

# “Accommodating Science”: A New Way of Thinking about Rhetorical Dynamics

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**ABSTRACT:** By analyzing three case studies (neutrinos, victimization survey and quality of mass media), our present issue is to figure out if underlying successive accommodations to new rhetorical situations will have an impact on the respective importance of logos, ethos and pathos. We would like to pinpoint the stakes of science’s public dimensions considering the scientists’ image, their expertise, and also the given results’ implication. We will especially take into account scientific papers that may be or are potentially controversial in the political, media and civic spheres.

**KEYWORDS:** accommodations, ethos, logos, media sphere, pathos, rhetorical dynamics, scientific sphere, socialization of science.

## 1. INTRODUCTION

For a long time, the genre of scientific texts was considered *closed*—one of its goals being the production and the transmission of knowledge among members of the scientific community (Maingueneau & Charaudeau, 2002). But this is a double illusion since on the one hand, the scientific sphere is tightly linked to others—such as for instance the political, civic or media spheres. This *process of socialization of science* (Beacco, 2000) gets also much more attention from the media, when issues that are being discussed are involved with society. On the other hand, knowledge passes from one sphere to another through reformulations between primary and secondary discourses. “Studying such discourses is part of a contrastive perspective; a guideline that has only rarely been adopted by those interested in scientific popularization” (Jacobi, 1999, p. 150). Therefore, the main goal of this study is to see how such textual disseminations—involving many types of adaptations and reformulations—become readjustments to a rhetorical situation (Bitzer, 1968), which is different each time.

Our theoretical framework is based on two approaches. First of all, considering that plural differential comparative levels between two texts allow a hermeneutic scan of rhetorical and argumentative dynamics, we use comparative discourse analysis (Adam, 2005; Heidmann, 2005a; Heidmann, 2005b). This approach helps us to identify the rhetorical and argumentative<sup>1</sup> dynamics. Thus we will focus on three major pillars of the Aristotelian rhetoric, i.e., matters of ethos, logos and pathos. Indeed, following Aristotle's idea and his successors like Chaïm Perelman (1977) or Ruth Amossy (2010), every public discourse that aims to convince an audience, is necessarily under the interdependent influence of these means of persuasion. The second approach belongs to the recent tradition of media analysis. Indeed, Herbert Gans stated in 1979 that "media specialists have been too neglectful" (chap. 4) of studying the sources. In the same way, the publication of Schlesinger's article (1992) accuses the sociology of mass media of "media-centrism," because it encourages the study of journalism by looking at the position of information in society and a decentralisation of the subject—all too often focused on the media themselves, isolated from their sources. Reacting to this article, several studies point out the impact that sources have on media accommodation. Following this idea we want to study all possible discursive changes of scientific reports; those external to the media field (primary discourse and press releases), as well as those internal to the media field (wire story of the Swiss telegraphic agency, newspapers articles).

Our purpose is to figure out if underlying successive accommodations (Fahnestock, 1985) to new rhetorical situations will have an impact on the respective importance of the three different appeals to persuasion (logos, ethos, pathos). By focusing our analysis on these categories, we would like to pinpoint the stakes of science's public dimensions considering the scientists' image, their expertise, and also the given results' implication, in the civic sphere. We will especially take into account scientific papers that may be or are potentially controversial in the political, media and the civic spheres. We also want to investigate if a series of adaptations may have escaped the control of the original texts' authors, or even ended up contradicting the primary discourse. In other words, it is interesting to study ethos when evaluating the assertion and the maintenance of scientists' credibility in controversial issues. Logos will help the investigation of the evolution of accuracy and caution enhanced by scientists from both the scientific and the media sphere. Finally, pathos will examine if the implication of results in the civic sphere will evolve according to discursive changes.

Also, in order to avoid getting trapped by the particularities of each study, we chose to build a corpus that offers as much diversity as possible. In the present case, our discursive sources are related to Physics (first study about neutrinos), Forensic Science (second study about victimization), the Media and Communication Studies (third study about quality of mass media) respectively. According to Alice Toma (2005), the diffusion of science can be divided into three discursive frameworks: popularized discourse—informative activity (press release); didactic discourse—explicative activity (study 2&3); research discourse—discovery activity (study 1).

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<sup>1</sup> Firstly as rhetoric of science "that emphasizes the interactions at work through texts and the way the scientific discourse, far from being focused only on logos, has also to convince its addressees of the legitimacy of what is previously announced" (Rinck, 2010, p. 432). Secondly, we also consider that rhetoric and argumentation are fields that work regarding a dynamic process where argumentativity is inherent in discourse and it is appearing in such different levels. Consequently, an analysis of a global discursive working is possible in which verbal means related to logos, ethos and pathos are implemented in order to act on an audience. In any way, to this approach, there is no need to consider rhetoric and argumentation as distinctive fields. (Amossy & Koren, 2009)

Before starting the comparative analysis itself, we would like to point out that the first part of our project had to be modified. At first, we wanted to examine if moving from technical to civic sphere would transform arguments regardless of the scientific procedures used by scientists. We especially wanted to identify how the media cover qualitative, as opposed to quantitative procedures. We were however surprised to notice that the Swiss mass media we analysed offered hardly any qualitative studies. Therefore the comparison would have been hard to establish. This observation also raises the question of the representativeness of a serious study, which a priori, would be more significant by using statistical rather than interpretative tools.

## 2. STUDY 1: NEUTRINOS CASE

An experience called OPERA, led between European Organization of Nuclear Research and an Italian laboratory in Gran Sasso, aroused an unexpected interest for physics of particles in news media when it was announced, in September 2011, that some elementary particles of light, called neutrinos, have been measured with a velocity faster than speed of light in vacuum. Since the velocity of light is supposed to never be exceeded, according to Einstein’s theory of relativity, this announcement provoked astonishment and scepticism among physicists and made headlines in the news.

The rhetorical dynamics that we will study are based on four stages of wording and rewording (Authier-Revuz, 1982):

- (1) The conclusion of the scientific paper published on September 23<sup>rd</sup>.
- (2) The press release made by French National Center of Scientific Research the day before.
- (3) The wire story based on the press release written by the Swiss Telegraphic Agency published after the press was put to bed, on September 22<sup>nd</sup>.
- (4) Five news articles published in French that announce the results of measurements.

As mentioned earlier, our study will examine the strength of the three rhetorical poles (ethos, logos and pathos) in each rhetorical situation. The stakes in the scientific article of physics are indeed essentially connected to logos—how to justify this astonishing announcement—and to ethos—showing the credibility of an incredible speed. Such a persuasion strategy addressed to peers doesn’t need pathos—probably because of the discursive genre, but also because scientific ethos of seriousness is precisely built on the rejection of emotion, above all when measurements are so exceptional and unexpected.

Let us look at how the article was reworded. For the press release, the stakes are different than for the original article: the goal is to increase the value of the results found by the scholars and catch the attention of the media—so, we can suspect that logos will be less important than ethos and pathos. Indeed, the focus won’t be placed on the physicists’ effort to eliminate hypotheses, but on the results of the experience; ethos will be crucial because the French Center needs their scholars to appear trustworthy; lastly, since the impact of such measurements could increase the CNRS’ prestige, the temptation of writing a more pathemic press release could be expected.

Obviously, such a temptation might be increased by media adaptations of these discourses to the detriment of logos and ethos. We can indeed expect a loss of accuracy in information when a text is adapted for a wider readership, as well as a polarization of news

coverage somewhere in between total acceptance or scepticism of the scientists' work. Let's have a look at texts that examine these hypotheses.

### 2.1 *Logos*

First of all, let's say that we have a fairly loose view of logos: what French linguists call argumentative orientation of language (Ducrot & Ancombres, 1983), argumentative dimension of discourse (Amossy, 2010) or schematization (Grize, 1996) are all included here: a selection of data for example "isn't yet argumentation, but it's already a persuasive strategy" asserts Marc Angenot (2008, p. 149). We'll focus on two angles here: communication of data and linguistic designation of the results. The only example, among others, that we'll show here is about the measured speed.

In the scientific article, speed of neutrinos is worded in a mathematic formula ( $dt = (57.8 \pm 7.8 \text{ (stat.)} - 5.9 + 8.3 \text{ (sys)}) \text{ ns.}$ ), whereas the press release states "60 nanoseconds faster (than speed of light photons)" and makes an analogy: "in other words, in a long-distance race of 730 kilometers, neutrinos cross the finishing line with an advance of 20 meters compared to hypothetical photons that have covered the same distance." The wire story asserts "a speed of 300,006 km/second, that is to say 6 km/s faster than speed of light" and quotes the analogy in the press release. Two examples from the news: "60 billionth seconds earlier" in the French newspaper *Le Monde* and "10 (sic) nanoseconds earlier, meaning an advance of 20 meters on a 730 km path" in the Swiss newspaper *24H*.

This example illustrates some well-known aspects of scientific popularization (Jeanneret, 1994; Jacobi, 1999; Jacobi & Schiele, 1988). Since rewording requires simplification, abstract unities like nanoseconds are redefined, adapted to a more familiar system (speed is stated in km/sec) or explained by an analogy of a race between photons and neutrinos. Measures are also rounded up leading to a loss of accuracy founded on approximations (e.g., speed of neutrinos at 300,006 km/sec) or even mistakes (an advance of 10 nanoseconds is the margin of error, not the measured speed).

Considering this from the point of view of linguistic designation, it was the "result" in the scientific article that was communicated. This result was also described as an "observed anomaly." News coverage emphasizes the necessary caution with this result. But the wire story already underlines a "regularly measured achievement." Three newspapers mention the word "discovery," which authors of the scientific paper advise journalists not to use in a press conference. Besides the words "results," "observation," and "information," we also find more colored wording like "something that will make Einstein turn around in his grave," "a possible revolution," a "bomb," if true, for physics. Although the neutral wording of "results" is quantitatively more present, the wording of "anomaly" at the end of the scientific article is never picked up again by news coverage.

### 2.2 *Ethos*

The impact of the result led physicists to ensure their credibility: first of all, they systematically rejected objections against their measurements; second, they chose to publish their lack of understanding instead of a result or, worse, of a discovery. Then the scientific paper is signed by 189 researchers: this great number of signatories builds a kind of credibility founded on a

classical ad populum topos: the higher the number of researchers who work on an issue, the higher the chances for calculation mistakes or biases to survive criticism.

The last paragraph of the scientific article sheds an interesting light on the authors’ belief in soundness of their results combined with an ethos made of caution and modesty:

In conclusion, despite the large significance of the measurement reported here and the robustness of the analysis, the potentially great impact of the result motivates the continuation of our studies in order to investigate possible still unknown systematic effects that could explain the observed anomaly. We deliberately do not attempt any theoretical or phenomenological interpretation of the result.

On the one hand, the team of researchers underlines that they are not boasting: “large significance,” “robustness,” etc., but, on the other hand, they hold their certainty back, imposing “deliberately” further investigation on themselves rather than interpretation.

CNRS’ press release, which may be worried first and foremost about their ethos of credibility as a respectable institution, will pinpoint this problem and work on it with considerable caution. Firstly, the result itself is called into question, since it is said that velocity faster than speed of light is “what seem to indicate carried out measurements.” Now, the scientific article mentions an effectively obtained result. Epistemic modality of the verb “to seem” adds a layer of uncertainty on measurement that denotes extreme caution by CNRS on the result.

Other signs help the team of researchers from being condemned for eagerness to glory and haste to publish an uncertain and astonishing result. Press release says indeed: “After three years of very highly precise measurements and complex analysis, OPERA experience states a completely unexpected result (...).” The left dislocation of a time adverbial that stresses the lapse of time, the mastery of complexity and the high value of measurements is a good sign of strengthening team’s ethos. They did not hurry; they had a leading-edge technology and had made complex analyses. Quotation of the team in the press release helps also to show their caution and modesty. The aim is clearly to dismantle a hypothesis of a kind of burst of enthusiasm in front of the probable controversy that will be triggered by this result.

Is this ethos of caution and respectability retained by the media? The adopted persuasive strategy seems to have hit the bull’s eye. The wire story quotes numerous verifying tasks made by the team and finishes with an intensive form: “Even continental drift and the devastating earthquake from L’Aquila have been considered.” It also mentions authority (“Verified by great independent experts”) and emphasizes the staunch position taken. Seriousness of the researchers’ team is not questionable. Newspapers stress also caution from the physicists who do not believe measurements: “everything is passed over,” states *Liberation* just before making a list of analyses made by the team, which is followed by a statement about the “extreme caution” of physicists. In short, no media calls into question the astonishing result or derides the scientific community for getting excited by discoveries. With remarkable consistency, they praise researchers’ seriousness and caution, even with a sardonic hint hidden in the hyperbole from the word “extreme.”

### 2.3 Pathos

Analysis of logos and ethos shows a form of relative control from original communication to mass-media: desires of researchers and National Center seem to be, more or less, respected.

We have nevertheless seen that temptation to describe the result as a discovery was so strong that some parts of the media gave in. The “spot” where control of information will escape from the scientific sphere is on the level of pathos. Emotional tone, which is missing in the scientific article, even if it surfaces with “potentially great impact,” finds two essential ways starting with the press release: the physicists’ own emotions and emotions provoked by an astounding result.

The physicists’ emotion is present starting from the press release, either denoted (Micheli, 2008)—“astonishing result” for example—or connoted (Micheli, 2008)—“completely unexpected result” is said twice. The wire story, based on the press release, emphasized in its lead’s section (known as a crucial place of information (Ross, 2005)) this emotion: it quotes precisely “completely unexpected” and “astonishing” from the press release and then adds “physicists didn’t believe their instruments.” The point of discovery is now depicted as a story: the media sphere tries to imagine physicists’ incredulous reaction. This will snowball: emotions we picked up are excitement (physicists are in turmoil), fear of mistake, and, above all, “surprise.” We find four newspaper articles with this word, sometimes going with attributive adjective “total.” In *Liberation*, qualifying the event as surprising is a proof “to have an acute sense of understatement.” In fact, this newspaper shows hyperbole and familiar tone to emphasize breaking news: “in March, Dario Autiero watches closely measurements and is flabbergasted” (French literal translation is “falling on his ass”).

Our first analysis shows that expressed emotion in front of a possible discovery is interesting for media: the press release mentions emotions only indirectly, describing the result as astonishing and unexpected; the news source puts in the front page that the physicist is frozen by surprise and excited by the impact of the measurements.

The desire in the article to deliberately ignore all interpretations and calls for new experiences only resists slightly the media adaptation. The press release urges the need for further independent measurements for verification. But the wire story is clearly excited by the implications of result: it says “hence challenging Einstein’s relativity theory!” with a very rare exclamation mark for this media genre. This way of emphasizing impact is put at the forefront in the newspapers; several titles mention Einstein: “Eintein outdistanced,” “Einstein soon relative?” “Faster than light and farer than Einstein,” “A fabulous speeding is threatening Einstein’s theory.” Every newspaper article envisions consequences of the measurements and finishes with a series of hypotheses, each with an explanation: new dimension, non-trivial space geometry, quantic mousse and so forth.

In brief, our review shows a kind of “heating of the minds” by the media sphere related to consequences of measurements. That creates new rhetorical dynamics, emphasizing pathos, which was precisely the dynamics that physicists try to prevent in their communications (article and press release).

### 3. STUDY 2: CRIMINAL RATE’S CASE

The issue of rise in crime in Switzerland that communicates the 2011 national victimization survey creates many reactions among the civil society (particularly questions about sense of security, self-confidence in officers’ work, Quid of the criminal rate that reaches the European one). This survey was financed by the Conference of the Cantonal Heads of the Departments of Police and Justice (CCDJP) and supervised by the Police of Bern and the Institute of Criminology (University of Zürich).

The analysis of the rhetorical dynamics are based on the French version of the full report published on the 26<sup>th</sup> of August 2011 (focusing essentially on the results section), the French version of the CCDJP press release, the wire story of the Swiss Telegraphic Agency and 5 newspapers articles (French-speaking Switzerland) published the following day of the press release.

Much more attention needs to be paid to the particular aspect of this study that reflects the relationship between the scientific community (UniZh/Institute of Criminology)—considered as an “expert”—and the public authorities (CCDJP) who asked for the creation of the report. This specific context highlights a didactic feature that we can notice by the non-common use of explanation statistical terms, concrete examples, and the underlining of statistical standards such as, for example, the definition of the weighting factor.

### 3.1 *Logos*

As in the neutrinos’ case, the logos undergoes a loss of accuracy at the beginning of the press release. This reduction from the original report to the press release reveals itself over 3 modes:

- Selection of the disclosed information (7 offenses treated against 13 in the report).
- Communication of not all the statistical results – which are indicated above a table in the primary discourse and changed in textual approximations on the accommodated one (e.g., “after a long period of stability,” without the exact indication of the period).
- Mutation of the statistical information by using frequency adverbs (“The last 178 offenses occurred in the following places: [listing]. In 23 cases, a weapon was used, including 11 knives” – (report) vs. “recorded offenses especially occur in the street and do not concern the domestic violence area. Those tend to be more serious rather than by the past”, “Threat increased in a sensitive way – (press release)).

These changes reflect the well-known effects of the press release: a pre-formulated text for the mass media (Jacobs, 1999), encouraging an easier readability (Pander Maat, 2007, 2008). However, our analyses show that the press release is not the only source allowing the diffusion of the results to the media. Information was not exclusively channelled by this one.

Loss of accuracy is emphasized in the wire story’s discursive rewrite. This version seems to be inspired from the press release. Thus, we can identify a shift in meaning (offenses’ consequences more serious (wire story) vs. offenses more serious (press release)), a temporal ellipsis generalizing the discourse (reported offenses’ rates are very stable (wire story) vs. rates are the same in 2000 and 2005), or a change in the modality (the rise of crime is due to (wire) vs. this increase can be explained).

In the same way, media accommodations still compromise the accuracy; consequently, there is confusion between types of burglary and criminal rate (*Le Matin*), or the percentage approximation between the burglary and burglary attempt.

### 3.2 *Ethos*

In the report, there is a credibility ethos, reflected by a kind of know-how—legitimizing expert status. The report mentions scientists’ skills, perhaps even those from Switzerland in the

survey practice. Ex: “this survey illustrates a certain ‘tradition’ of Swiss studies that are accustomed to interest in the phenomenon of a national and also regional perspective.”

Moreover, the report’s structure plays a role in the credibility of the scientific community (graphics, overdeveloped method, detailed tables, sources indicated and appendix available).

Furthermore, we can identify the features of a quantitative approach (exclusive use of statistical tools) that encourage an ethos of certainty, since “figures speak for themselves” and work as a material evidence. This can be underlined by the use of constative verbs: “study (...) showed,” “we observe.”

Other kinds of discursive changes convey also an ethos of certainty. Indeed, in the press release, results are not questioned but are indicated in an assertive way: “New rise in the crime rate—Switzerland reaches the European mean.” We found again constative verbs that stimulate the idea of evidence: “results show,” “the study demonstrates.”

Finally, in the coverage media, results are not contested, since they are privileged by the given credence to scientific authority: “Myth of Switzerland as ‘the safest country in the world’ is done: that’s claimed by the Pr. Killias on the basis of a study (...)” (*Le Matin*). This example illustrates the crystallization of the communicated result as unequivocal. On the one hand, we have the appeal of authority through the scientific aspect of the study, representativeness of the figured results, the extent of this survey, and the use of the social category “professor.” On the other hand, modal verbs in the present tense allow the finalization of the crystallization’s process. Several assertive formulations show the given credence to the scientific authority: “Martin Killias is categorical” (*La liberté*).

Furthermore, even if this certainty can be contested—“theory of the rise in crime isn’t approved unanimously”—the newspaper strengthens this by taking a stand: “Martin Killias counterattacks vigorously” (*La liberté*). We notice that the media believes in scientific words—insofar Killias is a good media speaker and the scientific community shows consideration for him—regardless of the partnership.

### 3.3 Pathos

The pathos is also reactive to the rhetorical dynamics, as the matter of security is a recurrent political item in Switzerland. Prof. Killias’s words related to security (i.e. “Myth of Switzerland as ‘the safest country in the world’ is done”) work as a catalyst of discursive change. We identify in the media designations that call to mind the ending of one of the Swiss constitutive values: “This is the death of a myth: Switzerland is no more an island of security in Europe” (*24H*), or “Switzerland is no more an island against crime” (*La liberté*), or “Switzerland is no longer safe” (*Le Matin*). However, our analysis must be refined in several ways. Over the press attention-grabbing titles, pathos does not really spread itself in the different rewrites of scientific information. The media’s dramatization in the diffusion of the information seems very weak to us, aside from the examples mentioned above.

Nevertheless, if pathos is massively found in opinion pages (editorials, global opinion) it gives also the impression that scientific results are brought forth for political purposes. For example, on the matter of security, we found a great deal of positive or negative terms, evaluative verbs, metaphor, or satirical tone: “But the political community is still ridiculing the legitimate anxiety of the population. The left refuses to face the truth” (*24H*). “The facts speak for themselves. The sense of security felt by the population is from now on

approved by a serious study, conducted with victims and (...)” (24H). Thus, media work as a source for controversy, since they take for granted the scientific credence of the study, believe in Prof. Killias’ words accentuating then the vision showed by the study itself.

On the contrary, the press release is more careful on political matters, highlighting on the officers’ positive image. We notice that through the use of selective information (no indication of the assessment of officers’ work quality), the press release makes claims that the majority is satisfied by the police or rephrasing over evaluated data (88.4% people interviewed consider officers’ work as good or very good vs. very good or good enough). Consequently, disclosing a positive image of the police will contribute to the diffusion of a positive pathos towards policemen.

If we are talking about property crime, results of the report are neither minimized nor exaggerated in the press release. On the contrary, if we are talking about crime against life or personal freedom, we clearly observe the results are minimized: e.g., the press release brings out attacks on youth population who are less concerned about this kind of attacks. Moreover, places and seriousness of the offenses are “erased”: there is no indication of public spaces, but the press release uses the term “street” in order to create an emphasis on the comparison with domestic violence term. This process can give the impression that we feel more secure at home.

It seems that the political dimension is more highlighted than the scientific one. The press release becomes aware, in a way, of the social controversy relating to the matter of crime. One of the effects is to limit the impact of the study’s major results. This careful diffusion of the press release does not stop the disclosure of strong reaction through the coverage media.

Thus, what is encouraging in the case of this study in controversy is not the communication of the results but their implications in the different spheres of concern (political, economical or civic one). As an indirect consequence, the scientific research is useful as a powerful argument for texts for political purpose: expert’s credibility is not questioned. Furthermore, we also notice that the issue of crime received widespread media coverage in Switzerland. So, in the case of media adaptation, the strong visibility about crime matter, already existing (priming effect) will make this information more interesting.

#### 4. STUDY 3: THE CASE OF MASS MEDIA’S QUALITY

In August 2010, a yearly study edited for the first time indicates the decline in standards of Swiss mass media. Conducted by the Forschungsbereich Öffentlichkeit und Gesellschaft/ University of Zurich (“fög”), the major public dimension of this research underlines a rhetorical dynamics that are radically different from the two above studies.

As study 1 and 2, we will consider, briefly, the same documents: the French version of the annals “Quality of mass media: major findings”, focusing essentially on the 1<sup>st</sup> chapter that presents major results (primary discourse)—French version of the fög’s press release, wire story of the Swiss telegraphic agency, 4 newspapers articles.

As in study 2, we have identified a didactic discourse, but there is also a popularized one. The rhetorical situation is different in this case, since the research is sponsored by private and public funds, especially the fög, a non-profit foundation. Beyond the explicative reasoning through the didactic discourse, there is also an argumentative stake: diffusion of the results and publicizing of these annals. It seems that this process failed and its reason may be related to the rhetorical dynamics of the discursive changes.

#### 4.1 Logos

Scientific precaution and exhibited precision noticed in the other studies do not really exist in the present results. We are surprised by the excessive use of a simplified vocabulary, assertive phrasing (present gnomic) that may tend to exaggerated generalizations, but also negative terms (to reduce, to disappear, to damage, to melt, survival, tragic, to suffer, to put pressure on, to be going downhill):

Ex: “new media, free dailies and news websites, but also major paid-for newspapers *reduce information to wire stories.*”

Ex: “*central task of journalism*, i.e. integrating events into their context—based on deep investigations, *is no longer practiced nowadays.*”

As many strong opinions as possible, not belonging to the scientific socio-discursive practice (Adam, 2011), forces us to question the reasons of these overdeveloped assertions: does scientific aura of the research permit changing opinions to valuable interpretation?

The assertive strength of the results in the study is nevertheless diminished in the press release. We will cite one of several examples: “the establishment of a free culture online and offline” becomes in the press release “Use of the media has shifted to an online and offline free culture.”

Consequently, our analyses make it apparent that rephrasing differences occur when it is time to pass judgments on the quality of the media. These distinctions tend to minimize the original phrasing of the annals by the addition of toning down forms and by the rephrasing of negative words, even pejorative ones. Terms as “to disappear”, “to be at its height,” “at the expense of,” “to weaken” are modified in the press release, even deleted. The media criticism via the research is finally minimized in the press release.

In the same way, the wire story, which is much more inspired from the press conference than the press release, is also going to tone down the wording of the release: “the *loss* in standards of media has an impact on democracy” vs. “*the decline* in standards of the media presses on democracy.”

#### 4.2 Ethos

As the logos expected of it, we can identify an ethos of certainty in the annals: “we are forced to admit that the significance of genres and types of news providers, who already participate in the decline of standards, will continue to increase.” This ethos of certainty, expected in the scientific discourse, is related to an uncommon ethos—a sign maybe of an interpenetration of civic and the scientific sphere. Indeed, we can notice that scientists seem to be “entrusted on a mission”: “their goal is *to make aware* of the *need* to have media of good quality in Switzerland.” Acting like judges of the media quality, they oppose journalism of low quality and investigative journalism. As they were very critical of new media, by asserting that the success of free journals are prejudicial to the quality of journalism, scientists show clearly their purpose of making a criticism of the quality of media. This attitude may question the scientific character of their reasoning.

However, the rhetorical dynamics change again in the press release: this ethos of certainty and the evaluative markers will not be communicated. Consequently, some of the familiar original phrasings that could spoil credibility of the experts (as “to be at its height”)

are avoided. Furthermore, the press release emphasizes seriousness of the study by highlighting, for example, institutional acronyms.

On the contrary, this ethos of credibility doesn't really appear in the wire story. The vague linguistic designation of the scientists could indicate their lack of credibility: “academic,” “researchers,” “authors’ paper” or “a dozen of researchers of the University of Zurich.”

Nevertheless, it is interesting to point out that, while the scientific discourse is circulated from one sphere to another, additional information is mentioned with regards to the original study. This process is more likely done not to “reinvent” information, but on the contrary to “diversify” it. We can imagine that the media works as a source for controversy: indeed the wire story, on its own initiative, contacted other actors who may express themselves on the quality of the media in Switzerland, delineating that the unilateral version of this report worked as cutting words towards the media.

### 4.3 Pathos

Concerning the evolution of the pathos, we notice its major apparition on the annals. The more rephrasing there is, the more the pathos is minimized. For example, in the wire story most of the elements of the pathos are in fact those of the scientists themselves or exposed by attributive verbs as “to deplore” or “to warn.”

On the contrary, in the original report, we can identify the scientists’ enthusiasm for their research, but also the results’ dramatization:

Ex: “advertising that assures the major part of media receipts—according to private-sector principles—has *melted* in a *dramatic way* (table.1).”

Ex: “this reduction affects essentially the paid-for newspapers (...) in its *survivability*.”

Consequently the rhetorical dynamics in this case are the opposite of the previous studies. Indeed, rephrasing seems to erase the discrepancies regarding expectations of the scientific genre. This lack of scientific standards in the annals may explain why there is scepticism from the media. That is why they, firstly, only take for granted what is on the wire story and secondly they start the controversy of the quality of the research itself. Indeed, a few months after the communication of the results were published, there appeared several protests of scientists’ results (*Le Nouvelliste*, *le Temps*) or even reactions by the media sphere itself (*Le Courrier*).

## 5. CONCLUSION

From now on, we can draw some temporary conclusions regarding our questioning and a stronger one regarding our methodology.

First of all, it seems that scientific markers (communication of accurate figures, exclusive wordings to the scientific community, precaution in the primary discourse, and no trace of pathos) are considered by the media as a sign of study’s strength: there will not be any controversy. Considerations for the scientist are always present (e.g., “serious study”). On the contrary, in the case of the study on the media, we identified that a hybrid scientific discourse (didactic and popularization aspects) with more pathos and less scientific markers, could lead

the media not to consider, as it is supposed to be, a scientific research. In this case, there was a controversy on the quality of the scientists' conclusions.

Furthermore, the analysis reveals, regarding rhetorical dynamics changes, the importance of the press release in the adaptation process. At that point, there is some kind of “deal” between the scientific sphere, the media sphere and the socio-political one. But, that “deal”, i.e an arrangement of exchange, seems to be more visible on this document when the controversy is anticipated: calling into question the experiment results for the neutrinos, political hijacking concerning security's figures and the media fighting back in the third study. The science adaptation process is related to the consideration of the addressees' rhetorical situation and consequently it adapts itself by anticipating reactions of the media and civil society so as not to call into question the credibility of the scientists.

We also notice the rhetorical dynamics do not automatically imply the adaptation of a scientific discourse through all the means of persuasion (ethos, logos and pathos). The media seems to enhance pathos when ethos of credibility is predominant. The rise of ethos of credibility is related to news promoters, who are the authors of the press release.

Many of the exposed conclusions could be confirmed by other studies, but we come to a double certainty: on the one hand, it is fundamental to consider comparative discourse analysis of all the discursive changes (rather than a primary discourse and its popularization) and on the other hand it is important to consider it within rhetorical dynamics, as we define it earlier.

At that point in the communication, we can imagine several explicative concluding remarks: 1. press release wants to protect itself from criticism by giving away to the media a report which is like a “serious study”; 2. Press release wants to defuse potential controversy with addressees who are also targeted by the report: the media. In any case, this defusing seems to constitute a relevant sign of the adaptation of a scientific study in the civic or political sphere.

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