

Differences between Logical Demonstration and Logical Argumentation in the Text

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Abstract

People always talk, discuss, argue, criticize or contradict each other. Have you ever thought of how do we do this? What language means do we use? What kind of elements do we use in verbal interaction? It is undoubtfully the use of arguments, part of a well-organized logic. Spontaneously people argue about different issues, trying to answer every question, trying to be persuasive in what we say. In the same way, we comment and express our opinion according to our point of view if something happens. This occurs naturally and no one stops to think how we argue and how many forms of argumentation exist.

Different linguists and philosophers treated argumentation from ancient times up to now. We can mention Aristotle and his rhetoric, Perelman and Toulmin with The new Rhetoric or the Theory of Argumentation. Thanks to these studies, these theories are applied and used in Linguistic, Applicable Linguistic, and Text Linguistic. In this paper, we will have a look at different types of argumentation from theory to practice.

Keywords: argumentation theory, rhetoric, argumentative text, logical demonstration, logical argumentation.

Introduction

The study of using logic has roots in ancient times, when the need to study rhetoric was born. This, by no doubt came as a response to the necessity of perfecting the use of rhetoric. Among the various philosophers of *Rhetoric*, we can mention Plato, Cicero, Socrates, Aristotle. Aristotle's view of rhetoric was based on logic, which consisted of two types: demonstration or scientific data and dialectics.¹ His rhetoric was based on various works including other Greek and

¹ Cope E. Meredith, *An Introduction to Aristotle's Rhetoric* (Cambridge, 1867), xii.

Roman authors. Aristotle applied a number of concepts and arguments in creation of the *Theory of persuasion*. His theory of *Rhetorical Arguments* is one of the applications of his general doctrine called *sullogismos*.² Aristotle's theory is also the basis of dialectics, logic and the *Theory of demonstration*.³ Below we will see how Aristotle determines logic in demonstration and argumentation.

Demonstration and Argumentation

Aristotle believed that logic was the essence of rhetoric. According to Aristotle, a convincing and successful rhetoric was based on logical argumentation. He argued that the speaker supports what he says based on logic, ethics and emotional state, making possible for these characteristics to be present in every presentation to the public. According to Aristotle, rhetoric was a *techne*,⁴ understood only by those who are able to argue logically and reflect on the characters, virtues and emotions. In his works, he dealt with the types of discourse, the audience / the listeners, the characters and the feelings, message and style. It addresses the importance they have for the speaker and consequently for the discourse and argumentation (how persuasive it is). He divided logic into demonstrative (in brief demonstration) and argumentative (in brief argumentation).

Logical demonstration applies strict rules in order to conclude indisputably and indispensably. Demonstration is the typical logic of sciences, especially formal ones. In logical argumentation (or argumentation), either the premise or the conclusion becomes the subject of criticism and the conclusions at the end are not necessary. Nowadays, the use of *argument* is more widespread than *demonstration* because we are often in situations where we use our logic to discuss controversial issues. We can say that argumentation is the typical logic of philosophy as well as our everyday life.

Between demonstration and argumentation, there are differences that we are presenting in the scheme below:⁵

² Comes from the Greek language, which means: deduction.

³ Taken from <https://plato.stanford.edu/entries/aristotle-rhetoric/>.

⁴ The word comes from Greek means: technique.

⁵ Model adopted from A. Cattani, *Forme dell'argomentare* (Padova: Edizioni GB, 1990).

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DEMONSTRATION	ARGUMENTATION
➤ <i>Impersonal.</i>	➤ <i>Personal.</i>
➤ <i>Independent from time and space.</i>	➤ <i>Set in time and space.</i>
➤ <i>Valuable always and for all.</i>	➤ <i>Valuable in the proposed situation</i>
➤ <i>Irreversible.</i>	➤ <i>Always reviewable</i>
➤ <i>Continuance of further demonstration.</i>	➤ <i>Opportunities to collect</i>
➤ <i>Based on axioms.</i>	➤ <i>Based on thoughts, guesses and precedents.</i>
➤ <i>The principle of the excluded third is applicable.</i>	➤ <i>The principle of the excluded third is applicable, all or nothing.</i>
➤ <i>The character of logical truth, valid always and everywhere.</i>	➤ <i>Evaluative character, justifies reason for a choice.</i>
➤ <i>Highlighted and need.</i>	➤ <i>Almost true, opportunity, credibility.</i>
➤ <i>Short and simple.</i>	<i>Expansion and decoration (flattering).</i>
➤ <i>Uses a language that might be artificial, with signs or symbols.</i>	<i>Uses a natural language.</i>
➤ <i>The recipient does not matter.</i>	<i>Addressing to a defined Public.</i>
➤ <i>It is not questionable.</i>	<i>Discusses conclusions.</i>
➤ <i>Includes the possibility of even mechanical calculation.</i>	<i>Includes communication, dialogue, discussion, contradiction.</i>
➤ <i>Excludes the possibility of approach.</i>	<i>Accepts different levels of approach.</i>
➤ <i>Conclusive and occlusive.</i>	<i>Submits variable decisions if new factors or changes in evaluation occur.</i>

Table. 1 Differences between demonstration and argumentation

As we noticed above, demonstration is characterized by a closed logic where nothing is disputed, neither the beginning of logic nor the end of it. By contrast, argumentation is characterized by an open logic in which any “step” of it is discussable; even the beginning of the argument is an opinion that should be discussed.

It is noted that the argument, is not part of philosophy anymore and the strict rules of it, but becomes part of everyday life where for every issue we express an opinion. These include rules of civic life. Therefore, we can say that if for demonstration conclusion is indispensable, for the argumentation conclusion is neither unanimous nor indispensable.

In conclusion, we can say that logical demonstration is based on strict rules, while for the logical argumentation these rules are not necessary. Below we are going to deal practically with the types of arguments in two different types of text.

Explanation: As an Italian language teacher and a Text Linguistic one, the author has chosen to analyze two Italian texts. The study is entitled “Argumentation in the argumentative text in Albanian and Italian language”. The dissertation is focused on the argumentation in the text in the two languages.

Practical analysis of a scientific text where argumentation is demonstrative

The scientific text by its nature is an arguing text that submits the thesis or theses based on very plausible arguments. They are persuasive because the evidences presented to support them are based on scientific experiments, studies, facts and various evidences. As a result, scientific arguments are indisputable and incontrovertible. Conclusion is persuasive. The public in such cases cannot do otherwise but just accepts what is substantiated by scientific argumentation.

Example 1

A scientific text in Italian language:⁶

Anche le lacrime hanno un odore⁷

La scoperta nei topi. Che annusandolo si proteggono dai predatori

ROMA - Non solo la paura, ma anche le lacrime hanno un odore, che può essere usato come strumento difensivo negli animali. Lo dimostrano gli esperimenti sui topi, per i quali l'odore delle lacrime dei loro simili contiene segnali simili a quelli sessuali veicolati dai feromoni, mentre le lacrime dei predatori "tradiscono" la loro presenza e avvertono del pericolo. Lo spiegano sulla rivista Current Biology i ricercatori dell'università di Tokyo. In altre parole il pericolo di un predatore che si avvicina viene

⁶ We are presenting the text in the original language, because the study is based on Text analyses in Italian and Albanian language.

⁷ Newspaper article: “Anche le lacrime hanno un odore,” 29 march 2018 from: http://www.repubblica.it/scienze/2018/03/29/news/anche_le_lacrime_hanno_un_odore-192543258/

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captato di nascosto dall'odore delle lacrime. Per gli studiosi si tratta del primo esempio di "origliamento olfattivo" nelle comunicazioni tra preda-predatore nei mammiferi. Il gruppo guidato da Kazushige Touhara aveva già descritto, in un precedente studio, una proteina dei feromoni nelle lacrime dei topi, chiamata ESP1. In questa nuova ricerca si è partiti ipotizzando che le proteine presenti nelle lacrime di un predatore potessero innescare dei cambiamenti nel comportamento delle loro prede.

Nel loro esperimento i ricercatori hanno così identificato un nuovo composto nelle lacrime predatori maschi, la proteina Crp1, che non solo attiva i recettori nasali delle loro femmine, ma agisce anche sulle loro prede. Nel cervello di queste ultime si attiva infatti un circuito difensivo, che le fa smettere di muovere, abbassare la temperatura corporea e il battito cardiaco. Nel naso dei topi ci sono diversi recettori capaci di rilevare questa proteina dalle lacrime dei predatori, ma se uno di loro viene "silenziatato" geneticamente, il topo smette di rispondere alla proteina Crp1 e attivare il suo comportamento di autoprotezione. "La proteina nelle lacrime dei predatori è un presunto feromone sessuale che i topi captano come un segnale della presenza di un predatore", precisa Touhara. Una scoperta che, secondo i ricercatori, apre una nuova strada per capire l'evoluzione delle comunicazioni tra predatore e preda.

As it was noted, the scientific text presents a didactic argumentation strategy. It is intended to justify the attitude, point of view and the goal on a given subject. It also seeks to clarify and persuade the reader about the truth of what is stated. It is required to prove the thesis using arguments based on scientific evidences. Thus, in our case the argumentation is based on the demonstration of the experiment carried out at the rats. The thesis is accomplished by explaining the experiment and presenting scientific results. It is arrived to the conclusion by affirming and confirming the thesis presented.

As explained above demonstration is called otherwise scientific evidence, and as such is accepted as true. The defense of a thesis through demonstration leads to a conclusive and occlusive conclusion. This is due to the results of a scientific test or experiment. It comes in explanations and certificates. The conclusions of such texts are not discussable but needs further demonstrations.

Practical analysis of a newspaper text where argumentation is rational

Example 2

A text in Italian language which discusses social and education issues:

Scuola obbligatoria a 3 anni in Francia, l'esperto: "E' l'età giusta per stare con gli altri"⁸

⁸ We are presenting the text in the original language, because the study is based on Text analyses in Italian and Albanian language. From *La Repubblica*, article from Sara Pero, 29 march 2018.

Una decisione del presidente francese Emmanuel Macron che potrebbe concretizzarsi già a partire dal prossimo anno. Ma qual è l'età giusta per staccarsi dal nido familiare? PORTARE la scuola dell'obbligo a tre anni d'età invece che ai sei attuali. È questa la misura presa dal presidente francese Emmanuel Macron, che dovrebbe diventare effettiva già dal 2019. Ma i bambini sono davvero pronti a quell'età per andare all'asilo? Secondo gli esperti sembrerebbe di sì: "La fascia d'età tre-sei anni rappresenta il periodo evolutivo durante il quale il bambino è pronto a uscire dal proprio nido familiare e iniziare ad aprirsi al mondo", spiega Alberto Pellai, medico e psicoterapeuta dell'età evolutiva che su questo tema ha anche scritto un libro, "Il metodo famiglia felice. Come allenare i figli alla vita" (DeAgostini).

I genitori hanno il compito di allenare i figli alla separazione, un esercizio che educa il loro bisogno d'esplorazione: "Interagire con gli altri coetanei, infatti, aiuta il bambino ad acquisire competenze pro-sociali ed emotive – continua l'esperto -. Ad esempio impara ad autoregolare i propri comportamenti, mediandoli, capacità fondamentale per la relazione «io e gli altri». Un bambino che inizia la scuola elementare senza essere passato prima per la materna potrebbe essere cognitivamente preparato, ma potrebbe avere un quoziente emotivo inferiore rispetto alla classe, facendo più fatica, soprattutto nel primo periodo, ad integrarsi e a sintonizzarsi con il resto dei compagni".

La misura presa dalla Francia, però, ha un valore piuttosto simbolico visto che già la quasi totalità dei bambini francesi frequenta la scuola a tre anni." La decisione del presidente francese di abbassare l'età per la scuola dell'obbligo, portandola dai sei ai tre anni – conclude Pellai -, tocca molte delle dimensioni essenziali per preparare i figli ad affrontare la vita: tutto ciò che riguarda le competenze sociali che ruotano intorno alla sfera scolastica, ma anche quelle emotive e relazionali. Ma tale scelta, inevitabilmente, sarebbe difficile da attuare nel nostro paese" Come mai? "In Francia il governo sostiene con varie misure e agevolazioni le famiglie, mentre in Italia, il concetto di welfare familiare è estremamente trascurato: da noi, spesso, la scelta di non mandare un figlio all'asilo a tre anni non è soltanto legata a un fattore culturale, ma anche economico e psicologico - aggiunge Pellai -. Nei nuclei familiari in cui è soltanto un genitore a lavorare, ci potrebbe essere la tendenza del coniuge che non lavora a prendersi cura del bambino all'interno delle mura domestiche per alleviare quella dimensione di vuoto che potrebbe provare, sentendosi più attivo".

This is a newspaper article in Italian language. It addresses the issue of primary education and its specificity in France. In the same way for analogy it is mentioned the reality of education system in Italy. Through the analysis, the author tries to inform the reader about a particular situation in France: to take children of three years old to elementary school. Through the explanations of the specialist, the author tries to convince the reader about the benefits this law brings to children of this age. However, at the same time she points out the impossibility of implementing this law in Italy.

This text uses argumentative strategy of didactic type. Through submission of arguments, the author seeks to inform and at the same time persuade about the pros and cons of the new law on primary education in France (lowering the age at children). She argues that the thesis is good and feasible in France but impossible

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to be implemented in her country (Italy). To persuade the reader she uses arguments based on the opinion of an expert. The conclusion of this argument is not indisputable but implied.

Conclusions

After Aristotle, studies on rhetoric and argumentation were put forward based on the *Old Rhetoric* and at the same time bringing something new. However, the differences set by Aristotle on demonstration and argumentation remains and studied the same even nowadays.

From the above we noticed that demonstration and argumentation are two forms of logic which serve to express our opinion in ways that are more persuasive. However, although they both belong to logical reasoning and follow a certain way of submissions, they present differences between them. Demonstration is based on concrete facts, evidence and experimentation. It presents an indisputable conclusion. In other words, it is not discussible.

Argumentation, unlike the demonstration, sets out arguments based on personal opinions, analogue situations, facts, evidences and documents. It is discussable and submits different opinions. Conclusion is not indispensable because it may be rejected and may be implicit.

In conclusion, we can say that both demonstration and argumentation are indisputable and inseparable part of our interaction and communication.

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