry Answers

The inquiry had one question:

(1) Would you let me know your thoughts behind using the phrase X in the article Y in journal Z?

Answer No. 1, phrase “fight against cancer”, published in 2007:

1-to day, a patient once affected by a tumour, is starting a war to fight the cancer, several drugs to impair carcinogenesis, during the phase of treatments. He can reach a status of cancer interruption (neutral phase, or either neutralize the enemies, or succumb and lose the war.

2-if you know the biology behind, you have weapons to fight cancer, during the progression of cancer in a patients there are several steps occurring, from the benign to the malignant phase, and this is like a war. We have today drugs to be used in early phases of cancer and drugs to be used once the tumour acquire a malignant phenotype, it is like a war with exponential action to gather the final victory or loss.

Answer No. 2, phrase “battle with cancer”, published in 2013:

When someone deals with cancer and all that it entails (psychological and physical hardship involved in the diagnosis, treatment, how it affects their families, etc.) it might feel like a battle to be fought in that there are numerous challenges, including potential threats to mortality, involved.

Answer No. 3, phrase “fight (lung) cancer”, published in 2011:

We just consider lung cancer as a dangerous enemy. Thus, we fight against lung cancer doing research. We fight cancer with the tools available to scientists. We leave to any scientists to choose the best way (and meaning) of fighting.

Answer No. 4, phrase “fighting cancer”, published in 2010:

I was using a phrase used by patients in our focus groups, but because I aggregated it (“many participants”), I did not put it in quotes.

Answer No. 5, phrase “fighting cancer”, published in 2011:

I am trying to think of another way to say "fighting cancer" and the only things coming to mind are war metaphors ("battling cancer"). I guess I lean toward those verbs because they don't indicate whether the person with cancer succumbs or not (like "overcoming cancer" would indicate a cancer-free status). It seems the process of working against it
is more universal because it doesn't indicate end status. I supposed I could have used "working against" instead of "fighting," but that is one extra word.

Another option might be "having" but then that wouldn't work in the context: "They found black adults are more interested in cancer screening after reading about the progress African Americans have made in fighting cancer" --If I put "having" cancer there, it might seem like they are good at being in a cancerous state.

**Answer No. 6, phrase “battle against cancer”, published in 2004:**

In 2004 many of us working on Cancer Research were strongly influenced by a Fortune Magazine cover article which was published in the March 29th issue 2004. The article was titled "Why we’re losing the war on cancer (and how to win it). Obviously, the piece was written for a general (educated) public, but in my view also had a strong effect on the cancer research community. I had not used the metaphor before and after that time. I am not very keen on the idea of being part of an army battling against the enemy. We mainly work to understand better a natural biological phenomenon and, based on this knowledge trying to stop or reverse the disease.

My view and that of my colleagues, I think, is not that we are like military strategists. We tend to think more on the biological complexity of cancer and on the patients suffering the disease or the individuals at risk. This means that we try to concentrate our efforts on deepening in our knowledge and in trying to alleviate suffering and pain from cancer. For example, if we are able to turn an invasive and metastatic disease into an asymptomatic, slow growing one, we are indeed providing a good option to the patient, even if we do not "destroy" or "aniquilate" every single cancer cell. In this sense we are more beast tamers rather than soldiers.

The main aim of research in cancer is to try to alleviate suffering, in this sense we are more priests than soldiers. In fact, our main motivation should not be self-progress or personal reward but the well being of people affected by cancer. At the same time we need to be aware that it is not possible to alleviate every suffering or to completely avoid death. This is why, in my case, I try to help my colleagues and the cancer patients to realize that there are many other aspects of life and people that need to be enjoyed and that disease or even death do not have the last word in the pursuing of real happiness.

In a word, I am not sure that the metaphor is the best one to describe our professional activity.