



ETHICS AND AESTHETICS OF STYLE: THE IMPORT OF STYLISTIC CHOICES IN ACADEMIC PROSE

SUSAN ROBBINS

*Klaipeda University
profsrobbins@gmail.com*

*True ease in writing comes from art, not chance,
As those move easiest who have learned to dance.*

Alexander Pope

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Academic writing proliferates. Scientists and university teachers are under ever-increasing pressure to write and publish their papers. Across the world, the prevailing language of academic writing is English. Yet the writing style gets worse and worse, and the readers of the scientific journals get fewer and fewer. As recently as 2002, Gordon Graham, a philosopher in Scotland, notes that in the field of philosophy “*on average, each journal article attracts about four readers*” (Graham 2002, 82). Some consequences follow. Since this is an average, it follows that many articles are read only by the editors and the authors themselves. One reason why researchers do not read what is being published may be because the writing is so poor and so difficult to read. “In a July 1990 article, Jacques Ninio, a researcher at the French National Institute of Medical Research (INSERM) argues that almost no one reads the scientific papers probably because of their poor content and of the standardised and dull style in which they are written.”¹ The information in these unread papers is of no account at all, to anyone, anywhere. If the information actually is just so much worthless trivia, this is no great loss. But if the paper does make a serious contribution to the field, and the knowledge is lost through lack of readers, then scientific development in the field does not in fact advance merely by the publication of the paper.

Both scientists and editors of journals attribute this problem to poor training in the English language. Students in both hard and soft sciences often are not trained in clear and graceful expression in English, since most of their time and attention is taken up by the demands of their particular science. David Mermin, a physicist,

¹ Quoted in Marie-Claude Roland, “Reflexives: Responsible Conduct of Research”, http://www.reflexives-lpr.org/conduite_gb.aspx?item=23, 1. Accessed 13/12/2009.



comments, “Scientists wrote beautifully in the 19th century and on into the early 20th. But somewhere after that .the art of writing science suffered a grave setback, and the stultifying convention descended that the best scientific prose should sound like a non-human author addressing a mechanical reader” (Mermin 1995, preface). More recently, pleas for better writing have come from both British and American scientific journals. Harold Heatwole, editor of *Integrative and Comparative Biology* of the Oxford Journals had stated that “The standard of writing in current scientific journals has reached an all-time low” and lists many stylistic and grammatical problems culled from published papers (Heatwole 2008, 159).

The problems are not only technical and grammatical. The poor writing also comes from certain conventions of academic culture that have ethical and aesthetic import for scientific writing. Prose that is deliberately not reader-friendly has ethical and aesthetic implications about the authors of such prose and about the scientific endeavor itself.

II

Two groups of sources concur on certain particular unacceptable stylistic conventions in academic prose. The first group consists of the classic guides to good English. There are five – four of them being named in the *Oxford Companion to the English Language* under the heading “EFFECTIVE WRITING (good writing)” (McArthur 1992, 341). Of these, the first two listed below are British and the rest American, and most contemporary student guides and textbooks of good English style are based on them (H.W. & F.G. Fowler 1906/1990; Gowers 1954/1986; Strunk & White 1959/2009; Zinsser 1976/2006; and Williams 1981/2007). Many guides for scientific writing are also based on them, for instance, Day’s guide and Kirkman’s text (Day 1991; Kirkman 1992). The second group includes the style guides published by the professional associations and by individual journals. Among these are the *Chicago Manual of Style* and its briefer version by Kate Turabian, the APA (American Psychological Association) Guide, and the MLA (Modern Language Association) Handbook. These guides are commonly used well beyond the professions in which they originated. Many academic journals simply refer potential authors to one of these manuals to prepare manuscripts for submission. Some journals and academic magazines also publish their own style guides. An example is the style guide for *The Economist* by John Grimond.² Although these guides differ in citation and referencing rules, they agree on the guidelines for producing high quality English academic prose.

Of all the various stylistic problems with scientific writing, I shall examine three. They are first, the heavy use of noun strings (also called ‘freight-training’), second, the use of an overly impersonal and detached tone, usually conveyed by

² John Grimond, *Style Guide: The Economist*, <http://www.economist.com/research/styleguide/> Accessed 13/12/2009.



excessive passive voice and the avoidance of first person pronouns, and third, excessive hedging. All three of these are unanimously condemned by the guides, mainly because they are in poor English style. I also concur with rejecting them, because they do not demonstrate the ethical and aesthetic values necessary for the communication of science.

Noun strings are poor English because they make nouns to function as adjectives without using the adjectival forms of the words. They are also clumsy and make it difficult for the reader to decipher the meaning. In a guide for economics students, Deirdre McCloskey argues that “‘Elastic credit supply expectations rise’ is too much to ask of any reader: she must sort out which word goes with which, whether the supply or the expectations are elastic, and what is rising” (McCloskey 2000, 81). An example of Zinsser reads, “Communication facilitations skills development intervention.” He comments “I think it is a program to help students write better” (Zinsser 2006, 76).

The ethical principle involved here is to keep the audience in mind, to be kind to the reader. The aesthetic principle is to be clear. Considerateness and clarity in writing are necessary to communicate the accuracy, precision, and quality of the scientific activity. If the writing is vague, ambiguous, or imprecise, it suggests that the research is also. Such writing casts doubt on the capability of the researcher to carry out the project. If the noun string is rewritten as a series of prepositional and participial phrases, the relationships among the elements become clear. But sometimes the grammar does not convey the intended meaning. Heatwole found this example in a biology journal: “In addition, *captive breeding programs* could be established to supply the *small private keeper demand* for snakes . . .” (Heatwole’s emphasis). Analyzing this sentence, he asks, “Is this a breeding program that is captive or a program of captive breeding? Neither makes very much sense if taken literally. The second part seems to mean either that the demand is by private keepers that are small, or that there is a small demand from private keepers. However, neither is correct. From context, it appears to mean that the demand is by keepers of private collections that are small!” (Heatwole 2008, 160). A fourth meaning could be a demand by keepers of private collections of small creatures. Noun strings may not be such a problem for scientists writing in inflected languages because the cases show the relationships among the words. But English does not lend itself to that mode of expression. Freight-training is, according to Heatwole, “the most glaring abuse of English in scientific writing” (Heatwole 2008, 159). Rewriting the noun strings for clarity shows both the clarity of the researcher’s thought and consideration for the reader.

The second problem in scientific writing is the stress on an impersonal and detached style expressed with passive voice and the lack of first person pronouns. All the guides tell the writers to use active voice, and they also say to use first person in appropriate places. The primary reason given is ethical. The use of passive voice shows an avoidance of responsibility, an unwillingness to be accountable for the research. Passive phrases such as *a meeting was held*, *the findings were discussed*, or *conclusions were drawn* give no hint as to who attended the meeting, whose voices



and opinions were dominant at it, and how these people drew their conclusions. In addition to causing confusion and ambiguity as to who planned and conducted the research, passive voice also calls into question the authenticity of the research. “The direction of this project was reoriented” hides who initiated the reorientation, and raises suspicion about the autonomy and creativity of the researcher. Some editors and authors of writing guides use very strong ethical language against passive voice when describing the decisions concerning the research design. McCloskey calls it “cowardice” (McCloskey 2000, 70); others call it “at worst dishonest” and point out that it can “distort their intended meaning” (Roland 1995). Lipson says that the phrase ‘Mistakes were made’, “intentionally obscures the crucial question: ‘Who made the mistakes?’” (Lipson 2005, 147). Even the American Institute of Physics Style Manual which sets the style for more than a dozen scientific journals, specifically tells contributors to these journals to use first person (Roland 1995). As a matter of standing by their words, and taking responsibility for their research, authors should use first person and active voice, especially when describing matters of experimental design and authorial decision.

Aesthetically, passive voice is weak, sometimes clumsy, and fatiguing to read in long stretches of prose. Active and precise verbs give vitality to the prose (Zinsser 2006, 66). “The active voice is usually more direct and vigorous than the passive,” say Strunk & White (Strunk & White 2009, 18). Directness and vitality are aesthetic values, contributing to the smoothness of the prose and the ease of reading it. Both Mermin and Ninio quoted above mention the “stultifying dullness” or “dull style” of scientific prose; a judicious and appropriate use of active voice and first person would alleviate the tedium and attract more readers. Thus actual scientific progress depends not only on the quality of the research scientists do, but also in the quality of their prose in presenting it to the scientific community.

Although many other aspects of poor writing might be discussed such as verbosity, nominalization, or dangling modifiers, the third and final problem I shall address here is the phenomenon of hedging. It, too, has ethical and aesthetic implications for academic prose. Hedging is the practice of using various modifiers to qualify the scientific claims implicit in an author’s research. These modifiers can apply to the content, to the scientist’s involvement in the research, to the significance of the findings, and so on. In reference to the content, some hedging devices include ‘at least’, ‘under these conditions’, ‘apparently’, or ‘as far as we can tell at this stage’. In reference to their own suppositions, science writers will often resort to the anonymous “it” as in ‘it is thought’ or ‘it is suggested’. Concerning the findings, modal verbs and adverbs expressing possibility appear, sometimes as many as four of these terms in one phrase. ‘It might possibly be likely to suggest that . . .’ or ‘It might be possible to envisage further research on the putative key role of a on b.’ (Roland 2008). There are also reader-oriented hedges that serve to protect the scientific image of the author. For instance: “In our study, the existence of xxx isoforms questions the validity of earlier results....” (Roland 2007, 426). This is an example of personification,



which attributes a critical comment to an inanimate source instead of to the person who thought of it.

Hedging is usually claimed to provide precision or to assure the limitations and provisional quality of the research. It actually accomplishes neither. Such language actually conveys a tone of hesitancy and tentativeness, rather than precision. It also did not delineate the limitations of the research so much as convey the impression that the research accomplished nothing. If the reader is in exactly the same place concerning the possibilities of future investigation as she was before she read the article or even before the project was undertaken, then there has been no advance at all. Instances abound. But a sentence that ‘suggests’ that the ‘preliminary’ findings ‘lead’ to the conclusion that it is ‘possible’ to ‘talk’ about the topic leaves us in exactly the same place as before, since research findings are certainly not needed for us to realize that we can talk.

Marie-Claude Roland, a French linguist and expert on scientific discourse, has argued that such hedging “practices actually pave the way for fraud” (Roland 2007, 426). She shows that they are used in an effort to avoid taking the risk that another scientist or reader might dispute the findings; she also argues that the writing practices have developed from the social pressure to publish as much as possible. (Roland 2007, 424–425). The result is that scientific papers are mass produced, and come off the presses like fruit cans from a conveyor belt in a factory; using a ready-made design, ready-made phrases, and ready-made thinking, or no thinking at all. Hedging shows a strong reluctance in the scientific community to stand by their words, to take responsibility for them and to be accountable to defend them against any criticism. As such, it is unethical. Charles Lipson, writing to BA students, tells them, “*Write courageously*. . . . When readers understand you, they may agree or disagree, but at least they know where you stand and why you hold the views you do. You have launched an honest discussion, and that is a contribution in its own right even if others disagree. That is how knowledge advances” (Lipson 2005, 147). Aesthetically, courageous writing is much more pleasing and interesting to read than timid and hesitant prose. It makes the reader feel that it is worth the time spent on it.

III

These norms and standards for academic and scientific writing in English do not have much influence on actual writing practices at present, although there are some academicians who are working to change the paradigm of acceptable and responsible scientific prose. (Roland 2007a, 65). Through extensive investigation into researchers’ writing practices, comments and feedback from reviewers and editors, and national and professional standards, Roland has found that scientific “writing practices do not reflect expected quality criteria.” She states, “I found that although official bodies within the scientific community regularly publish recommendations to authors or good practice guidelines, a majority of researchers tend to ignore them



and conform to the model that circulates within their communities” (Roland 2009, 2). One wonders why the discrepancy.

In addition to the lack of good education in writing English, for which there is a clear and obvious remedy, editors and specialists in writing put forth a variety of reasons. Heatwole attributes the divide to pressures concerning the cost of publication (Heatwole 2008, 163). Robert Day holds that the tendency to ignore the guides is a result of learning to write by imitating one’s own professors and supervisors, “thus establishing a system of error in perpetuity” (Day 1992, viii). Roland agrees, and argues that both lack of commitment to the research project and avoidance of any risky behavior contribute to the discrepancy (Roland 2007, 424–425). These analysts point to factors in the sociology and culture of the university community in the training of students, i.e. apprentices. I propose that another factor contributing to the divide between standards and practices in the writing of science derives from a serious misunderstanding of the concepts of neutrality and objectivity.

The most repeated response to the idea that one can actually use first person and active voice in scientific papers is ‘But that would damage its objectivity.’ Objectivity here is taken to be a synonym of impersonality and detachment. Objectivity normally means unbiased, or without prejudice. It is the quality of looking at the evidence without committing the fallacy of begging the question, and without warping the experimental design in order to get a result dictated by self-interest. Being logical or objective does not require being inhuman or impersonal. After all, logical thought, interest in all kinds of things, creativity in investigative design, and the pursuit of knowledge are all aspects of being human. Aristotle said, “All men by nature desire to know,” and this human desire is part of the drive of the scientist to engage in research. Montgomery has observed that in modern scientific culture, “Any point at which there emerges something resembling a truly personal or literary style in a technical article is commonly considered to be a point of failure” (Roland 2009, 4). To set up a dehumanized prose style as the most valid way to report on the height of human achievement is surely both contradictory and unethical. Objections to a dehumanized knowledge have been raised ever since 1962 when Michael Polanyi published his seminal work *Personal Knowledge*. This work together with Thomas Kuhn’s *The Structure of Scientific Revolutions*, have generated a host of publications by sociologists, historians, and philosophers of science, who have argued in many ways that the objectivism critiqued above is untenable. But these arguments, along with the prescriptions in the writing guides and standards, have for the most part fallen on deaf ears.

A second commonly misunderstood concept is that of neutrality. But since value-free neutrality is not a possibility, it should not be an ideal. We have seen so far that ethical values, such as honesty, responsibility, and caring for the reader are necessary for good science and good scientific prose; we have also seen that rhetorical and aesthetic values such as clarity, precision, accuracy, readability, vigor, and courage are evidence of good communication. Even the President of the Central



European University recently verified that, “[Since Max Weber] the scientific community has mostly adhered to the principle that good science must be value-free. In the meantime, more than forty years of scholarship in the history and sociology of science has shown the limits of that approach . . . What is needed is a replacing of the value of value-free education by a new value of the caring scientist.”³ It is especially damaging to treat in a value-free way problems in the soft sciences and humanities that people really care about, such as the starvation of children, rising sea levels next to coastal cities, or even the highly charged, romantic images of light in *Romeo and Juliet*. To force scientists and scholars into using a prose style that allows no hint of human interest to show is to present the scientific problems to the reader as if they do not matter to anyone. And of course, if the problems do not matter, neither will the solutions. Also, to treat the great masterpieces of our culture, those of history, literature, philosophy, and philology as mere raw data to be neutrally analyzed, sabotages the aim of education in the humanities, which is to value and preserve our culture. A neutral approach to education cannot satisfy its own aims, it is contradictory and counter-productive.

One last difficulty in getting scientists to write well in good English is that the current scientific culture is fraught with fearfulness and anxiety concerning their reputation, image, and acceptance in their scientific circles. Kirkman explains, “Scientists and engineers themselves complain about the heaviness of their style; but when I suggest that passive, impersonal, turgid expression is a millstone that the technical writer need not carry, I am told that papers written in any other style would be unacceptable: ‘It would be thrown straight back’; ‘My boss wouldn’t have it’; ‘Editors insist that you write passively and impersonally’; ‘You must make your work sound impressive’” (Kirkman 1992, 2). In three extensive surveys (1535, 526, and 741 answers) of editors, reviewers, and readers of scientific papers, Kirkman found that this anxiety is simply unfounded. The majority of participants voted for clear, direct, appropriately personalized writing (Kirkman 1992). Roland, also, did another investigation and got similar results (Roland 1995). It seems that this anxiety is simply a fearfulness of risk, of exposure, learned from teachers and supervisors, which is projected onto the editors and reviewers of the journals. Roland attributes it to the educational system these writers are trained in (Roland 2007, 425–426). This fearfulness of exposure promotes a value among scientists that image and reputation are more important than communication, that appearance is more important than substance. But as McCloskey observes, “Only third-rate scholars and C students are so worried about the academic pose that they insist on their dignity.” She advises students, “Above all, . . . one must decide to be understood, and worry some other time about being admired” (McCloskey 2000, 43, 41). Fearfulness, anxiety, inability to stand up to scrutiny and debate, lack of courage – these place the whole scientific enterprise in jeopardy.

³ Yehuda Elkana, President of the Central European University in Budapest, Quoted in Roland, “Changing Paradigms” 69.



IV

My intended audience is teachers of English and trainers of English specialists in countries where English is a foreign language. So these arguments have their most immediate application in the teaching methods and supervisory expectations of English Philology Departments. After spending four years working hard to teach good English grammar and rhetoric to our students, it undermines our whole purpose and effort to require them to write in the poor style when it comes to scientific papers. Heatwole has even observed that, “It is paradoxical that many educated foreigners have a better grasp of the structure and grammar of English than do many Americans whose native language is English” (Heatwole 2008, 159). English specialists should not take their models of scientific writing from scientists in other fields who have never learned to write well, even in their own language. Since the paradigm of science communication is changing, I have here defended ethical and aesthetic reasons for going with the change, rather than clinging to ‘traditional’ ways of writing. I support Roland’s point that “The mimetic behavior which prevails in the training of young researchers but more generally within the scientific community must be stopped and scientists must be reinstated as enunciators, allowing them to take ownership of their discourse” (Roland 2007a, 69). It is a matter of democratic and academic freedom that English specialists, above all, “take ownership of their discourse” and not be required to follow models whose English expression is much worse.

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Susan Robbins

**STILIAUS ETIKA IR ESTETIKA: RAIŠKOS PASIRINKIMO SVARBA
AKADEMINĖJE PROZOJE**

Santrauka

Pagrindiniai žodžiai: *mokslas, stilius, etika, estetika, moksliniai tyrimai, raštas, apsidraudimas, beasmenis, atsakomybė, rizika, proza.*

Akademinio ir mokslinio stiliaus paradigma nuolat kinta. Senajam modeliui būdingas dėmesio skaitytėjui trūkumas, daugiažodiškumas, neaiški ir netiksli gramatika, abejojimo persmelktas, neryžtingas tonas ir beasmenis, dehumanizuotas stilius. Naujasis stilius iškelia etines ir estetines vertybes, tokias kaip aiškumas, garbingumas, atsakomybė ir autoriaus asmenis atspindys prozos tekste. Aš pasisakau prieš daiktavardžių eilių vartojimą, beasmenį toną bei apsidraudimo priemones ir parodau, kaip šie dalykai prieštarauja geros prozos etinėms ir estetinėms vertybėms. Toliau aš teigiu, kad tos netikusios priemonės vartojamos todėl, kad netinkamai suprantamas objektyvumas ir neutralumas. Mano nuomone, tos priemonės vartojamos ir dėl nemokėjimo diskutuoti, formuluoti ir apginti savo požiūrį. Apibendrinama noriu pasakyti, kad anglų kalbos specialistai turėtų ugdyti gerą anglų kalbos stilių rašant mokslinius ir akademinus tekstus anglų kalba, ypač šalyse, kur anglų kalba nėra gimtoji.



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Summary

Keywords: *scientific, style, ethical, aesthetic, research, writing, hedging, impersonal, responsibility, risk, prose.*

The paradigm for academic and scientific style is changing. The old model is characterized by lack of concern for the reader, verbosity, vague and imprecise grammar, a hesitant, indecisive tone, and an impersonal, dehumanized style. The new style emphasizes ethical and aesthetic values such as clarity, honesty, responsibility, and authorial presence in the prose style. In Part II, I argue against using noun strings, an impersonal tone, and hedging devices, and I show how they counter the ethical and aesthetic values of good prose in English. In Part III, I argue that these faulty devices arise in part from a misunderstanding of objectivity and neutrality. I also suggest that some of these devices spring from a distaste for debate and an inability to both formulate and defend one's views. I conclude by asserting that English language specialists, in settings where English is not the native language, should take the lead in promoting good English style in scientific and academic writing in English.