

ESSE 2012:

S59) Rhetoric of science: linguistic approaches to national traditions and global norms

Introducing the rhetoric of science: *linguistic approaches to national traditions and global norms*

Josef Schmied

English Language & Linguistics

Chemnitz University of Technology

http://www.tu-chemnitz.de/phil/english/ling/presentations_js.php

1. Concepts: rhetoric

Rhetoric is the art of [discourse](#), an art that aims to improve the facility of speakers or writers who attempt to inform, persuade, or motivate particular audiences in specific situations.^[1] As a subject of formal study and a productive civic practice, rhetoric has played a central role in the Western tradition. Its best known definition comes from Aristotle, who considers it a counterpart of both logic and politics, and calls it "the faculty of observing in any given case the available means of persuasion."

As part of the [trivium](#), rhetoric was secondary to the study of logic, and its study was **highly scholastic**: students were given repetitive exercises in the creation of discourses on historical subjects (*suasoriae*) or on classic legal questions (*controversiae*).

Notable modern theorists

[Chaim Perelman](#) was a philosopher of law, who studied, taught, and lived most of his life in Brussels. He was among the most important [argumentation](#) theorists of the 20th century. His chief work is the *Traité de l'argumentation - la nouvelle rhétorique* (1958), with Lucie Olbrechts-Tyteca, which was translated into English as *The New Rhetoric: A Treatise on Argumentation*, by John Wilkinson and Purcell Weaver (1969). Perelman and Olbrechts-Tyteca move rhetoric from the periphery to the center of argumentation theory. Among their most influential concepts are "dissociation," "the universal audience," "quasi-logical argument," and "presence."

[Kenneth Burke](#) was a rhetorical theorist, philosopher, and poet. ... He described rhetoric as "the use of language as a symbolic means of inducing cooperation in beings that by nature respond to symbols."^[51]

<http://en.wikipedia.org/wiki/Rhetoric>

1. Concepts: new rhetoric

New rhetorics is an [interdisciplinary field](#) ^[1] approaching for the broadening of [classical rhetorical canon](#).^{[2][3]} The New Rhetoric is a result of various efforts of bringing back rhetorics from the marginal status ^[1] it attained by its image and 'negative connotations' of "political lies, corporate spin, long list of Greek and Roman terms for patterns of expression no one knowingly uses, purple prose, boiler-plate arrangement schemas, unimaginative reproductions of bullshit and so on" ^[4] if not to its previous place of a discipline "associated with social and intellectual prestige" ^[1] then at least to the level of the other contemporary fields in the social, cultural and linguistic studies.

Notoriously the field emerged after the work of [Chaim Perelman](#) in his book *The New Rhetoric* (1969) ^[5] but we can trace both the notion and the idea for the need of "new" rhetoric, different from the "old" one in the works of [Kenneth Burke](#) - *A Rhetoric of Motives* (1950) and *Rhetoric - Old and New* (1967),^[6] and even before that.

New rhetorics attempts to preserve the original field but it also has tense relationship with it.^[1] For example New rhetoric will attempt to break up with the [formalistic](#) and [logocentric](#) (i.e. [patriarchal](#)) [Neo-Aristotelian](#) analysis in favour of interplay between [text](#) and [context](#), but according to DeGenaro it does not succeed to place itself outside the "Western-patriarchal" with being unable to departure from "elite backgrounds and scopes of study" ^[3] to a diversity of voices, topics, etc. This probably makes New Rhetoric rather a ground for the **Postmodern rhetoric** ^[7] which "puts into question the identities of the speaker, the audience, and the messages that pass between them" ...

1. Concepts: rhetoric of science

Rhetoric of science is a body of [scholarly literature](#) exploring the notion that the practice of [science](#) is a [rhetorical](#) activity. It emerged from a number of disciplines during the late twentieth century, including the disciplines of [sociology](#), [history](#), and [philosophy of science](#), but it is practiced most fully by rhetoricians in departments of English, speech, and communication.

[Rhetoric](#) is best known as a discipline that studies the means and ends of [persuasion](#). Science, meanwhile, is typically seen as the discovery and recording of [knowledge](#) about the natural world. A key contention of rhetoric of science is that the practice of science is, to varying degrees, persuasive. The study of science from this viewpoint variously examines modes of inquiry, logic, argumentation, the ethos of scientific practitioners, the structures of scientific publications, and the character of scientific discourse and debates. For instance, scientists must convince their community of scientists that their research is based on sound scientific method. ...

http://en.wikipedia.org/wiki/Rhetoric_of_science

1. Concepts: rhetoric of science global

Critique of rhetoric of science

Renewed interest today in rhetoric of science is its positioning as a [hermeneutic](#) meta-discourse rather than a substantive discourse practice (Gaonkar 25). [Exegesis](#) and hermeneutics are the tools around which the idea of scientific production has been forged.

Criticism of rhetoric of science is mainly limited to discussions around the concept of [hermeneutics](#), which can be seen as follows:

Rhetorical hermeneutics is about a way of reading texts as rhetoric. Rhetoric is both a discipline and a perspective from which disciplines can be viewed. As a discipline, it has a hermeneutic task and generates knowledge; as a perspective, it has the task of generating new points of view (Gross *Rhetorical* 111). Whether rhetorical theory can function as a general hermeneutic, a key to all texts, including scientific texts, is still today a point of interest to rhetoricians. Although [natural sciences](#) and [humanities](#) differ in fundamental ways, science as enterprise can be viewed hermeneutically as a suite of texts exhibiting a study of knowledge (epistemology) based on understanding ...

http://en.wikipedia.org/wiki/Rhetoric_of_science

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Assorted References

logic (in formal logic)

education

ancient Greece (in education: Higher education; in education: Higher education)

ancient Rome (in education: Education of youth; in ancient Rome (ancient state, Europe, Africa, and Asia): Grammar and rhetoric; in romance (literature and performance): Style and subject matter)

Sophists (in Sophist (philosophy): The 5th-century Sophists)

linguistic aspects

climax (in climax (literature))

Italian humanism (in history of Europe: Language and eloquence)

oratory (in oratory (rhetoric))

persuasion (in persuasion (psychology))

propaganda (in propaganda: Early commentators and theories)

prosody (in prosody (literature))

literature

ancient Greece (in Greek literature: Classical period, 5th and 4th centuries bc; in Greek literature: Rhetoric and oratory; in Greek literature: Rhetoric)

ancient Rome (in Latin literature: Rhetoric and oratory; in classical scholarship: Later empire)

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inform; in the 20th century it has undergone a shift of emphasis from the speaker or writer to the rms. For information on applications of rhetoric, see the articles [broadcasting](#), [communication](#), and

oricians, in the [Classical period](#) of ancient Greece, about the 5th century BC, to teach the art of h of the wealthy under the Roman Empire. Public performance was regarded as the highest reach of Europe for some 2,000 years. *Institutio oratoria* (before AD 96; "The Training of an Orator"), by the written, was in fact a book about rhetoric. Inevitably, there were minor shifts of emphasis in so long a has consistently maintained its emphasis upon creation, upon instructing those wishing to initiate

s borrowed from rhetoric—stylistic terms such as [antithesis](#) and [metaphor](#) were invented by Classical inevitable that scholars would turn back to Classical theories of rhetoric for help. But modern rhetoric is nt from that of other disciplines. History, [philosophy](#), literary criticism, and the social sciences are apt ct. Rhetoricians, accustomed by their traditional discipline to look at communication from the s a map. They know that that intention in its formulation is affected by its audience. They know also that for intention, and for structure is, then, the mark of modern rhetoric. It is as involved with the process of

message through the situation of the auditor or reader as well as the situation of the speaker or writer. response. An emphasis on the context automatically makes a rhetorician of the literary critic or

1. Concepts: rhetoric

rhetoric, the principles of training [communicators](#)—those seeking to persuade or inform; in the 20th century it has undergone a shift of emphasis from the speaker or writer to the auditor or reader. This article deals with rhetoric in both its traditional and its modern forms. For information on applications of rhetoric, see the articles [broadcasting](#), [communication](#), and [propaganda](#). ...

In sum, the basic rhetorical perspective is simply this: all utterance, except perhaps the mathematical formula, is aimed at influencing a particular audience at a particular time and place, even if the only audience is the speaker or writer himself; any utterance may be interpreted rhetorically by being studied in terms of its situation—within its original milieu or even within its relationship to any reader or hearer—as if it were an argument.

Thomas O. Sloane in <http://www.britannica.com> s.v. rhetoric

1. Concepts: rhetoric of non-Western cultures

Freed, too, of the parochialism engendered by its Western traditions, rhetoric could undertake a variety of analytical endeavour, even “cross-cultural” studies—for example, the mingling of Malaysian and Western cultures in the political oratory of the Philippines, structure and intention in the oral literatures of Africa, or the communicative strategy of the Japanese verse form haiku.

Indeed, the search for the rhetoric of non-Western cultures has become a crucial scholarly and political endeavour, as people seek bases for understanding the politics as well as the poetry of other lands—and, hopefully, bases for dialogue across tribal and national boundaries. The avenues this search has taken thus far reveal a significant fact both about rhetoric and about the nature of its Western tradition: the true rhetoric of any age and of any people is to be found deep within what might be called attitudinizing conventions, precepts that condition one’s stance toward experience, knowledge, tradition, language, and other people. Searching for those precepts, the scholar realizes the extent to which Western culture has become secularized and compartmentalized. ...

Thomas O. Sloane in <http://www.britannica.com> s.v. rhetoric

1. Concepts: new rhetoric?

The new rhetoric is defined as a theory of [argumentation](#) that has as its object the study of discursive techniques that aim to provoke or to increase the adherence of men's minds to the theses that are presented for their assent. It also examines the conditions that allow argumentation to begin and to be developed, as well as the effects produced by this development.

This [definition](#) indicates in what way the new rhetoric continues classical rhetoric and in what way it differs from it. The new rhetoric continues the rhetoric of Aristotle insofar as it is aimed at all types of hearers. It embraces what the ancients termed [dialectics](#) (the technique of discussion and [debate](#) by means of questions and answers, dealing especially with matters of opinion), which [Aristotle](#) analyzed in his *Topics*; it includes the reasoning that Aristotle qualified as dialectical, which he distinguished from the analytical reasoning of [formal logic](#). This theory of argumentation is termed new rhetoric because Aristotle, although he recognized the relationship between rhetoric and [dialectic](#), developed only the former in terms of the hearers.

It should be noted, moreover, that the new rhetoric is opposed to the tradition of modern, purely literary rhetoric, better called stylistic, which reduces rhetoric to a study of figures of style, because it is not concerned with the forms of discourse for their ornamental or aesthetic value but solely insofar as they are means of persuasion and, more especially, means of creating "presence" (*i.e.*, bringing to the mind of the hearer things that are not immediately present) through the techniques of presentation.

1. Concepts: new rhetoric significance

The new rhetoric introduces a fundamental change in the philosophical outlook. Insofar as it aims at directing and guiding human action in all of the fields in which value judgments occur, philosophy is no longer conceived as the search for self-evident, necessary, universally and eternally valid principles but, rather, as the structuring of common principles, values, and *loci*, accepted by what the philosopher sees as the **universal audience**. The way the philosopher sees this universal audience, which is the incarnation of his idea of reason, depends on his situation in his cultural environment. The facts a philosopher recognizes, the values he accepts, and the problems he attends to are not self-evident; they cannot be determined *a priori*. The dialectical interaction between an orator and his audience is imposed also on the philosopher who wishes to influence his audience. Therefore, each philosophy reflects its own time and the social and cultural conditions in which it is developed. This is the fundamental truth in the thought of G.W.F. Hegel, a German Idealist: the history of philosophy is not regarded as an abstract and timeless dialectic that proceeds in a predetermined direction but as an argumentation that aims at universality at a concrete moment in history.

To the extent that the new rhetoric views all informal discourse and all philosophical discourse from the viewpoint of its action on the minds of the hearers, it integrates into the analysis of thought valuable elements from both Pragmatism and Existentialism. In stressing the effects of discourse it allows Analytical philosophy to be given the dynamic dimension that some scholars believe it has heretofore lacked. The new rhetoric can thus contribute to the development of a [theory of knowledge](#) and to a better understanding of the history of philosophy.

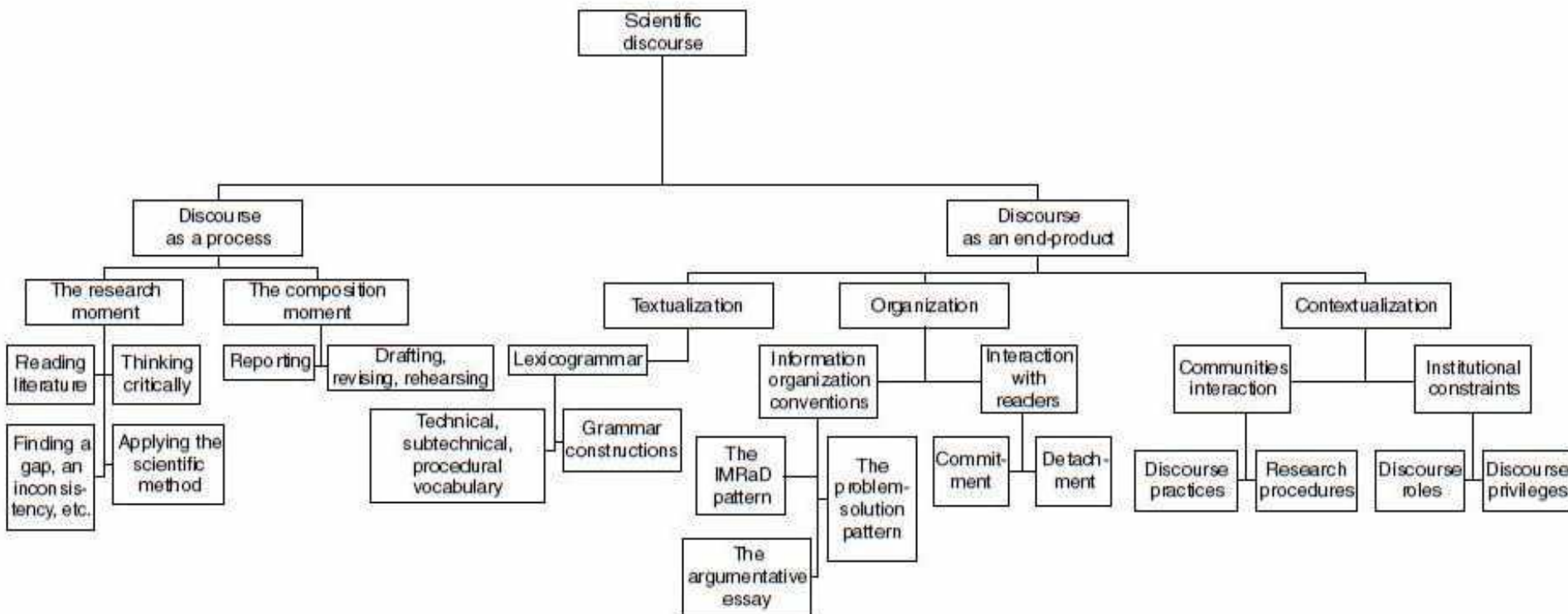
Chaim Perelman in <http://www.britannica.com> s.v. new rhetoric

2. Features of a new rhetoric of science

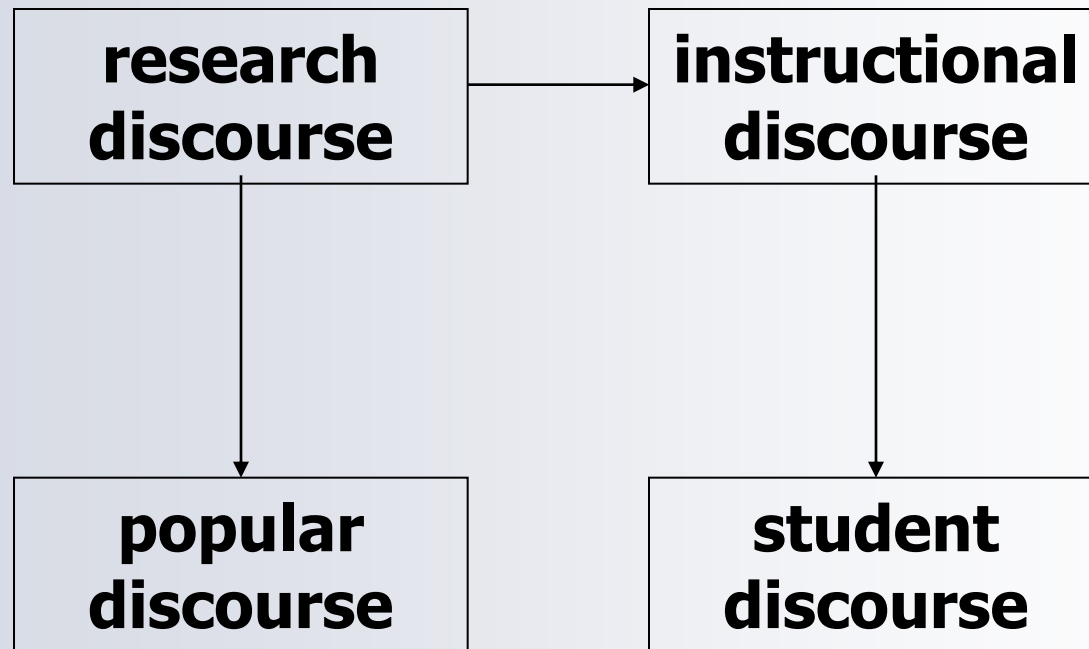
- **discourse(s)**
- **of the international (research) community**
- **focuses on pragmatic results (audience/readership)**
- **combines process and output**
- **is based on genres (text-types)**
- **is aware of cultural conventions and interaction**

2. Features: discourse as process and output

Pérez-Llantada, Carmen (2012). *Scientific Discourse and the Rhetoric of Globalization: The Impact of Culture and Language*. London: Continuum.



2. Features: discourses



2. Features: genre approach

research "output"

- **research article**
 - book reviews
 - project proposals
- conference presentations

discipline-specific
culture-specific

science "journalism"

- **popular science articles**
 - popular blogs (David Crystal)
 - popular science films (Horizon)
- popular science books

teacher "talk"/e-learning

- ppt presentations
 - lectures
 - student presentations
- textbooks
 - Wikis
 - www pages

student "literacy"

- fieldwork notes / essays
- **Mag/BA thesis**
- seminar presentations

"Novice Academic English"

author-specific
culture-specific

2. Features: function -> form

research articles

- novelty & usefulness
-> lit. review
-> evaluation, boosters
- **stance & -> hedging**
- complexity: ontology hyponyms

science journalism

- metaphors
- multimedia text/image/sound

instruction

- macro-/micro-structuring
- meta-discourse
 - interpersonal
 - attitudinal(compare MICASE)

student papers

- argumentation structure
- coherence -> cohesion

3. Issues: community of practice

A **community of practice (CoP)** is, according to [cognitive anthropologists Jean Lave and Etienne Wenger](#), a group of people who share a craft and/or a profession. The group can evolve naturally because of the members' common interest in a particular domain or area, or it can be created specifically with the goal of gaining knowledge related to their field. It is through the process of sharing information and experiences with the group that the members learn from each other, and have an opportunity to develop themselves personally and professionally ([Lave & Wenger 1991](#)). CoPs can exist online, such as within [discussion boards](#) and [newsgroups](#), or in real life, such as in a lunch room at work, in a field setting, on a factory floor, or elsewhere in the environment.

Communities of practice are not new phenomena: this type of learning practice has existed for as long as people have been learning and sharing their experiences through storytelling. Jean Lave and Etienne Wenger coined the phrase in their 1991 book, 'Situated learning' ([Lave & Wenger 1991](#)), and Wenger then significantly expanded on the concept in his 1998 book, 'Communities of Practice' ([Wenger 1998](#)).

http://en.wikipedia.org/wiki/Community_of_practice

3. Issues: norm

norm, also called Social **Norm**, rule or standard of behaviour shared by members of a [social group](#). **Norms** may be internalized—*i.e.*, incorporated within the individual so that there is conformity without external rewards or punishments, or they may be enforced by positive or negative sanctions from without. The social unit sharing particular **norms** may be small (*e.g.*, a clique of friends) or may include all adult members of a society. **Norms** are more specific than values or ideals: honesty is a general value, but the rules defining what is honest behaviour in a particular situation are **norms**.

There are two schools of thought regarding why people conform to **norms**. The functionalist school of sociology maintains that **norms** reflect a consensus, a common value system developed through socialization, the process by which an individual learns the [culture](#) of his group. **Norms** contribute to the functioning of the social system and are said to develop to meet certain assumed “needs” of the system. The [conflict](#) school holds that **norms** are a mechanism for dealing with recurring social problems. The Marxian variety of conflict theory states that **norms** reflect the power of one section of a society over the other sections and that coercion and sanctions maintain these rules. **Norms** are thought to originate as a means by which one class or caste dominates or exploits others. Neither school adequately explains differences between and within societies.

Norm is also used to mean a statistically determined standard or the average behaviour, attitude, or opinion of a [social group](#). In this sense it means actual, rather than expected, behaviour.

in <http://www.britannica.com> s.v. new rhetoric

3. Issues: culture in EAP/writing

Cultures use different writing strategies because they strive for different goals. Some cultures rely on **writer responsibility** while other cultures rely on reader responsibility. Writer responsibility emphasizes clear and concise prose, actions over subjects, practical implications, and follows a deductive logical structure. Misunderstandings are the writer's responsibility. Reader responsibility emphasizes flowery and ornate prose, subjects instead of actions, theoretical implications, and follows an inductive logical structure. Misunderstandings are the reader's responsibility. **The differences between writer responsibility and reader responsibility help explain why some cultures prefer clarity when other cultures prefer complexity. The problem is that both writing styles are perfectly acceptable, but only within their given context.** And this is why global writers need Writing Around the World which: provides an overview to intercultural writing explains the concept of the 'deepest dimensions of culture' links language, thought, and culture dissects two contrastive papers, including anatomy, basic principles, matters of form, and even style connects logic and ethics with intercultural writing offers tips and tools for writing around the world.

(Matthew McCool 2009: xi)

3. Issues: convergence or diversity?

Research English



Novice English

How much convergence do we want in research English?

How much diversity do we accept in novice English?

Which features do we want to reduce or increase?

4. Teaching implications

- comparative perspectives in analysis:
 - exchange data
 - compare national (discipline) cultures
 - develop a WWW data base: EAPworld?
 - integrate EAP analysis early into the curriculum
- collaborative development of teaching modules?

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