

Authenticity and Credibility in Science Communication Design: A Rhetorical Approach

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Doing academic research is like walking through unfamiliar territory in the fog... Sometimes, you can follow a woolen thread for ages, only to find out that it is your jumper that is unravelling. And then, coming home and telling your loved ones what discoveries you've made is only... so-so cool.

Giulia Enders¹

Communication about scientific knowledge appears to orient itself toward truth and facts, building its credibility on the authority of science and its accomplished exponents. Yet in terms of popularization and public engagement, techniques such as storytelling and infotainment have been included in science communication in recent decades, and the field of information design has helped improve the accessibility of scientific data, especially for non-expert audiences.² Research done in the field of science communication “aims to improve our understanding of the best ways to communicate complex information, in particular to people who are outside the arena of scientific research.”³ Techniques of written and oral communication represent frequent themes in science communication research, but scholars seldom consider visual aspects, although they constitute an integral part of science communication: “Visuals may accompany an oral presentation or may be standalone, and encompass both print (e.g., posters, reports, newsletters) and digital media (e.g., slides, websites, blogs).”⁴ Rhetorical analysis is a good method for exploring the functioning of different media types, including their textual *and* visual construction; it explicates the connections between the content and the form by which it is transmitted. Through its focus on the stylistic means and techniques of creating effective communication, rhetorical analysis can integrate not only oral and written communication, but also visual and other design aspects that influence the impact of communication.⁵

In this context, how can we explain the success of Giulia Enders’s bestselling medical non-fiction book, *Gut: The Inside Story of Our Body’s Most Underrated Organ*?⁶ Enders does not use impersonal language or a factual tone, nor does she try to be authoritative

- 1 Giulia Enders, *Gut: The Inside Story of Our Body’s Most Underrated Organ* (London: Scribe Publications, 2016), 248.
- 2 See Massimiano Bucchi and Brian Trench, eds. *Routledge Handbook of Public Communication of Science and Technology* (London: Routledge, 2019), 4–5.
- 3 Lars Guenther and Marina Joubert, “Science Communication as a Field of Research: Identifying Trends, Challenges and Gaps by Analysing Research Papers,” *Journal of Science Communication* 16, no. 2, A02 (2017): 1.
- 4 See Karen J. Murchie and Dylan Diomedes, “Fundamentals of Graphic Design: Essential Tools for Effective Visual Science Communication,” *FACETS* 5 (2020): 409.
- 5 See Annina Schneller, “Design Rhetoric: Studying the Effects of Designed Objects,” *Nature and Culture* 10, no. 3 (2015): 333–56.
- 6 The book was first published by Giulia Enders in German as *Darm mit Charme* [Charming Gut] (Berlin: Ullstein, 2014).

or show impressive infographics. The author is a young female student of medicine. To explain the medical phenomena, she relies on colloquial speech, combined with freehand, comic style illustrations drawn by her older sister, Jill Enders, a communication designer. The book responded to the zeitgeist in addressing the digestive system. Being informed about nutrition and health had begun to interest many non-specialists, sometimes even as a part of their lifestyles. Breaking social taboos—and even creating disgust by presenting the functions of our digestive organs and excrement—certainly helped to bring attention to the book. Nevertheless, until the book was published, hardly anyone was interested in the detailed workings of human intestines. The physiological processes appeared to be trivial and shameful, and thus not exactly a promising topic for a medical non-fiction bestseller. How, then, was it possible for such a book to reach and inspire an audience of millions? Which stylistic and creative means did the author use? How can we explain their rhetorical effects? Finally, what can we learn from this example to apply to science communication and knowledge communication design on the whole?

As I argue, Enders's book exhibits several rhetorical techniques connected to *authenticity*. Creating authenticity has become a major factor in modern communication—especially in social media, where conveying a “personal touch,” or giving the audience a feeling of “being real,” seems indispensable for success. In fact, authenticity has become deeply linked with credibility. However, the methods of provoking a sense of authenticity and credibility are not new, as I underscore with references to ancient rhetorical texts. Authority and perfection have always characterized just one side of persuasion, while authenticity and admitting personal imperfections have represented the other, by no means less powerful, side. To understand the “best ways of communicating complex information,” which Guenther and Joubert formulate as the aim of science communication research, we must see that a rhetorical level of acceptance or identification with the originator underlies the communication process, which also is influenced by the form and tone in which she presents the content.⁷

Credibility and the Art of Dissimulation

According to classical rhetoric, speakers must first gain the public's benevolence and make them conciliatory to meet with their approval.⁸ Persuasion, the main goal of rhetoric, occurs not only on the level of content, argumentation, or expression, but also on the impression the public receives of the speaker and her personality. *Ethos*, or character, is considered one of the three levels of persuasion.⁹ It aims at reconciling the public and gaining trust; meanwhile, *logos* (argumentation and wording) results in *docere*, instructing and

7 See Kenneth Burke, *A Rhetoric of Motives* (New York: Prentice-Hall, 1950), 55–57; and Richard Buchanan, “Declaration by Design: Rhetoric, Argument, and Demonstration in Design Practice,” *Design Issues* 2, no. 1 (Spring 1985): 8–9.

8 This first move was called the *captatio benevolentiae*, in respect to the task of *conciliare*.

9 See Aristotle, *Art of Rhetoric*, trans. John H. Freese, rev. Gisela Striker (Cambridge, MA: Harvard University Press, 2020), I.2, 1356a, 4.

informing the public; and *pathos* (the emotional impact), leads to *permovere*, moving the public. As the rhetorician Cicero mentions, speakers implement all three goals in different ways. Although speakers *openly* display their intention to inform or teach the audience, the aim of winning the public's favor (and at time the intention of influencing emotions) must be hidden.¹⁰ Aristotle, who presumably wrote the first theory of rhetoric, puts it this way: "And you should at once introduce yourself as being of a certain character, that the listeners may regard you as such, and also your opponent; *but do not let it be seen.*"¹¹ The audience should not detect a speaker's strategy when she tries to present herself in a certain light. Quintilian mentions character traits, such as being (or at least seeming) friendly, amiable, human, upright, and natural as elementary means of engaging the public's benevolence and sympathies.¹² A speaker can achieve lasting sympathy and credibility only if the personality, emotions, and statements conveyed in speech and presentation come across as *genuine*.

The more sophisticated the language and presentation skills develop with rhetorical training, the more likely the public will start to feel a sense of mistrust toward the speaker: Is she hiding something behind the scenes, or even harboring fraudulent intentions? Aristotle noticed that any ostentatious display of rhetorical abilities puts the credibility of the speaker in danger, and that the speaker must, by all means, dissuade the public that she is tricking them. By ostentatiously making an effort or overtly arranging her words, the speaker raises suspicion that she is up to something: "[A]nd so those who practice this artifice must conceal it and avoid the appearance of speaking artificially instead of naturally; for what is natural persuades, but the artificial does the opposite. For men become suspicious of one whom they think to be laying a trap for them, as they are of mixed wines."¹³ To prevent the audience from perceiving a speech as a well-planned spectacle aimed at manipulating them, the speaker must artfully conceal all artistry.

The formula of dissimulation of arts (*dissimulatio artis*) was broadly used in ancient times to enhance the pleasure of appreciating artistic works. Rhetoric is special in that the recognition of artificiality and elaborateness of a speech can deeply and negatively affect the speaker's reputation. To avoid this effect, Aristotle advises the use of "meta-tricks" to conceal the refinement of a speech: "Art is cleverly concealed when the speaker composes his speech by choosing words from ordinary language."¹⁴ Another trick is to deliberately arrange the elements of the speech in a non-harmonious way, so that they do not seem composed or designed for a purpose.¹⁵ A selected reduction of the degree of elaboration can help to avoid the sensation of artistry and purpose. To reach authenticity, speakers should exercise a kind of paradoxical meta-arts: the art of hiding artfulness.

10 Marcus Tullius Cicero, *On the Ideal Orator – De oratore*, trans. James M. May and Jakob Wisse (New York: Oxford University Press, 2001), II, 310.

11 Aristotle, *Art of Rhetoric*, III.16, 1417b, 10 (emphasis added).

12 Quintilian, *Institutes of Oratory – Institutio oratoria*, trans. Harold E. Butler (Cambridge, MA: Harvard University Press, 1979–1985): VI.2, 13–19.

13 Aristotle, *Art of Rhetoric*, III.2, 1404b, 4.

14 *Ibid.*, III.2, 1404b, 5.

15 *Ibid.*, III.7, 1408b, 10.

The Paradox of Authenticity

Whenever people communicate by talking, publishing, presenting, or illustrating their thoughts, theses, or scientific insights, the authenticity they create is always *mediated* because “although it appears different, [authenticity] is always a constructed and thus secondary genuineness [...]. Its mode of ‘as if’ is fed by a general longing for primary authenticity, naturalness, originality or immediacy, which is always ignited when these very concepts start to waver.”¹⁶ From a rhetorical point of view, the key point of authenticity is neither critically verified authorship (i.e., is this painting a real Gauguin?) nor the ethical ideal of self-realization (i.e., is this person true to herself?); instead, authenticity is an ambivalent quality about which we can dispute and that depends on interpretation: “The interpretive concept of authenticity understands authenticity not as a falsifiable quality or ideal to be striven for (‘to be authentic’), but as the result of a process of attribution (‘to appear authentic’).”¹⁷ The fact that authenticity in communication and design is mediated and contingent on interpretation leaves a certain amount of room for abuse or tricks. The true character can be hidden, or a character can be insinuated that is not really or not yet the case (e.g., in the case of the creation of a new image). The paradox of authenticity strikes here: Authenticity becomes a problem only when the public is no longer sure about what the reality behind the presented mask looks like—when people feel that the trust they gave to a person or institution was betrayed or when they feel that the speaker has exaggerated. When the methods of presentation become too shiny or overpolished, a longing for purity and simplicity awakens.

Because one primary, certain way of showing or communicating genuine characteristics does not exist, authenticity is about *making the audience believe and feel* that what it sees, hears, or reads is in accordance with the originator, which again is a fundamentally rhetorical task. Someone who wants to let the public know that she or he is a funny/smart/sincere person has to give a funny/smart/sincere performance or design a funny/smart/sincere object. Ideally, being authentic means adapting the language, presentation, and design to the real character of the person or institution presented. In addition, being authentic seems to have a positive effect in itself, apart from all the other qualities the person or institution exhibits. People who think that they should always give a perfect performance might find relief in this effect. If someone is not an entertainer, she would have no need in an *authentic* performance to aim for laughter. Some forms and effects of authenticity run counter to goals of simulating strength or hiding weakness and actually make room for imperfection as a means of achieving authenticity, or as proof of it.

16 Anne Ulrich, “Authentizität [Authenticity],” in *Historisches Wörterbuch der Rhetorik* [Historical Dictionary of Rhetoric], vol. 10, ed. Gert Ueding (Berlin: De Gruyter, 2012): col. 80 (unless otherwise noted, translations of quotations are the author’s).

17 Ibid.

Understatement and Self-Criticism as Proofs for Integrity

One way of revealing an authentic, credible character is by showing oneself to be humble. The opposite of current rhetorical training strategies, which tend to promote self-confidence and a self-assured performance as the ideal, some exponents of ancient rhetoric rejected everything that could be interpreted as boasting and showing off—seeing such modes as indicating the mistake of hubris. According to Quintilian, arrogance creates repugnance or even hatred in the public.¹⁸ For this reason, he advises that even if a person can, in fact, offer outstanding achievements, she should keep them to herself.¹⁹ One anecdote described by Cicero is highly illustrative; in it, Crassus, the famous orator, admits to his interlocutor: “For my own part, I very frequently experience what I always observe happening to you also: During the beginning of my speech, I find myself turning deathly pale, and I tremble with my whole heart and in every limb.”²⁰ The intimidation mentioned by Crassus is an unexpected character trait for an experienced speaker. However, his shakiness does not seem to harm his speech, but rather benefits it as proof of probity.²¹ The insight that timidity can enhance the perceived integrity of a speaker might be of some comfort for all those who feel nervous and insecure when confronted with giving a speech. Moreover, the insight represents an admonition to the overconfident. When listeners feel that the person exposing herself is not perfect, they might trust her because they think she is authentic, and identifying with the orator can be easier for many people. Understatement and admitting uncertainty can thus be used as strategies for projecting authenticity.

Giulia Enders’s book *Gut* shows many such examples of authenticity through understatement in the text, as well as on the level of graphics and imagery. The whole of the book builds on the message: “I am just a curious medical student trying to understand the complicated but utterly fascinating processes of our digestive organs.” Enders mentions embarrassing personal situations when asked about her exact object of study by her friends and relatives. The style of Jill Enders’s illustrations is rather clumsy and comes closer to sketches than to precise scientific drawings. The authors put themselves and the audience in the position of ignorance regarding the workings of the gut at the beginning of the book. Just as we could think that trees, when we look at them, are formed “like spoons” (see Figure 1)—though they continue into gigantic, complex rhizomes under the ground—we wrongly would think that there is not much going on in our intestines. Through the mentioned forms of understatement, the reader gets the impression of a tentative approximation of medical understanding, instead of an instruction by omniscient experts. These elements of understatement are not accidental. As Giulia and Jill Enders explain in a

18 Quintilian, *Institutes of Oratory*, XI.1, 15.

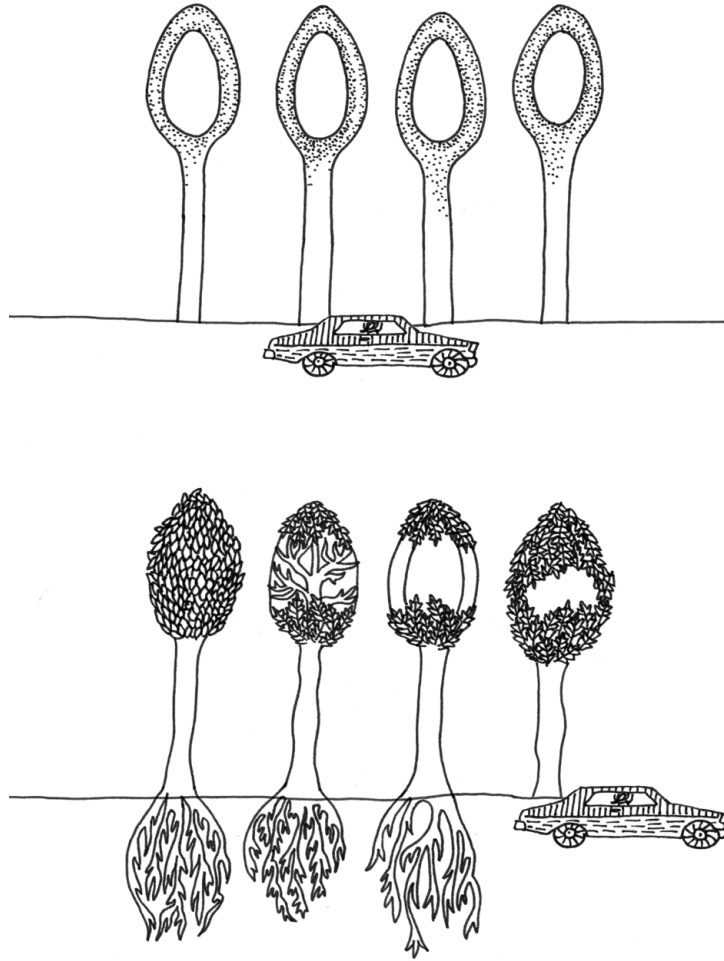
19 Ibid, 17.

20 Cicero, *On the Ideal Orator*, I.121.

21 Ibid.

Figure 1

Trees look like spoons, but they are far more complex. Illustration by Jill Enders. © Ullstein Verlag, reprinted from Enders, *Gut: The Inside Story*, p. 6.



conference presentation, they were well aware of the need to take people's embarrassment about the gut seriously, as well as their possible fear of not understanding the complex information provided in the book.²² Thus, they introduced an unpretentious, personal, innocent tone in both written and visual language. Meanwhile, they did not want their study to look like a children's book or to give the impression of making fun of the topic.²³ They had to find a balance between coming close to the reader while not losing authority or appearing naïve: They had to keep things simple while still exploring the complex medical phenomena with scientific accuracy and depth.²⁴

To emphasize modesty and credibility, and to reject the appearance of cunning or calculation, classical rhetoric provides speakers with procedures for explicitly belittling their own speaking competence. Aristotle recommends self-criticism in speech to avoid the impression of exaggeration: "Whenever one has gone too far, the remedy may be found in the common piece of advice—that the speaker should rebuke himself in advance."²⁵ According to

22 Giulia Enders and Jill Enders, keynote (video), 2018 Ecsite Annual Conference, Geneva, 2018, <https://www.youtube.com/watch?v=VXtJ4rRaVug> (accessed April 12, 2021).

23 Ibid.

24 Ibid.

25 Aristotle, *Art of Rhetoric*, III.7, 1408b, 9.

Quintilian, a speaker who presents herself as weak, unprepared, and not able to cope with the situation can tacitly recommend herself to the opposing side in court by rejecting any suspicion of ambition or malice.²⁶ A link can be formed between self-belittling and credibility because “hesitation may lend an impression of truth to our statements, when, for example, we pretend to be at a loss, where to begin or end, or to decide what especially requires to be said or not to be said at all.”²⁷ Self-correction, or even self-blaming, are proposed as effective remedies in Cicero’s *Orator*, as well as self-doubt (i.e., when the speaker appears to be in doubt about what to say).²⁸ By reprimanding herself, a speaker projects a sense of self-awareness, transparency, and sincerity, and by showing small amounts of incompetency, she increases her proximity to the audience. Putting your cards on the table and admitting that you are not perfect is yet another way of being authentic. In the Enders sisters’ cooperative understanding, this self-criticism can read as follows: “My sister has given me the support I needed to keep me on the right track—listening to me read aloud from my manuscript and saying, with a charming grin, ‘I think you better try that bit again.’”²⁹

Sprezzatura: Identification by Spontaneity and Lightness

We have seen that artistry and perfection in speech can produce alienation and mistrust. When people feel that their trust in the genuineness of communication has been violated, they can long for authentic forms of presentation. In *Rhetoric for Herennius*, we find the instruction that a speaker should project a touch of *spontaneity*, even if the speech was carefully worked out before.³⁰ Thus, that the ability to speak without preparation, to make an *impromptu speech*, took on an important place in ancient rhetoric comes as no surprise.³¹ Improvised speaking has its great role model in the person of Socrates, as described by Plato (e.g., in the dialogue, *Phaidros*). In fact, only from these initially spontaneous forms of speech did rhetoric develop into an artistic doctrine that deals with the meticulous preparation and elaboration of speech.³² In contrast to a speech developed at the writing desk and learned by heart, *impromptu speech* leaves room for adapting to the opportune moment (*kairós*) and reacting dynamically to questions and objections from the audience. Improvised speaking is associated with being snappy, powerful, passionate—and authentic. Every prepared speech should therefore ideally possess a touch of the quick-wittedness, spontaneity, and forcefulness of *impromptu speech*.

Quintilian praises Cicero, not only for his outstanding eloquence, but also for a special ability to present his oratory art as effortless, spontaneous, and natural: “And at the same time all these excellences, of which scarce one could be attained by the ordinary man even by the most concentrated effort, *flow from him with every*

26 Quintilian, *Institutes of Oratory*, IV.1, 8.

27 Ibid, IX.2, 19.

28 Marcus Tullius Cicero, *The Orator – Orator*, trans. Harry M. Hubbell (Cambridge, MA: Harvard University Press, 1962), 39, 135; 40, 137.

29 Enders, Gut: The Inside Story, 4.

30 Anonymous, *Rhetoric for Herennius – Rhetorica ad Herennium*, trans. H. Caplan (1954; Cambridge, MA: Harvard University Press, 2011), I.7, 11.

31 See, e.g., Cicero, *On the Ideal Orator*, I.150; Quintilian, *Institutes of Oratory*, X.7, 4.

32 See Hellmut Geißner, “Stegreifrede” [Impromptu Speech], in *Historisches Wörterbuch der Rhetorik* [Historical Dictionary of Rhetoric], vol. 8, ed. Gert Ueding (Tübingen: Niemeyer, 2007), col. 1359; Johan Schloemann, “I Have a Dream”: Die Kunst der freien Rede. Von Cicero bis Barack Obama [“I Have a Dream”: The Art of Free Speech. From Cicero to Barack Obama] (München: C. H. Beck, 2019).

appearance of spontaneity, and his style, although no fairer has ever fallen on the ears of men, none the less *displays the utmost felicity and ease*.”³³ If the skills are there, orators can both fake and train for improvised speech, as Cicero describes the cleverly maneuvered court speeches of Antonius: “He always gave the appearance of coming forward to speak without preparation, but so well prepared was he that when he spoke, it was the court rather that often seemed ill prepared to maintain its guard.”³⁴ The lighthearted flow seems so important to these ancient rhetoricians that they even excuse certain mistakes³⁵; they stand for the “not unpleasant carelessness on the part of a man who is paying more attention to thought than to words... there is such a thing even as a careful negligence.”³⁶ *Non-chalance*, the ease that conceals the art, was indicated in the ancient concept of grace (*cháris, gratia*) as the charm of an unconstrained naturalness, and it was elevated to an ideal in early modern times with the idea of *sprezzatura*.³⁷

If we take a look at the book cover of *Gut* (see Figure 2), we immediately get an impression of *sprezzatura*, provoked by the free combination of slightly wiggly, friendly-looking type; bright and fresh colors (with deep black as authoritative counterweight); diagonal composition; cheeky illustration; and the author’s photo presenting a charming, whimsical smile. These elements provide the book cover with a light and fresh look, creating a spontaneous and accessible impression. The effects of authenticity encountered here outperform the standard design approach for scientific non-fiction literature, where a serious, neutral make-up usually stands as a guarantee of truth and authority. To illustrate, compare the covers of two non-fiction books on similar medical topics: a popular scientific book (see Figure 3), and a scientific book (see Figure 4). In fact, the authors had to fight for their design strategy, as they reveal in their talk. The cover mock-up proposed by the publisher for the original edition was designed in the vein of classical science communication (with some concessions to popularization); it included a large author photo with neutral facial expression, sober background in light blue, and whole cover text in upper case, centered (classic roman type in black for the author’s name and non-serif bold font in magenta for the title).³⁸ As Jill Enders reports, the suggested cover did not give her any feeling for who the person on the cover is or what the book stands for.³⁹ The cover provided no identity and hence no possibility of identification for the viewer; the sisters suggested an alternative cover idea that finally was implemented. This alternative also was taken up for the more than 20 translations of their book (e.g., the cover of the English revised version discussed here, shown in Figure 2) and was even copied later on by several non-fiction books in medical science communication.⁴⁰

33 Quintilian, *Institutes of Oratory*, X.1, 111 (emphasis added).

34 Marcus Tullius Cicero, *Brutus*, trans. George L. Hendrickson (Cambridge, MA: Harvard University Press, 1962), 37, 139.

35 Quintilian, *Institutes of Oratory*, IX.4, 34–35.

36 Cicero, *The Orator*, 23, 77–79.

37 See, e.g., Baldassare Castiglione, *Il libro del Cortegiano* [The Book of the Courtier] (Roma: Bulzoni Editore, 1528/1986): xxvi; Karl-Heinz Göttert, “Anmut [Grace],” in *Historisches Wörterbuch der Rhetorik* [Historical Dictionary of Rhetoric], vol. 1, ed. Gert Ueding (Tübingen: Niemeyer, 1992), col. 610.

38 Enders and Enders, keynote (video).

39 Ibid.

40 Ibid.

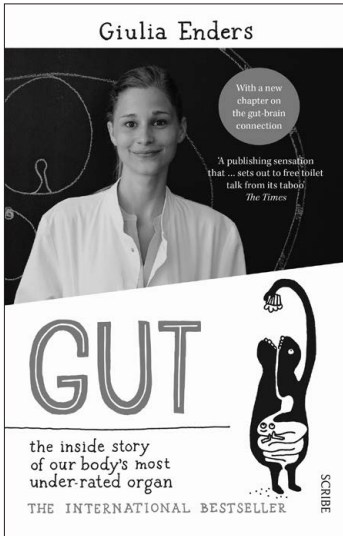


Figure 2 (left)

Book cover, *Gut: The Inside Story*. Illustration and author photo by Jill Enders, cover design by Jill Enders, adapted by Scribe. © Scribe, Ullstein Verlag, 2016.

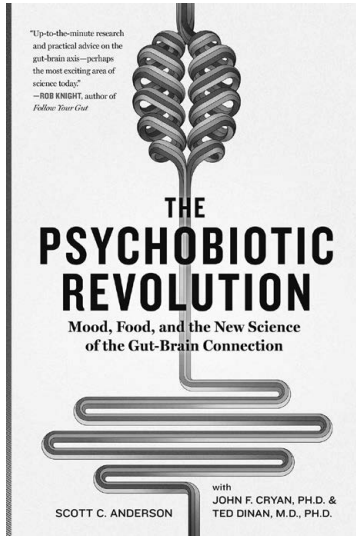


Figure 3 (center)

Book cover, *The Psychobiotic Revolution*. Illustration by Charles Williams, © Scott C. Anderson, 2017.

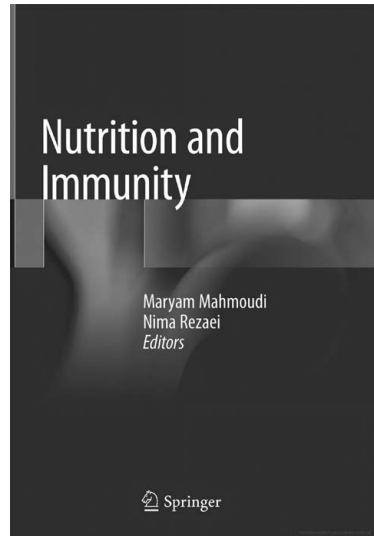


Figure 4 (right)

Book cover, *Nutrition and Immunity*. © Springer Nature Switzerland AG, 2019.

The *sprezzatura* mediated by the cover continues inside the book, as readers follow the author's personal, meandering trains of thought; read about the problems encountered when trying to learn more about the secret workings of the gut; and are amused by ad hoc illustrations that explain recently gained insights. An authentic, personal touch also results from the anecdotes and sketches from the author's own life, freely dispersed among medical information.

Although this book clearly figures as an example of *popular* scientific media, authors engaged in science and knowledge communication of all sorts should be aware of the importance of a human touch and of the identification process triggered in the audience by authentic design elements. Such elements not only might increase the receiver's motivation for learning, but also might help with the memorability of knowledge conveyed by the medium.

From Naturalness to Brutism: Learning from the Amateurs

Making things appear free-flowing and natural represents a crucial strategy for creating authenticity. The artful creation of naturalness is paradoxical, but highly desirable, with authenticity as its pivot: "From a rhetorical point of view, authenticity is to be understood as a performative orchestration of genuineness, naturalness, sincerity, originality or immediacy."⁴¹ Something that really stands for the naturalness and immediacy of speech is our everyday language—the way people "normally" speak. As opposed to elaborate rhetoric, colloquial forms of speaking get closer to the interlocutor and can exude an unaffected charm and unpolished power. The advocates of rhetorical training were aware of this effect, which is why they sometimes envied the coarse style of uneducated speakers and

41 Ulrich, "Authentizität" [Authenticity], col. 79.

admitted the general opinion: “that the untrained speaker is usually the more vigorous.”⁴² To use these genuine effects and to avoid any appearance of artificiality, ancient rhetoric began with the “normal” ways of speaking as its model—but as an art, it inevitably distanced itself from everyday speech.

Which factors contribute to the authentic appearance of non-specialist speech? On the one hand, the simplicity in ordinary people’s language makes their speech seem free from ostentatious display or straining after effect. Quintilian asserts that the “absolute and unaffected simplicity which the Greeks call *apheleia* has in it a certain chaste ornateness such as we admire also in women.”⁴³ The Greek concept of *apheleia* originally was used to characterize the simple and genuine mentality of children and the rural population, whose plain, artless speaking style was associated with honesty and decency. “Just as by the rich use of rhetorical means, speech also can achieve effect by an artless immediacy because this creates the impression of sincere endeavor and moral integrity.”⁴⁴ Plainness of style thus comes as a sign of purity of the speaker’s character and trustworthiness—a valuable asset in *ethos* that makes simplicity desirable even for educated speakers. Still, the contradiction implicit in *dissimulatio artis* can never be resolved: Art cannot produce genuine simplicity. With rhetorical consciousness of the effectiveness of one’s own words, their genuineness disappears.

On the other hand, the spontaneity built into normal speaking situations, as when someone reacts emotionally to a situation, an accusation, or a confession, makes everyday speakers look human and approachable. This effect often is lost in elaborate and previously prepared speech: “For profound emotion and vivid imagination sweep on with unbroken force, whereas, if retarded by the slowness of the pen, they are liable to grow cold and, if put off for the moment, may never return.”⁴⁵ Professional speakers can learn from the enthusiasm and warmth felt in daily communicative actions. Aristotle asserts that “the listener always sympathizes with one who speaks emotionally, even though he really says nothing. This is why speakers often confound their listeners by mere noise.”⁴⁶ The speaker’s emotional arousal becomes a “decisive prerequisite for a speech to have an ‘authentic’ effect.”⁴⁷ What counts, then, is that orators make sure that what they are saying “seems to come from [the] heart.”⁴⁸ In considering current political behavior, we easily find examples of “valuing emotions over content,” even of winning over the public’s sympathy by being a ruffian. The main priority appears to be authenticity—at any cost. The characteristics of non-specialist speech, used for this kind of authenticity, represent vulgarity and brutism, embracing mistakes in wording and appropriateness, colloquial expressions, obscene utterances and equivocations, jesting and swearing. Mistakes and rude behavior tend to make the public

42 Quintilian, *Institutes of Oratory*, II.12.1.

43 Ibid., VIII.3, 87.

44 Roland Bernecker, “Apheleia” [Simplicity], in *Historisches Wörterbuch der Rhetorik* [Historical Dictionary of Rhetorics], vol. 1, ed. Gert Ueding (Tübingen: Niemeyer, 1992), col. 769.

45 Quintilian, *Institutes of Oratory*, X.7, 14.

46 Aristotle, *Art of Rhetoric*, III.7, 1408b, 5.

47 Dietmar Till, “Verbergen der Kunst (lat. *dissimulatio artis*)” [Concealment of Art], in *Historisches Wörterbuch der Rhetorik* [Historical Dictionary of Rhetorics], vol. 9, ed. Gert Ueding (Tübingen: Niemeyer, 2009), col. 1038.

48 Anonymous, *Rhetoric for Herennius*, III.15, 27.

think, “the orator is one of us, she makes the same mistakes as we do, so she obviously does not hide anything behind good manners.” Rude speakers might be criticized for their coarseness but still find admiration for their carefree swagger and spontaneity. Even brutish manners can be taken as signs of humanity and authenticity.

Enders’s *Gut* is examined here as a successful example of science communication; readers might be surprised to know, then, that we find vulgar jokes in the book. For example, in the final image, a person portrayed in a baroque picture frame presents her buttocks while cheekily looking at the viewer from beneath her legs. Although the vulgarity in this example seems rather subtle and charming (Jill Enders’ naïve illustration style and the small reproduction of the picture contribute to that effect), the Enders sisters explain in their keynote that they gave a lot of thought to how much boldness their readers would tolerate. In their first attempt, they had the seemingly fantastic idea of putting this exact picture at the beginning of their book and starting the introduction with descriptions of Alice, who fell into a hole to arrive in Wonderland, where all her adventures started—thus drawing an analogy to the bodily whole where the journey of their book would start.⁴⁹ Later, they realized that such a gross introductory joke might overwhelm the reader, and so they decided first to build a “neutral common ground,” then to intersperse subtle puns, and finally to end with the “portrait” described.⁵⁰ In taking this approach, they managed to bring a relaxed sense of humor into what might have been a shame-faced topic, without offending their readers.

Apart from these slightly risky maneuvers (and many people love the book exactly for its small transgressions), the tone of written and visual language is casual and comes close to an everyday conversation. The read is like encountering a good friend who tells anecdotes about her area of expertise during a pleasant summer evening spent together, adding some doodles now and then to clarify complicated thoughts; throughout, readers can always perceive an appreciation for the audience and a strong personal engagement with the topic. Also included are many verbal and visual metaphors for complex medical phenomena, taken from daily language and experience. First, the book represents the microbes in the gut as little manikins performing different activities (see Figure 5). Instead of showing an exact scientific depiction of the gut, the authors wanted to help readers understand the manifold positive (and negative) functions of the “bacteria community,” which is why Jill Enders furnished these functions with visible character traits and roles.⁵¹ A second example is the metaphor of the anal sphincters, figured like two real people cooperating and communicating together.⁵² Third, on the textual level, osmosis is explained as water’s “sense of justice,” and the lubricant laxative is the “paraglider”

49 Enders and Enders, keynote (video).

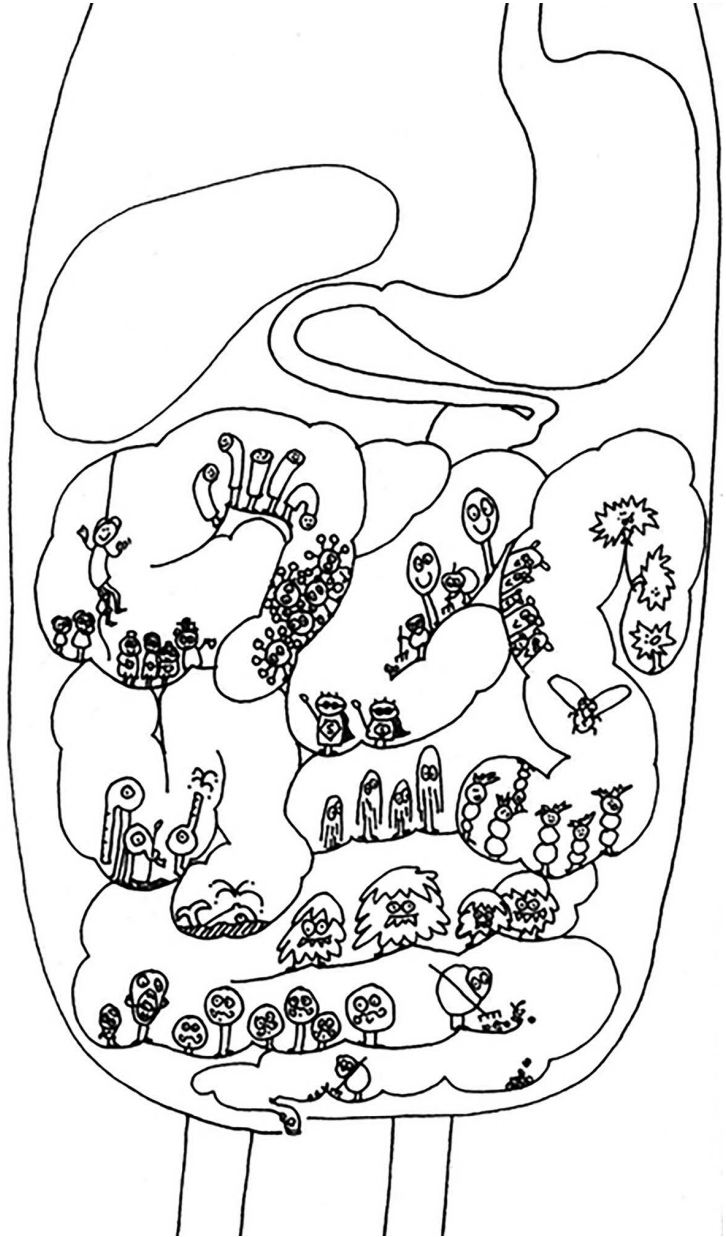
50 Ibid.

51 Ibid.

52 Reportedly, her roommate served as a model for the external sphincter (ibid.).

Figure 5

The world of microbes in the gut. Illustration by Jill Enders, © Ullstein Verlag, reprinted from Enders, *Gut: The Inside Story*, p. 134.



of the gut.⁵³ According to the authors, they felt the need to always ask themselves: “How would normal people describe or see this?” For this reason, they stuck as closely as possible to ordinary language and imagery.⁵⁴

Conclusion

We have seen that rhetorical strategies for creating authenticity can increase sympathy and credibility—not only in speech and written communication, but also in design. Creating a humble, self-critical atmosphere or a hint of spontaneity and keeping things simple and

53 Enders, *Gut: The Inside Story*, 108.

54 Enders and Enders, keynote (video).

natural, “as normal people would do it,” helps speakers to avoid artificiality, to get closer to the audience, and to give the presentation or medium an authentic touch. Techniques for projecting authenticity can be highly successful in science communication and knowledge communication design, as shown in the example of Giulia Enders’s *Gut*. However, in a field where communicative media usually come off as highly elaborated, serious, objective, and neutral, these techniques must be used with care and in measured ways; otherwise, authors lose their authority. Ultimately, science communication and knowledge communication design are not just about transmitting knowledge, but also about *making sense* of what is communicated; and conveying sense includes concerns like identification and orientation. Through authenticity, communication media carry more than meaning—they reveal meaningfulness and a sense of purpose, of belonging.