

Friendly writer, friendly reader: A reflection about academic style

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Argumentation's importance in academic communication is certainly recognized by anyone who has ever written academic texts, from student's homework to journal paper. Nevertheless, while language aspects are commonly considered when building up an argument, aesthetic and presentational aspects are often ignored, possibly based on the assumption of an interested and motivated audience. Such reasoning can actually be misleading and result in a counter effect: the audience may become bored by the unbalanced effort between the study and its presentation. In other words, this assumption may easily lead to a dense and impenetrable argument that may become unconvincing even if it is very solid. Hence, I propose the consideration of varied forms of argument presentation and question about the presentation style, aiming to make it as free as possible according to the relevant audience and objective. The main purpose of the aesthetics suggested here is to reduce the distance between the author and the reader, aiming to have a more embracing and stimulant communication, keeping the logic of the argumentation at the core. As I should focus on exploring the matter of standardized distance, which also has its function for impersonality and objectiveness, the difference of communication majorly between experts and communication between a more diverse group, including students, should be properly considered, looking at linguistic and literary tools in parallel. Indeed, I should emphasize that a supportive plethora of technics are of potential usefulness to demystify and facilitate the contact with academic works.

1. Introduction

Academic writing is well known by its peculiar character when compared with other kinds of writing, like literature or press media. It is also often object of jokes, given the fancy style that shapes how information must be passed onwards without disruption of the intended meaning, carefully unlacing n-fold ambiguities or imprecisions meticulously, and often requiring very specific jargon and complex sentence structures — an exotic appeal for a laugh. But despite the jokes, academic writing has its purpose, which can be simply seen as transmitting scientific information. Beyond that, many experts adjust different definitions of “academic writing” to their purposes, leaving a broader or narrower meaning accordingly; for instance, this has been seen in the 2nd International Symposium on Academic Writing and Critical Thinking at Nagoya University where different speakers used different definitions. Whatever the definition used, papers and theses are always present as types of academic writing, and also proposals, homework, exams, and other forms of writing may appear as examples in more malleable definitions of what is academic writing. Looking close at each of them, they all bear different purposes. For instance, a journal paper aims to report a new research result to people in the related field, while a course thesis shows the result of a study conducted by an apprentice who is claiming a certain title (M.Sc., M.D., Ph.D., etc.) with that. These two examples are not necessarily disjunct, but may share a large portion of their content, while keeping slightly different prospects. Under the large scope of academic writing, however, they abide to essentially the same writing style. This style is actually not universal, but may vary according to field (Swales and Feak 2012). Here, they are treated as the same in the sense of the generally impersonal and objective formal structure.

The purpose of this paper is to question the conventional writing style that pervades academia in all its branches, forgetting, not to say ignoring, the true and main function of the writing in question: to inform. Certainly, a thesis and a research proposal have different goals, but both must inform the reader of the contents of a research and its importance in order to achieve their goals: displaying expertise to acquire a title and being elected as a valuable research theme, respectively. Not rarely, writers become just too much bound to the standards that govern their writing for no apparent reason that what takes place is a rather robotic and dry exposure, hard to be penetrated even by a general scientific audience. In the end, the writing bears information, but fails to inform, leaving the real objective of the writing aside. The problem, as shall be discussed, resides in the unnecessary distance that writers often place between them and their texts. In this paper, this issue is addressed by supporting the free development of a writing style by the writer.

While an abstract discussion may be conducted over this matter, concrete examples shall be debated, for the sake of clearness. Specifically, the discussion shall focus mainly on theses and journal papers. Also, as an example of non-standard thesis writing, a Master thesis (Amorim 2015) and a Ph.D. thesis (Sousanis 2015) shall be given.

In the next section, the problem with conventional writing is discussed, laying the foundation of this work. Later, solutions to the raised issues are presented, analyzing their advantages and disadvantages equally. Finally, concrete examples are further explored, in order to assess the discussion held so far.

2. The issue of distance

The problem of writing and not informing has been mentioned in the introduction, which has been written in a close to orthodox writing style, with passive voice ruling sentence structures and emphasizing the subjects, and with no reference to the writer being made. From this point on, to tackle this issue adequately, we must leave such style aside and follow a more natural discourse, what I hope will prove to be a better decision in due course.

First, let us think about what happens to a general audience when they read a scientific paper, a thesis, or something alike. A conversation with anyone who has ever done so reveals an astonishing¹ amount of people who have somehow struggled with reading. The side effects of this reading varies: drowsiness, headache, misunderstanding of the foreign language,² and so on. For journal papers, such difficulties often become evident during peer review process, when the reviewers try to point out what is not clear. However, the clarification is done by the researcher who already failed making the paper clear enough, and the final version's fate does not offer much hope beyond basic improvement.³ So the question to ask is "why?" Why do people write hard-to-follow texts? And why are we satisfied with such texts? We have to focus first on these two questions in order propose a different writing approach.

Addressing the second question first, let us try to understand where the scientific writing style comes from, looking at a relatively recent past. Quoting the following editorial from *Physical Review Letters* should prove itself useful, in this aspect.

¹ Not really. Pretty much everyone has had such experience and knows that it is quite natural.

² Written academic language, foreign for both native and non-native English speakers.

³ "Basic improvement" could be inaccurate in some cases, when peer review does force rewriting the whole manuscript, via rejection and other direct interference. I'm supposing situations where a reasonably written text is already present, in which case "basic improvement" may be essential, but overall does not force the production of something anew. Still, even for a new text we can not expect drastic stylistic changes unless we change the author altogether.

“One hundred years ago (...) funding for physics was largely private. The writing style was formal, without personal pronouns and in the passive voice. It emphasized facts and played down evidence that people were involved in research. (...) As the number of physicists grew, and funding for physics came more often from public sources, it became increasingly important for physicists to convey their findings to other physicists and to the public. (...) Regardless of its content, a manuscript will be of lesser interest if it is impenetrable, and a manuscript that attracts fewer readers will be less important. (...) **It is interesting that contributors may adhere to a dense, impersonal style in their manuscripts, but have no difficulty using another style elsewhere.** (...) The issue of sentence-level construction is less critical, and it will not surprise me if some writers still take comfort in the passive-voice style described above. Frankly, this comfort is a mystery to me.” (Schuhmann 2008, emphasis added)

This quote shows us the point of view of the managing editor of a major Physics journal, where several Nobel laureate papers have been published. The underlined and bold parts were formatted to stress the crucial points we should look at for the present discussion. First, we see that even if an academic text has very good and maybe profound contents, it becomes rather pointless to publish it for a broad audience if this broad audience will not be able to make any sense out of it. While such affirmation should be obvious, many scientists appear to ignore, trying to publish technical papers, maybe with excellent content, but reported as a highly fancy code, opaque to the audience of the journal they are aiming for. The same may happen to theses, when authors assume a high expertise of supervisors, but seem to neglect the level of expertise even for other members of the evaluation board and other eventual readers. And yet, we come to the second point, highlighted in bold letters, that the same authors can often have reasonable conference presentations, and most importantly, they may even have a very captivating speech when explaining their work freely and directly to any audience, once free from the pressure to formally exhibit their expertise to other experts.

The above conditions may lead us to wonder about what fosters such will to produce such “hardcore texts” that hardly anyone succeeds in tasting its core. I believe the answer could be that people want to look smart and professional in their work. And with this objective, people decide to keep some “distance” from their own texts, in order to keep objectiveness and to produce a better impression. Here, I wish to define this “distance” as:

Definition 1. (Author-text) distance: *an artificial feeling of impersonality and objectiveness towards the text to be written.*

I use the word “artificial” to stress that despite research being conducted and mastered by the author, he or she tries to avoid immediate relation with the text, trying to compile the research result as a self-standing text unrelated to him or herself, except for the innocuous yet rewarding authorship. Once the author has assured a certain level of distance from the text, criticisms tend to become moderate, less aggressive, and they may keep a positive (or non-negative) image. Hence, this distance, at first thought, seems pertinent when transmitting what should be a scientific truth, and is relatively evident to be well accepted by the scientific community. Nevertheless, this can be a misconception if the following two points are neglected.

1. Objectiveness and writer’s impression depend (majorly) on the contents;
2. Readers’ aggressiveness is suppressed at the cost of readers’ interest.

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What most people want is captivating texts, with interesting results. For this, the contents of the research should be clearly covered, presenting results that are accepted by the audience without any need of makeup or pretending. And since this is not an easy task, choosing not to think much about it and just stay with superficially perceived writing standards may become pathological. In other words, the problem of the distance mentioned here can be understood as a counterproductive inversion, where the author tries, for pleasing the audience, to adjust to the audience by pretending to be and to write like what he perceives to be the audience. Or, in a compressed expression, tries to “write like the audience” while reading the text as the author. This inversion is meaningless⁴ because the audience, by definition, only *reads* the text,⁵ while the author is the one who *writes*. Therefore, it would be more natural to *write as oneself*, and *read as the audience*. Otherwise, the result tends to be a dry and distant text, written by a non-existing “alien,” and undergoes proofreading infested with non-standing assumptions, since it follows the almighty viewpoint of the author. But to write as oneself, certain bindings must be broken, and a certain level of freedom must be given to the writer. Specifically, here I want to emphasize the freedom to find and create one’s own style, using one’s strengths, whilst keeping the options of communication approaches open to new methods.

3. Style: a key for effective communication

Now, when it comes to the discussion of style, another quote is useful: this time a one-hundred-year old speech, interestingly showing how the underlying idea has been around for at least a century.

“What we should aim at producing is men who possess both culture and expert knowledge in some special direction. (...) What education has to impart is an intimate sense for the power of ideas, for the beauty of ideas, and for the structure of ideas. (...) A mind so disciplined should be both more abstract and more concrete.

(...) Finally, there should grow the most austere of all mental qualities; I mean the sense for style. It is an aesthetic sense, based on admiration for the direct attainment of a foreseen end, simply and without waste. (...) Style, in the finest sense, is the last acquirement of the educated mind; it is also the most useful. It pervades the whole being. (...) Style is the ultimate morality of mind.

But above style, and above knowledge, there is (...) Power. Style is the fashioning of power, the restraining of power. (...) With style the end is attained without side issues, (...) you attain your end and nothing but your end. With style the effect of your activity is calculated, (...) your power is increased, for your power is not distracted with irrelevancies, and you are more likely to attain your object. Now, style is the exclusive privilege of the expert. (...) Style is always the product of specialist study, the peculiar contribution of specialism to culture.

(...) No absolutely rigid curriculum, not modified by its own staff, should be permissible. (...) The essence of education is that it be religious. (...) A religious education is an education which inculcates duty and reverence. Duty arises from our potential controls over the course of events.” (Whitehead 1916)

⁴ Or almost, since anything bears some meaning. In this case, one could interpret that the concern about how the work will be perceived surpasses or overshadows the confidence in its contents.

⁵ Since reading should embed a critical aspect in academic context, “only” restricts the action, but should not diminish it.

Following Whitehead's words, many questionings can be made. First, by denying rigid curricula and supporting control over the course of events, some tuning between Whitehead and Bourdieu, Passeron, and de Saint Martin (1965) can be seen. Bourdieu et al. pointed out that pupils, in the attempt to mimic their masters by copying the academic language, which they must learn, end up with visible flaws, in a process very similar to that observed in the "creolization" of languages (Bourdieu et al. 1965). We can say that this "creolization" is directly related to the lack of control over expression. The new language is forced into place, rather than properly studied. And this language is forced because no other language is accepted instead. The teaching of the academic language is still highly neglected, favoring the "learning by demonstration" practices, oblivious of the violence often imparted in this process that takes deciphering abilities for granted. I am not proposing that academic language should be ignored or forgotten, but that need not be the only way of communication. It is indeed useful to establish a steady communication between experts, but this is not the best way to reach other scientists, including newcomers to the field. And academic communication may certainly change its style over time. When we come to see how academic texts evolved in the Western world, Greek was replaced by Latin, which in turn was replaced by the academic variation of other languages, which are now mostly converging to academic English, in scientific publications. While still useful, I do not believe we must become too much possessed by the phantom of one ruling way of expressing academic results, as long as we keep the meaningful core of the communication. Thus, stimulating the self-discovery of style could be a potentially fruitful source for enhancing scientific communication.

Whitehead provides us with a few keywords to think about: culture, knowledge, ideas, style, and power. Basic education provides knowledge, culture, and fosters the respect for ideas. But style is not something to be taught, but "grown." Yet, does fixing a ubiquitous academic style not impair this growth? If the style were not fixed, some people would probably grow towards this ubiquitous style. However, the fact that many people show a great lack of ability in it should serve at least as a hint that it may not work for everyone. And then, we come to the last key word: power. Whitehead does not make clear what he means by power, so it may depend on personal interpretations of the word. Nonetheless we might agree that by power, he embeds the meaning of "means to achieve an objective," efficiently or not, since he mentions attainment to an end and an objective. And as style fashions power, a deficient or underdeveloped style will disrupt power. By forcing a style to researchers, young and old, we risk cleaving the researchers' ability to express and expose their ideas in what could actually be closer to an optimal way.

Curiously, we do accept different styles for performing research, and are often satisfied with almost any approach whatsoever, as long as a full explanation and description about it is given together. Nonetheless, many people are not as receptive towards different communication styles, claiming not to understand the contents under the allegation that non-standard patterns are hard to follow or lack clarity. It may be the case if we are presented to an underdeveloped or corrupted style, but then the problem does not originate from non-standardization. If it did, there would not exist many standardly written texts that are filled with the clarity of an obsidian, while we always try our best to use a completely different and crystalline approach when the objective is, say, outreach. Those who engage in outreach try to make themselves understood by the general public, but apparently assume that the scientific public will find their way, just like academics assume students will be able to decipher anything they say, as mentioned by Bourdieu et al.. If one is willing to remedy this issue and effectively communicate science with scientists, a non-orthodox writing should at least be considered as a supportive option to come with the traditional writing style. Indeed, Schuhmann uses the common analogy between academic papers and narratives in his

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editorial; Thornborrow and Coates (2005) point out the function of narratives as a display of both social and individual identity.⁶ With the academic community bearing its influence and constituting a social identity to researchers, we learn our academic language in a way we may compare to children learning social practices through storytelling. As a researcher matures, it should not be beyond expectation that he or she will develop his or her own individual narrative techniques, means to academic storytelling designed to and by the “self.” It is definitely my view that we should stimulate this development or, at the very least, not impair it while offering education.

Now, let us think about what “academic style” refers to. Swales and Feak (2012) indicate that it is difficult to decide what is “academic” since academic style varies between different areas of study, while putting academic speech “much more like casual conversation than written academic English,” therefore cutting a clear division between “academic” and “casual” (Swales and Feak 2012). In fact, as advice, Swales and Feak state that “a formal research report written in informal, conversational English may be considered too simplistic, even if the actual ideas and/or data are complex.” While the authors are not alone in such kind of claim, which has its merits, this assertion should be faced with at least some doubt.⁷ In fact, this always reminds me the famous conversation between Humpty Dumpty and Alice regarding meaning of words (Carroll 1871). I would even dare to paraphrase it below in order to make my point clearer.⁸

“I don’t know what you mean by ‘academic,’” Malice said.

Pumpty Bumpty smiled contemptuously. “Of course you don’t – till I tell you. I meant ‘something with scholarly content exposed and explored in details, regardless of presentation.’”

“But ‘academic’ can’t mean ‘something *regardless* of presentation,’” Malice objected.

“When *I* use a word,” Pumpty Bumpty said, in rather a scornful tone, “it means just what I choose it to mean – neither more nor less.”

“The question is,” said Malice, “whether you can make academia include so many things.”

“The question is,” said Pumpty Bumpty, “which is to be the master – that’s all.”

This also brings us back to Swales and Feak (2012). “Academic” may vary in meaning according to the community that uses this word, but I feel it safe to say that whichever the

⁶ This function is explored in more details in a series of studies compiled by Thornborrow and Coates (2005). For example, how anecdotes are used differently by managers to create personal image (strict, friendly, motherly, professional, etc.) as well as to balance workplace ambiance (authority-equality dilemma).

⁷ Whenever I see this affirmation, my first thought is always: how could someone in the world read a conversation-like paper whatsoever about non-Abelian Chern-Simons gauge theory and think it is too simplistic (supposing they can understand it)? When Feynman was simplistic in his expressions, he was usually called *genius*.

⁸ Lewis Carroll was actually Charles Lutwidge Dodgson, a mathematician, Lecturer at the University of Oxford. The original passage has a profound question which is reused here, and has been quoted many times in the literature. For instance, courts in the United States have quoted it at least 250 times (Redish and Arnould 2012).

community, the confined meaning may be too much confined and worried about appearance.⁹ If the purpose of academic work is to pursue scientific truth (whatever that may be), should we care so much about limiting how the results are presented when setting boundaries to Academia? Is there any purpose in that beyond keeping the *status quo* of an Ivory Tower? Is it not possible to set writers free to use their own style? To assess the possibility of doing so, a few examples can be given. In the next section, dialogs used in academia are discussed as examples. Also, the Ph.D. Thesis titled “Unflattening” by Sousanis (2015) shall be briefly mentioned.

4. Dialogs, poems, comics, and academic writing: a case study

Whether a different academic writing style is possible or useful is a question that needs to be answered. A straight yes should be enough if we expose *how* to do it. Dialogs, the simplest alternative, are an example of an efficient and useful style for academic texts. First, why not mention the well known cases of philosophers like Plato and Galileo, who despite being separate by over a millennium, both used dialogs to expose their views on philosophy and their society, so that the unconvinced audience could find sense in their reasoning. But not only people in the past used this resource. Recently, Sasa used this kind of approach in his lecture notes for a summer school (Sasa 2014). Among other examples, I should start presenting a discussion about a closer one: my own Master thesis.

To complete the present arguments, let me discuss, based on my Master thesis (Amorim 2015), why this writing style works for academic communication. Stepping away from the standard thesis writing pattern, this whole thesis is presented as a dialog between three fictitious characters, a pair of twin students and a ghost (specter). In the end of each chapter, a poetic review of its contents is also present. The fact is that this kind of text, though it may make some people uneasy, fulfills its function with some interesting features.

Before looking at the thesis, to analyze how dialogs become useful let us take a look at an example of a short generic text written in a standard fashion and as a dialog.

Example 1

Topology is the branch of mathematics that classifies objects according to continuous transformations constraints, e.g. tea cups and doughnuts, both bearing a hole, can be transformed into each other, being called homeomorphic, but not into a sphere. The same can be used in Physics once translated to Fermi surfaces, spin textures, hamiltonians, and other quantities.

Example 2

A: Topology, my friend, classifies objects according to how they can be continuously deformed into one another. For example, a tea cup and a doughnut, which both have one hole in it, can be deformed into each other while preserving their hole, but not into a sphere, and are therefore called homeomorphic.

B: And how does it relate to Physics?

A: You can do the same for physical quantities like Fermi surfaces, spin textures, hamiltonians, etc. They can also be classified in the same way.

Though the contents of both cases are the same, there is a serious problem with the first

⁹ In the 2nd Symposium in Academic Writing and Critical Thinking, a speaker showed a text written by a student and commented that it “didn’t even looked academic.” It didn’t and it wasn’t a well written text. But for several minutes, the speaker seemed more concerned about the *looks* than the contents presented. That also reminds me of a researcher who is really good in “academic maquillage,” which allows him to always have more grants than he can use. Different situations, same *core* problem.

one. Albeit following a conventional writing standard, its objective is not at all clear. It can fit as a wild card in any sort of academic text, like proposals, papers, theses, letters, etc. The variety of texts that accept it serves as witness of the lack of focus; instead of one target, the fragment can go with almost any text and claim universality, which is praised by science. However, does it not contradict the very existence of different types of writing if they can be all the same? I would say that such kind of texts should not be used anywhere, actually. On the other hand, we might agree that it is not a problem of style itself, but could be a problem of a writer that does not discern between different modalities of academic writing. My questioning is rather centered on the possibility of a standardized academic style to lead to a mechanical and invariant writing for many writers that do not bother thinking beyond the received mold, leaving little effective expression and a flat mixture of abstracts, papers, theses, books, and others.

The second text, on the other hand, would certainly not fit in proposals or letters. Neither would it fit papers without proper adjustment. But it could easily be used in theses for explaining the necessary background. The purpose of this text is to inform, which becomes evident from the flow of the explanation present. Also, it is worth stressing that no waste is present. In fact, the first example, though compact, fails to properly connect the idea behind the two phrases in it, while the second example does so through the question posed by B. And as this question is the question that the reader would probably think, it also works to attract the attention of the reader towards the text, creating a useful empathic link between the reader and the character, which is nothing but a projection of the writer. In other words, as the reader feels more closely related to the character and therefore the text itself, which indirectly means closer to the writer, the attention to the contents can also be better obtained through what can be viewed as a reduction of the distance in definition 1. Hence, B is not a waste of lines, words, or paper at all, but is a realistic tool to draw a reasoning flux and to captivate the reader. Moreover, example 2 allows a continuous reading without major interruptions, making its reading actually less difficult or time consuming. On the other hand, example 1 shows a typical text that would be read more than once to be absorbed, loading a needless burden on the reader's mind.

In a similar way, I could point to an extract from my thesis, copied bellow.

Céibhionn: Of course it doesn't have to be restricted to spin, but it can always be seen as pseudo-spin. And it is also good to remember that when you are saying "spin" it actually means "spin- $\frac{1}{2}$ system."

Sávio: True. And in the picture (fig. 1.1), small indices show explicitly the basis for each state that I just mentioned.

Taito: I see. So your quantum bit is basically a Bloch sphere?

Sávio: Yes, sort of. (Amorim 2015)

This excerpt is placed right after an explanation of quantum bits and computational basis, with an equation and a picture preceding it, both being referred directly or indirectly in the text. The bold names, here appearing only once, are used to stress where the main points are to be read. It has the function of a flag to ask for attention when reading, skimming, or browsing through the text, and also to facilitate the review when looking for specific information present in the summary. It has particular importance because the dialog form does not allow the creation of paragraphs easily, which can be said to be a disadvantage of this style. Paragraphs are important to group similar information together, and has essentially the same objective of facilitating reading as the bold names here, though presented in another visual shape: paragraphs are blocks of information, bold name headers are flashes of

information. Also, we can see in this excerpt that pictures (and also equations, though not presented here) can be referred to smoothly by the usage of parentheses to add the non-spoken explanations to the lines.

Now, more important than these technical aspects are the final two lines. There is a question that may be the reader's question. Certainly, it may not be as well, but it introduces an interaction in a level that the reader may follow up with. The answer, on the other hand, can make many people in academia shiver at the first glance. "Sort of" is definitely not the kind of expression to be present in an academic text. When looking for precision, and when willing to evaluate the progress of a researcher in a thesis, we want to know things as exactly and precisely as possible, and even wonder how possible it is. Thus, "sort of" does not seem to be what is expected as academic and sounds casual. However, it is exactly where the power of these words lies. If a well trained reader is holding the text, there is also a tendency to read the contents while skipping the "uninteresting parts." Consequently, the attention is often diluted in this process, and the "shivering" that comes from seeing this expression may restore the weakened attention. On the other hand, for the readers who are unfamiliar with the topic and with academic style, the conventional meaning of the expression is enough to raise a low level of satisfaction with the explanation while holding to the doubt and curiousness about the details, again bringing readers' attention to the text back to life when it may be fainting. Of course it is not an excuse for imprecisions, but a means to introduce a more detailed explanation of why the answer cannot be so simple, so the reader may grasp, upon the reader's own will, to what point the assertion "a quantum bit is a Bloch sphere" is correct. In other words, this is a way to address the reader and, consequently, address common misunderstandings more efficiently.

It is worth noticing that conversations are in our quotidian academic life, including research. When doing joint research and other interactions regarding research, e-mails and letters can hardly solve the problems of misunderstanding or lack of clarity, and we end up with the need for meeting and discussing with the involved parties. In fact, people spend a considerable amount of research budget to meet and discuss, a practice that has not decreased with the improvement of technology. Internet conferences are not favored, even when jet lag, travel time, and cost are all considered. We all seem to acknowledge the need for interaction for proper sharing of thoughts between people, even experts. And a conversation-like writing is a natural and simple way to communicate our work.

Direct discourse is not the only available tool, though. As already mentioned, I also used another approach: poetry. As an artistic tool, poetry is not precise, nor necessarily clear; Landa (1991) points out that the relation between poetry and science or philosophy has long been debated, at least since Plato until nowadays, mostly placing poetry apart from academic discourse, though some authors do recognize the possibility of mutual application (Landa 1991). Poetry is ambiguous, non-universal, and largely image-driven, and it can fulfill its duty in academic communication exactly for that reason. The freedom given to words and to the writer in poems allow a powerful way of crafting impressions about a topic hard to understand. It has the disadvantage of possibly requiring a relatively high language level to be understood, which does not make it available as a main communication tool in general, but provides a robust support to captivate and draw attention to a topic.

Beyond my own production, and beyond the simplest understanding of the word "writing," a Ph.D. thesis written entirely as comics was recently produced by Sousanis (2015) at Columbia University. In this case, more than just an alternative way of writing, the style adopted is intrinsically related to the objective of his research in education. The author seeks to show the importance of images in education, criticizing how minds are sculpted in the education process and led to a "flat" condition, which is targeted to be "unflattened" with his work. In its description, the role of this particular approach is succinctly exposed as "weaving

together diverse ways of seeing drawn from science, philosophy, art, literature, and mythology, it uses the collage-like capacity of comics to show that perception is always an active process of incorporating and reevaluating different vantage points.” Comics, which can be seen as an intermediate between books and films, provide a very unique contribution to science as a style for expression, deeply explored by Sousanis, with still images creating dynamics, and the relation between frames explicating relevant steps of transformation and perception. Interestingly, similar peculiarities also present in films, as well as peculiarities inherent to films, have been pointed by Benjamin (1936)¹⁰ as a way to introduce new realities. Benjamin warns about the risks of using art and these manipulated realities for propaganda and political ends; on the other hand, he also suggests this can render visible some usually invisible aspects of science and perception. Nowadays, we should be in position to view in such realities a way to introduce the new knowledge discovered and developed in academic research.

These are just a few examples that can hardly be exempted of dissents. They might nevertheless enlighten about how non-orthodox writing may have a place in academia, as long as we accept to open our minds to the possibilities. More than the examples mentioned here, novels, movies, music, games, paintings, and any other form of art could potentially be used for an effective communication, as long as the producer can properly associate the scholarly content involved. Benjamin has pointed how the massification of arts change the perception of art, how the value of art changes upon mass reproduction, how quantity is changed into quality, the dangers of political use of art. His discussion is renewed in our age where instantaneous copy and transmission, legal and illegal, pervade the whole world in digital form. And we can extend this discussion to science as well; as academic media becomes based on the internet and open access gains momentum, we may be walking toward a democratization of science, where anyone may have access to academic work. In this setting, granting not only access but also accessibility to contents of the work through diverse methods may become of stark importance to future and present researchers.

Unfortunately, most people are apparently still reluctant to accept even the slightest change in academic communication in the direction of a more open and accessible way. Many scholars still ignore the presence of the general public and make little or no effort whatsoever to open up their work, and the majority do not link the exposition of their work to the general public with their careers, despite often being financed by the taxes of those with whom they refrain from speaking (Woolston 2015; Rainie, Funk, and Anderson 2015). Though this positioning is justified on top of the necessity for intellectual rigor and objection to oversimplification, diversified approaches may help both communication among scientists and between scientists and a general audience. By general audience, in this point, I must assume an *interested* audience, that may find delight in reading accessible and rigorous academic production. Such audience may, in fact, largely vary through the ages: in late XVI century, a dedicatory letter read “*Astronomis isthaec gloria sufficiat, quòd Philosophis sua scribunt, non rabulis; Regibus non pastoribus*” (Kepler 1596).¹¹ Nowadays, it would be at least humanly advisable and polite to be more humble and expect more than that, i.e. to keep in mind that after a scientific-technical revolution more people in the world can read scientific reports if these are more accessibly presented. Indeed, Sousanis has demonstrated how an academic

¹⁰ The original work by Benjamin does not seem to match exactly the translation available in *Illuminations*, specially where this matter is discussed. Nonetheless, the core is kept the same, where the author describes how camera manipulation brings perceptions otherwise intangible to the mind.

¹¹ An approximate translation would read: “For astronomers it suffices the glory that their writings are for philosophers (wise), not for the rabble; for Kings, not shepherds.” If the reader had trouble deciphering the Latin quote, it could hint at some people’s feelings when they read impenetrable academic texts.

production can be at the same time rigorous, informative, and entertaining. Although not everyone of us can produce entertaining scripts, nor everyone needs that, it serves us to question our boundaries. Furthermore, given the fierce competition in contemporary science, it is necessary to stand out in order to be recognized, and a good way for doing so would be by being understood by many, an opinion shared by some scholars (Woolston 2015). Even if not all these many recognize the presented work as excellent, the increase in the public reached together with the impression made on them could lead to a better comprehension and consequent recognition by a larger public.

5. Conclusion

My message is simple: academic communication does not need to rely on traditional academic writing only. This does not mean that we should abandon or forget the traditional writing we often follow, which has its advantages as well, but I believe there is no real reason to not accept other ways of writing. There are journals that already accept video abstracts, like the *New Journal of Physics*, and many journals are open to supplementary materials that may take almost any form, including videos and support texts. Nonetheless, the number of scholars willing to accept variations still looks very slight in academic society. I can only expect that works like the ones presented (Amorim 2015; Sousanis 2015) may stimulate more innovative ideas to be expressed in innovative form.

Now, I have intentionally repeated the words “I believe” which may be regarded as too subjective by some people. Nonetheless, given that the discussion presented here is essentially supporting such belief, a less biased view of these words would probably help to solve the issue, which is exactly the suggestion I present here. With this, I hope I can, at least, stimulate more scientists to accept less orthodox approaches for communicating, trying to suppress their bias for favoring a text that “looks academic.” But more than acceptance, I also hope that people consider a less self-focused writing, in the sense of the purpose of writing, and assume a more open-minded approach, in the sense of trying to talk to people who will really be reading the text. Some editors and professors may sneer at what they may call a “chatty” text, though I think such adjective is born from more than pragmatism, but pure prejudice, for no one “chats” with peers about world-class leading research. They talk and discuss about it, trying to pierce through the details and grasp the edges of the presented knowledge. The definition of chat being an informal conversation does not seem to leave any room for it anywhere aside from pop-science books and certain magazines or newspapers. Of course, one could still *try* to really “chat” about supernovas, black holes, fundamental particles, stereoselective reactions, epigenetics, econometrics, power relations, and a plethora of topics in an academic fashion. Dude, I wanna see that stuff!

References

- Amorim, Cássio Sozinho. 2015. Topological quantum computation with Majorana bound states. Master's thesis, Nagoya University. doi.org/10.13140/2.1.4690.2565
- Benjamin, Walter. 1936. L'œuvre d'art à l'époque de sa reproduction mécanisée. *Zeitschrift für Sozialforschung* 5, 40–68.
- Bourdieu, Pierre, Jean Claude Passeron, and Monique de Saint Martin. 1965. *Rapport Pédagogique et Communication*. Paris: Mouton et Cie.
- Carroll, Lewis. 1871. *Through the Looking-Glass*. New York: Macmillan.
- Kepler, Johannes. 1596. *Mysterium Cosmographicum*. Tübingen: Georgius Gruppenbachius.
- Landa, Jose Angel Garcia. 1991. Science and literature: Some critical parameters. In F. Collado (ed.) *Science, Literature, and Interpretation*. Zaragoza: Universidad de Zaragoza. ssrn.com/abstract=1591114.
- Rainie, Lee, Cary Funk, and Monica Anderson. 2015. How scientists engage the public. Pew

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Research Center.

- Redish, M.H., and M.B. Arnould. 2012. Judicial review, constitutional interpretation, and the democratic dilemma: Proposing a “controlled activism” alternative. *Florida Law Review* 64 (6), 1485–1537.
- Sasa, Shin-ichi. 2014. Lecture notes for the 59th condensed matter physics summer school. www.ton.scphys.kyoto-u.ac.jp/~sasa/public.pdf.
- Schuhmann, Reinhart. 2008. Editorial: Successful letters. *Physical Review Letters* 100, 100001.
- Sousanis, Nick. 2015. *Unflattening*. Cambridge: Harvard University Press.
- Swales, John, and Christine Feak. 2012. *Academic Writing for Graduate Students: Essential Tasks and Skills*, 3rd Edition. Ann Arbor: University of Michigan Press.
- Thornborrow, Joanna, and Jennifer Coates. 2005. *The Sociolinguistics of Narrative*. Amsterdam: John Benjamins.
- Whitehead, A.N. 1916. The aims of education. Presidential address to the Mathematical Association of England.
- Woolston, Chris. 2015. Scientists are cautious about public outreach. *Nature* 518, 459. doi.org/10.1038/518459f