

»scandalum medicorum« – Taking Care of Your Eyes in the 18th Century

The 18th century is haunted by a fear of blindness. While the Middle Ages and the Renaissance still celebrate the blind seer as a positive figure, the self-image of the Enlightenment is epistemically founded on the individual act of seeing.¹ The main purpose of the philosophers of the Enlightenment since the so-called ›Scientific Revolution‹ is to make people see, in a concrete as much as in a metaphorical sense. The instruments which serve as icons of this task are the telescope and the microscope.² A lot has been written in the last decades about the specificity of this ›enlightenment gaze‹. It has been characterized as cold, neutral, distant, and even oppressive by influential thinkers such as Michel Foucault or Jonathan Crary.³ They describe what Martin Jay calls the ›cartesian ocularcentrism‹ as a ›model of perception‹ which widely neglects or even denigrates the other senses (hearing, smell, taste, and touch).⁴ It is not until the 1800s, they argue, that this model of perception is questioned by the Romantics and the early critics of industrialization. Under their influence, the iconic instruments of the Enlightenment are replaced by the stereoscope and mesmerism, emphasizing the subjective and even magic aspects of seeing.

In my research, I have tried to show that this Enlightenment model of perception is not nearly as monolithic as we think, and that philosophers,

1 See Matthias Reiß: *Blindheit*, in: Hartwig, Susanne (ed.): *Behinderung. Kulturwissenschaftliches Handbuch*, Stuttgart 2020, pp. 195–200.

2 See Philippe Hamou: *Voir et connaître à l'âge classique*, Paris 2002; Ulrich Stadler: *Der technisierte Blick. Optische Instrumente und der Status von Literatur. Ein kulturhistorisches Museum*, Würzburg 2003; Stuart Clark: *Vanities of the Eye. Vision in Early Modern European Culture*, Oxford/New York 2007; Mark A. Smith: *From Sight to Light. The Passage from Ancient to Modern Optics*, Chicago/London 2015.

3 See Jonathan Crary: *Modernizing Vision*, in: Foster, Hal (ed.): *Vision and Visuality*, Seattle 1988, pp. 77–80; Michel Foucault: *Les mots et les choses. Une archéologie des sciences humaines*, Paris 1966.

4 See Martin Jay: *Scopic Regimes of Modernity*, in: Foster, Hal (ed.): *Vision and Visuality*, Seattle 1988, pp. 3–23; Martin Jay: *Downcast Eyes. The Denigration of Vision in Twentieth-Century French Thought*, Berkeley/Los Angeles/London 1993; Ulrike Hick: *Geschichte der optischen Medien*, München 1999; Ulrike Zeuch: *Umkehr der Sinneshierarchie. Herder und die Aufwertung des Tastsinns seit der frühen Neuzeit*, Tübingen 2000.

physicians, and opticians in the 17th and 18th centuries are, on the contrary, very much aware of the imperfections of the human eyesight and their own lack of knowledge about the process of seeing and perceiving.⁵ This paper explores an aspect of this topic that I have neglected so far: the 18th century remarkable increase in publications on how to take care of your eyes and avoid blindness.⁶ These publications are mostly written in vernacular languages (and not in Latin as it is the case for most contemporary medical treatises) and are explicitly addressed to a large public of non-specialists. They can be understood as popular manuals offering advice, helping people to take care of their eyes and maintain a sound sense of seeing.⁷ Yet, I would like to argue that the purposes of these treatises change slowly over the 18th century, as simple moral or medical advisories featuring recipes of ointments or instructions for eye surgeries become codes of practice which tend to regulate everyday life. Going blind or even becoming short-sighted is no longer seen as a result of the general corruption of mankind, a disease, or an accident, but rather as a ›medical scandal‹ caused by the misbehaviour of every single person concerned.⁸ The corpus of my research is composed of around twenty books that focus exclusively on ophthalmology, and which were published in German between 1724 and 1800. The first part of my paper illustrates the fundamental importance of the sense of sight stressed by all these publications. The second part shows how the causes invoked for eye disease or for blindness change over the 18th century by putting more and more emphasis on individual behaviour and daily routine. I will demonstrate how this shift translates into a code of practice giving concrete instructions on, for example, how to read and where to sleep. While these treatises participate in the development of a medical and individual model of disability by stressing the social and

5 See Evelyn Dueck: *Die »krumme Bahn der Sinnlichkeit«. Sehen und Wahrnehmen in Optik, Naturforschung und Ästhetik des 17. und 18. Jahrhunderts*, Paderborn 2022.

6 »Zwischen 1780 und 1880 sind etwa 100 Monographien zur Hygiene des Auges verzeichnet.« Alexandra Hildebrandt: ›Lebwohl, du heiterer Schein!‹ Blindheit im Kontext der Romantik, Würzburg 2002, p. 60.

7 »So ist innerhalb der diätetischen Literatur, die einem antiken Konzept folgend Anleitungen für eine gesundheitsorientierte Lebensweise zu vermitteln suchte und die sich unter aufklärungsmedizinischen Vorzeichen zunehmend an breitere Bevölkerungsschichten richtete, eine Sensibilisierung für die Gesundheit der Augen festzustellen.« Irmtraut Sahmland: Blindheit und Sehbehinderung in der Zeit der Aufklärung: Diagnosen und Bewältigungsstrategien, in: Klettner, Alexa/Lingelbach, Gabriele (eds.): *Blindheit in der Gesellschaft. Historischer Wandel und interdisziplinäre Zugänge*, Frankfurt/New York 2018, pp. 65–95, here pp. 66–67.

8 The term »scandalum medicorum« is used by Abrahamson Meyer to designate amaurosis. Abrahamson Meyer: *Abhandlungen und Beobachtungen über einige Krankheiten der Augen*, Hamburg 1785, p. 1.

intellectual harm of blindness, they can be more accurately described as part of a cultural model of disability which materializes – through different media of popularization – in a practical code of behaviour addressed to an entire society in which everyone might potentially become disabled overnight.⁹

The importance of sight

Georg Christoph Lichtenberg's (1742–1799) *Über einige Pflichten gegen die Augen* (1792) first published in the weekly journal *Göttinger Taschenkalender* 1791 is one of the few ophthalmological treatises widely known to scholars of German literature today. In his introduction, Lichtenberg imagines an alarming scenario of »thousands« of people going blind due to careless behaviour or a lack of instruction.¹⁰ His treatise explicitly refers to the English optician and instrument maker George Adams the younger (1750–1795) who publishes his *Essay on Vision* (1789) two years earlier and dedicates it to »those whose eyes are weak or impaired: enabling them to form an accurate idea of the true state of their sight, [and] the means of preserving it«. ¹¹ Published in German as early as 1794, the translation by Friedrich Kries, a teacher from Gotha, further underlines in his introduction the dangers to which the eyes are permanently exposed:

Niemand verkennt den Werth eines gesunden Gesichts, wenige aber kennen die Gefahren, die dem feinen Organ desselben von allen Seiten drohen, und lassen den Besitz eines so unschätzbaren Guts sorglos vom Zufall abhängen, oder ziehen vielleicht ein Uebel herbey, indem sie es zu entfernen meinen, weil ihnen die rechten Mittel zur Abwendung desselben unbekannt sind. Die Vorschriften zur Erhaltung der Augen sind an sich so einfach, die Gründe, auf denen sie beruhen, so leicht zu

9 Chris Mounsey underlines that, in the 18th century, the term »disability« has not been used to describe a permanent physical or mental condition. To be accurate, I will follow him in using »blindness« or »impairment« instead of »disability« when referring to 18th century sources. See Chris Mounsey: *Sight Correction. Vision and Blindness in Eighteenth-Century Britain*, Charlottesville/London 2019, pp. 22–26. For the cultural model of disability, see Andrzej Twardowski: *Cultural Model of Disability – Origins, Assumptions, Advantages*, in: *KIL Kultura i Edukacja* (2022), pp. 48–61; Anne Waldschmidt: *Disability – Culture – Society: Strengths and Weaknesses of a Cultural Model of Dis/ability*, in: *Alter* (2018), pp. 65–78.

10 Georg Christoph Lichtenberg: *Ueber einige Pflichten gegen die Augen*, Wien 1792, p. 5.

11 George Adams: *An Essay on Vision, Briefly Explaining the Fabric of the Eye and the Nature of Vision*, London 1789, titlepage.

fassen, daß in der That nur die Unbekanntschaft mit denselben die Ursache seyn kann, warum man so wenig darauf achtet.¹²

[No one underestimates the value of healthy eyesight, but few know the dangers that threaten its delicate organ from all sides and carelessly leave the possession of such an invaluable possession to chance or perhaps bring about an evil by thinking they remove it, because they do not know the right means to prevent it. The rules for preserving the eyes are so simple, the reasons on which they are based so easy to understand, that in fact only ignorance can be the reason why so little attention is paid to them.]¹³

Lichtenberg likewise emphasizes this perception of an existential threat by designating the blind man as ›halfdead‹ and the health of one's eyes as the most crucial part of a sound body and mind.¹⁴ His arguments are as much of a theological kind – not being able to see God's creation in the beauty of nature – as of a practical kind – not being able to travel, to communicate over large distances, or to overlook a landscape.¹⁵

This ›*visio horribilis*‹ should not be interpreted as just another symptom of Lichtenberg's hypochondria or be seen as a position unique to the German physicist and famous satirist.¹⁶ In fact, most authors of treatises on ophthalmology in the 18th century stress the importance of sight and the concrete and metaphysical harm of blindness. The physician Abrahamson Meyer (1764–1817), for example, refers to ›numerous cases‹ where patients turn blind literally overnight, suggesting that this could happen to anyone at any moment – even to those who are still in good health.¹⁷ Meyer describes blindness as the most pitiful condition to experience. He rejects the positive

12 George Adams: Anweisung zur Erhaltung des Gesichts und zur Kenntniß der Natur des Sehens. Aus dem Englischen übersetzt, und mit Zusätzen und Anmerkungen versehen von Friedrich Kries, Lehrer an dem gothaischen Gymnasium, Gotha 1794, p. 7.

13 All translations from German into English are my own unless otherwise noted (with AI support).

14 Lichtenberg: Ueber einige Pflichten, p. 7.

15 See *ibid.*, pp. 5–10.

16 The term ›*visio horribilis*‹ is used by Freiling in her book on Lichtenberg. She analyses in detail the rhetorical devices of the text without situating it in its historical context. See Ulrike Freiling: ›Ist denn Vergnügen der Sinne gar nichts?‹ Sinnlichkeit in den Schriften Georg Christoph Lichtenbergs, U. Freiling 2002, p. 24; Peter Bexte: Die weggeschnittenen Augenlider des Regulus. Zur verdeckten Antikenrezeption in einem Wort Heinrich von Kleists, in: Kleist-Jahrbuch (2008/2009), pp. 254–266, here: p. 263.

17 See Meyer: Abhandlungen und Beobachtungen, p. 2. Some of the treatises are composed mostly of case studies. See, for example, Giovanni Bortolazzi: Abhandlung über eine seltne Art von angebornem Staare bei einer blindgeborenen Weibsperson, Leipzig 1784. On the importance of such case studies in the history of ophthalmology, see: Marie-Theres Federhofer: Der erzählende Patient. Narrative von Augenkranken in Aufklärungszeitschriften,

figure of the blind poet attributed to John Milton and instead considers him as just another victim of the miserable state in which a blind person finds himself.¹⁸ As a counterpart to these worrying scenarios, most of the treatises sing the eyes' praises, including Christian Gottlieb Meinig (1690–1760) in his *Der Augen-Doctor* (1741):

Es ist das Auge, das erste, oberste und größte Meister= und Kunst=Stück so die weise Hand Gottes an unsern Leibe geordnet, die Augen sind gleichsam die 2 unschätzbarsten Kleinodien welche die Natur in die Schatz=Kästlein der Augenlieder eingelegt, mit Crystallen=Glanz überzogen, mit Fittichen beschattet, und als 2 kostbare Edelfgesteine verwahret. Sie sind der Spiegel der Natur und des Hertzens, die Zunge der Seelen, der Dollmetscher des Verstandes die offene Thüre zu allen unsern Geheimnissen, die Abbildung unsers Gemüths, der Erfinder aller Wissenschaften, der Richter der Schönheit, der Bohte der Liebe, die Quelle und Ursprung der Freuden, und der Thränen, die 2 erhabenen Wächter unsers Leibes welche denselben und alle dessen Glieder vorsichtig bewachen.¹⁹

[The eye is the first, highest and greatest master- and artpiece that the wise hand of God has arranged to our body, the eyes are the two priceless treasures that nature has placed in the treasure chests of the eyelids, coated with crystal shine, shaded with wings and kept as two precious gems. They are the mirror of nature and the heart, the tongue of the soul, the interpreter of the mind, the open door to all our secrets, the image of our mind, the inventor of all sciences, the judge of beauty, the messenger of love, the source and origin of joy, and of tears, the two sublime guardians of our body, who carefully guard it and all its parts.]

This passage's baroque style can be partly explained as a mere effort to captivate the attention of the potential reader (and buyer), but it also illustrates the great importance which is given to the sense of sight throughout the 18th century. In 1725, the physician Johann Michael Lichtmann writes that having healthy eyes is more important than the condition of all other parts of the body:

Denn ja unter der Sonnen nichts edlers und kostbares zu finden / auch uns Menschen am meisten erfreuen kan / als die Gesundheit; unter welcher die Gesundheit der Augen billich vor die alleredelste zu rechnen. Denn wann ein Mensch gleich alle Gesundheit des Leibes besitzt / und hat darneben Mangel an den Augen / so genüget ihm nichts; und wann er an allen Gliedmassen krank darnieder lieget /

in: Berndt, Frauke/Fulda, Daniel (eds.): *Die Erzählung der Aufklärung*, Hamburg 2018, pp. 590–598.

18 Meyer: *Abhandlungen und Beobachtungen*, p. I.

19 Meninto (Pseud. Christian Gottlieb Meinig): *Der Augen-Doctor*, Hamburg 1741, p. 7.

doch aber nur sein Gesicht gebrauchen kan / so kan er seine Schmerzen noch viel leichter ertragen.²⁰

[For there is nothing more noble and precious to be found under the sun / that can also please us humans more / than health; among which the health of the eyes can easily be considered the most noble. For if a person has all the health of the body / and besides has sick eyes / then he has nothing; and when he lies ill in all his limbs / but can only use his eyes, he can bear his pain much more easily.]

This statement that the eyes are the most valuable part of the human body, and that blindness excludes one from the human society and even from practicing one's faith, is shared by most physicians throughout the century.²¹ The urgency of this standpoint is further underlined by several treatises which denounce itinerant ophthalmologists as charlatans promising instant cures for all eye diseases through unnecessary and expensive surgeries or ineffective medication. In 1752, the physician Christian Ehrenfried Eschenbach (1712–1788) identifies the 18th century as the »Okulisten=seculum« because of the large number of oculists who take advantage of suffering patients by promising to heal even those in the most desperate conditions.²² Georg Ziegenhagen, a physician from Strasbourg, calls those who offer their services mainly at county fairs »sogenannte[] Staar-Ritter[]« [so-called knights of the cataract].²³ The patient, he writes, »trauet den glatten Worten des neuen Arztes; bietet willigst eine ansehnliche Portion seines Vermögens zur Belohnung an (den was gibt der Mensch nicht vor sein Gesicht?) und hoffet nunmehr die so sehnlich verlangte Hülfe gewiss zu finden« [trusts the smooth words of the new doctor; willingly offers a considerable part of his fortune as a reward (for what does a person not give for his sight?) and now hopes to find the help he so desperately desires].²⁴

20 Johann Michael Lichtmann: Der geschickte Augen-Artzt. Oder Ausführliche Beschreibung des Starrs- und Hirn-Fells, Nürnberg 1725, p. 4.

21 See also Adams: Anweisung zur Erhaltung des Gesichts, pp. 12–13.

22 Christian Ehrenfried Eschenbach: Bericht von dem Erfolg der Operationen des Englischen Okulisten Ritter Taylors, in verschiedenen Städten Teutschlandes, besonders in Rostok, Rostok 1752, p. 3.

23 Emmanuel Alexander Ludovicus Brunner: Vom Staar und dessen Heilverfahren, der Niederdruckung sowohl als Ausziehung. Aus dem Lateinischen frey bearbeitet von D. G. Ziegenhagen, Straßburg 1788, p. 6.

24 Eschenbach: Bericht von dem Erfolg der Operationen, p. 8. His treatise targets the British oculist John Taylor (1703–1770) travelling through Europe in a coach painted with pictures of the human eye and performing injurious eye surgeries famously on Johann Sebastian Bach and Georg Friedrich Händel. In a treatise published in German in 1757, Taylor pretends having found an effective and simple way to heal amaurosis. Johann von Taylor: Neue

A significant number of treatises on ophthalmology in the 18th century are thus addressed explicitly, in vernacular language, to a public of non-specialists, encompassing actual as well as potential patients.²⁵ Lichtmann, for example, dedicates his treatise to the »Hülffs=bedürfftige[] Leser« [needy reader]²⁶, while Meinig similarly addresses his to the »arme einfältige, schwache und nothleidende Menschen« [poor, simple, weak and needy people].²⁷ By the end of the century, the editor of Lichtenberg's treatise still justifies the printing of the second edition by claiming that it needs to be made accessible to a larger public: »damit sie bey dem wohlfeilen Preise allgemeiner sollte bekannt und auch der Nutzen dadurch für den edelsten Theil des menschlichen Körpers sollte gestiftet werden« [it should be more widely known, and at a reasonable price, so that the benefit thereby for the noblest part of the human body should be provided].²⁸

Causes and remedies of eye diseases and blindness

The almost unanimous consensus on the importance of vision which appears in these sources does not extend to the causes they invoke for eye disease, which change over the course of the 18th century. In 1725, in the introduction to his book focused on cataracts, *Der geschickte Augen-Arzt*, Lichtmann dedicates this publication to patients in need of help and expresses his Christian love and compassion.²⁹ As a disciple of the early Enlightenment, he denounces the belief that cataracts were caused by starling birds – the German word for cataract being 'star' – as a superstition: »Solches ist aber ein Aberglaube / und falscher Wahn.« [But this is superstition / and false delusion.]³⁰ The real cause, he continues, is a slimy liquid that descends from the brain to the eye and covers it like a cobweb with a darkening veil. Besides this physical explanation (for which he later blames blood circulation and digestion), Lichtmann also makes a theological argument based on the sinfulness of humankind, for which blindness is a punishment from God, thus combining in one treatise the religious and the medical model of disability:

Augen-Erhaltungs-Kunst, zu allgemeinem Nutzen und Vortheil so Gelehrter als Ungelehrter abgefaßt, Frankfurt am Main 1757.

25 See Adams: *Anweisung zur Erhaltung des Gesichts*, pp. 4-5.

26 Lichtmann: *Der geschickte Augen-Arzt*, p. 1.

27 Meinig: *Der Augen-Doctor*, preface.

28 Lichtenberg: *Ueber einige Pflichten*, p. 4.

29 Lichtmann: *Der geschickte Augen-Arzt*, p. 4.

30 *Ibid.*, p. 2.

Die vornehmste und wichtigste Ursache der Blindheit und aller Krankheiten ist die Sünde der Menschen / die uns auch zu dem zeitlichen Todt des Leibes bringet / und wo nicht rechtschaffene Busse und Bekehrung ist / auch die ewige Blindheit / und Finsternuß der Seelen darauf folget.³¹

[The first and most important cause of blindness and all diseases is the sinfulness of mankind / which also brings us to the early death of the body / and where there is no righteous repentance and conversion / also follows the eternal blindness / and darkness of the soul.]

Twenty years later, Meinig dedicates his *Augen-Doctor* ›with love and without greed‹ to those who suffer from eye diseases. His book includes recipes on how to produce different ointments, powders, and lotions to heal various eye diseases. Another physician, Hans Sloane, who publishes his treatise in 1745 under the title *Nachricht eines bewehrten Mittels vor Schmerzen, Blödigkeit und mancherley andere Krankheiten der Augen*, gives detailed instructions on how to produce an ointment from snake grease.³² Other publications around 1750 focus on the cataract surgery and give advice on how to distinguish a good surgeon from a charlatan.³³

However, in the second half of the 18th century, a shift can be observed in the causes of blindness and eye disease mentioned by these treatises. While there is still consideration for those who lose their sight due to an accident or an illness, most of the reasons given are now linked to the supposed imprudence, ignorance, and even foolishness of the patients:

Bey weitem der größte Theil derer, die dieses Unglück erleiden, die diesen Halbtot, möchte ich sagen, sterben, sterben ihn freylich unverschuldet durch Zufälle; allein keine geringe Anzahl, und zwar gerade unter einer Classe von Menschen, von denen man es am wenigsten erwarten sollte, ich meine der sogenannten gebildeten höheren Classe erleiden ihn öfters durch Schuld, wo nicht wissentlich durch muthwilligen Leichtsin, doch gewiß sehr oft aus einer Unwissenheit, die leicht zu überwinden gewesen wäre.³⁴

[By far the largest part of those who suffer this misfortune, who die this half-death, I would say, do so through no fault of their own, through accidents; however, a considerable number, and indeed among a class of people from whom one would at least expect it, I mean the so-called educated upper class, often suffer it through

31 Ibid., p. 3.

32 Hans Sloane: *Nachricht eines bewehrten Mittels vor Schmerzen, Blödigkeit und mancherley andere Krankheiten der Augen*. Nach dem Englischen Original übersetzt, Danzig 1745.

33 See Balthasar Heinrich Klinge: *Sendschreiben, an einen alten erfahrenen Chirurgum in Strasburg, Leipzig 1748*; Eschenbach: *Bericht von dem Erfolg der Operationen*.

34 Lichtenberg: *Ueber einige Pflichten*, pp. 7–8.

guilt, if not knowingly through wilful recklessness, but certainly very often out of ignorance that could have been easily overcome.]

Some of the eye diseases or impairments are no longer seen as the result of an illness or the general sinfulness of mankind, but are instead linked to minor actions and decisions about one's daily routine:

Blindheit oder wenigstens eine grosse Augenschwäche rührt sehr häufig von einer solchen dem Anschein nach ganz unbedeutenden Ursach her. Daher sollte ein jeder, besonders wenn er schwache Augen hat, auf Umstände dieser Art Achtung geben, denn es ist leicht, dem Uebel vorzubeugen, aber es zu heilen ist schwer, und bisweilen unmöglich.³⁵

[Blindness, or at least a severe weakness of the eyes, very often stems from such seemingly insignificant causes. Therefore, everyone, especially those with weak eyes, should pay attention to circumstances of this kind, for it is easy to prevent the disease, but to cure it is difficult, and sometimes impossible.]

John Taylor distinguishes between two types of eye diseases, one caused by an illness of the brain, the other by the habit of reading too much,³⁶ an argument also emphasized by Lichtenberg. By the end of the century, ophthalmologists focus not only on the duration of reading or the fact of reading in the evening,³⁷ but also on the precise position of the reader (and his eyes) relative to the light: »Man schreibe oder lese nie, wenn man es haben kann, in der Lage, daß ein helles Fenster gerade gegenüber so steht, daß jedesmahl das Licht in das aufgeschlagene Fenster fällt, sondern lasse das Licht von der Seite einfallen.« [Never write or read, if you can, in a position where a bright window is directly opposite so that the light constantly falls into the open window, but let the light fall from the side.]³⁸

Besides this more accurate description of positions and alignments, the treatises on ophthalmology published by the end of the 18th century give concrete advice »zur Erhaltung, zur Schonung, [...] zur Stärkung und Beßerung seiner Augen« [for the preservation, protection, [...] strengthening and im-

35 Adams: Anweisung zur Erhaltung des Gesichts, pp. 122–123.

36 Taylor: Neue Augen-Erhaltungs-Kunst, pp. 5–6; see George Chandler: Abhandlung über die Krankheiten des Auges und die dagegen anzuwendenden Heilmittel. Aus dem Englischen, mit zwey Kupern, Leipzig 1782, pp. 61–64.

37 See Lichtenberg: Ueber einige Pflichten, p. 20; Adams: Anweisung zur Erhaltung des Gesichts, p. 118.

38 Lichtenberg: Ueber einige Pflichten, p. 15–16; see Meyer: Abhandlungen und Beobachtungen, p. 33; Michel Jean Baptiste Wenzel: Abhandlung vom Staar. Aus dem Französischen, Nürnberg 1788, p. 5.

provement of one's eyes].³⁹ One of the most frequently given pieces of advice has to do with the arrangement of the bedroom. The bed should not be placed next to a window because – as Lichtenberg argues – direct or even indirect exposure to daylight negatively affects vision.⁴⁰ This is particularly problematic, Lichtenberg continues, during travel because, when arriving at a hotel late in the evening, it is impossible to foresee if one's eyes will be exposed to daylight the next morning:

Hierauf hat man besonders auf Reisen zu sehen, und wenn man des Abends spät ankommt, die Lage der Fenster- und die Beschaffenheit der Bettvorhänge zu untersuchen, damit man nicht auf eine unangenehme Weise des Morgens vom Tage, oder gar von der Sonne überfallen werde.⁴¹

[This is something you should pay particular attention to when traveling, and if you arrive late in the evening, you should examine the position of the windows and the quality of the bed curtains so that you are not unpleasantly assaulted by the day or even the sun in the morning.]

The most dangerous moment of the day is the early morning when one's eyes might suddenly be exposed to broad daylight: »Man muß die Augen nicht auf glänzenden Gegenständen ruhen lassen, am wenigsten des Morgens beym ersten Erwachen. Das Schlafzimmer darf alsdann durchaus nicht von der Sonne beschienen werden, sondern nur eine mäßige Helligung haben.« [You should not let your eyes rest on shiny objects, especially when you first wake up in the morning. The bedroom should not be exposed to sunlight at all, but should only have moderate brightness.]⁴² Adams therefore recommends sleeping with closed shutters or having green bed curtains in order to shade the sunlight. Doing so both strengthens and calms the eyes, even when the eyelids are closed. Lichtenberg likewise recommends covering one's head with a green veil anytime one is unable to control the intensity of light. To illustrate this point, he gives the example of travelling in a coach, where a quick movement or a sharp bend might suddenly expose one's eyes to the light. These veils are more effective, according to Lichtenberg, than umbrellas, shutters, glasses, or curtains because they cover the whole face while simultaneously allowing fresh air to circulate.⁴³ In addition, situations in which the intensity of the

39 Lichtenberg: Ueber einige Pflichten, p. 3.

40 Ibid., p. 17.

41 Ibid.

42 Adams: Anweisung zur Erhaltung des Gesichts, p. 119.

43 Lichtenberg: Ueber einige Pflichten, pp. 17–19.

light changes rapidly, such as going quickly from a bright to a dark room or *vice versa*, must be avoided:

Man halte sich nie eine lange Zeit weder an einem ganz finstern, noch an einem solchen Orte auf, wo man einem blendenden Licht ausgesetzt ist. Die Gründe, worauf sich diese Regel stützt, beweisen, wie schädlich es sey, aus einem sehr dunkeln Zimmer schnell in ein sehr helles überzugehen, und umgekehrt; auch erhellet daraus, daß ein Zimmer, das gegen Mittag liegt, für Personen von einem schwachen Gesicht nicht taugt.⁴⁴

[Never stay for a long time in a completely dark place, nor in one where you are exposed to dazzling light. The reasons for this rule demonstrate how harmful it is to pass quickly from a very dark room to a very bright one, and vice versa; it also shows that a room facing south is unsuitable for people with weak eyesight.]

Brightness should neither be too strong nor too weak or, even worse, strong and weak at the same time, for example when reading at dusk with the help of an oil lamp or a candle. Even the mere fact of reading a book in front of a window might harm the eyes. Light intensity should always be kept steady and equal: »Man bemühe sich daher, soviel als möglich bey allen Verrichtungen ein gleichförmiges Licht zu erhalten, da wenigstens, wo es leicht angeht, und wir von uns abhängen.« [Therefore, we should strive to maintain a uniform light as much as possible in all operations, at least where it is easy to do and we depend on ourselves.]⁴⁵

With all this in mind, the task of protecting one's eyes from blindness seems to be rather demanding. Things get even more complicated when Lichtenberg recommends being mindful of the state of one's vision before looking at an object. Those who wish to preserve their sight need to take not only light intensity into account, but also time. One should not look at the same object or landscape for too long but change from time to time – but not too quickly: »Man muß den Augen nie mehr anmuthen, als sie vertragen können, und die Art, und die Zeit der Beschäftigung so viel möglich nach dem Zustande der Augen wählen.« [You should never ask your eyes to do more than they can bear, and choose the type and time of activity as much as possible according to the condition of your eyes.]⁴⁶ Lichtenberg suggests reading one page of a book and then asking a friend to read the next page

44 Adams: Anweisung zur Erhaltung des Gesichts, pp. 117–118; see Lichtenberg: Ueber einige Pflichten, p. 13.

45 Ibid., p. 12.

46 Ibid., p. 28.

aloud, or alternating between an hour of reading and an hour of walking.⁴⁷ The subtle shaking of the body while walking or riding, Lichtenberg adds, has a healing effect on the nervous system and thus on the optic nerves: »Reiten hat einen längst erkannten Nutzen für nervenschwache Augen, durch die heilsame Erschütterung der Nerven. Fahren, und Spazierengehen haben ihn auch in dieser Rücksicht.« [Riding has long been recognized as beneficial for weak eyes, through the healing stimulation of the nerves. Driving and walking also have this effect.]⁴⁸

You must take care of your eyes

It may be possible that Lichtenberg and the other authors of these treatises really had the public's interest at heart. However, the impression which one gets from reading them is that every little gesture and movement can have dreadful consequences on vision. At the beginning of the 18th century, in contrast, eye disease or blindness was thought to have mainly physical, moral, or dietetic causes – for example eating too much garlic, radish, lobster, drinking too much alcohol or crying too often:⁴⁹

Diese doppelte Art der Entzündung, ist gemeiniglich der Grund und Quelle aller übrigen Augen=Gebrechen, und entstehet von vieler Traurigkeit und Weinen, vielen Wachen, Nachtsitzen, Lesung all zu kleiner Schrifften, all zu hellen Glantz und schauen ins Feuer, als wodurch die Schärffe der Augen allzusehr angestrengt und zusammengezogen werden, übermässigen Beyschlaff, unmässige Sauffen hitziger Getränke, ausgebliebenes Nasen=Bluten und Monathliche Zeit, Verstopfung des Leibes, zurückgeschlagenen Grind und Ausschlag des Gesichts, Blattern und derselben scharffe Materie, rauhe Nord=Lufft und viele Winde, Staub, scharffe beisende Dinge, hefftiger Rauch, und endlich das Alter, in welchen der Nerven=Geist geschwächt wird, und die nöthigen Feuchtigkeiten abzunehmen pflegen.⁵⁰

[This double kind of inflammation is usually the cause and source of all other eye diseases, and arises from much sadness and crying, insomnia, staying awake at night, reading too small writings, too bright shine and looking into the fire, which strains and contracts the sharpness of the eyes, excessive sexual intercourse, immoderate drinking of alcoholic drinks, missed nosebleeds and menstrual bleeding, constipation, recurrent scabies and facial eruption, smallpox and its sharp substances, harsh northern air and much wind, dust, sharp, acrid substances, heavy

47 Ibid., p. 30.

48 Ibid., p. 31.

49 Lichtmann: Der geschickte Augen-Arzt, p. 4.

50 Meinig: Der Augen-Doctor, pp. 13–14.

smoke, and finally age, in which the nervous spirit is weakened and the necessary moistures tend to decrease.]

Some decades later, it has become first and foremost the responsibility of every individual person to take care of their eyes, as well as to be aware of the permanent dangers to which they are exposed. It seems as if, to avoid blindness, one must respect what Adams calls »Regeln zur Erhaltung des Gesichts« [rules for preserving sight]⁵¹ and Lichtenberg the »Oekonomie bey dem Geschäft des Sehens« [economy of the business of vision].⁵² The treatises and books I have studied in this paper are not addressed to ophthalmologists or opticians but explicitly to a wider public. This implies both that everybody can, and must take care of their eyes, and that a change in behaviour might prevent many diseases:

Glücklich sind die, welche diese Vorschrift bey Zeiten beobachten, und ihre Augen schonen, ehe sie durch Schmerzen dazu genöthigt werden. Der thörichte Geiz mit einer Viertelstunde des Abends, hat schon manchen den vollkommnen Gebrauch der Augen für viele Jahre gekostet. Das Uebel wird nach und nach und unmerklich bewirkt, aber es ist unvermeidlich.⁵³

[Happy are those who observe this rule in time and spare their eyes before they are forced to do so by pain. The foolish stinginess of a quarter of an hour in the evening has already cost many the full use of their eyes for many years. The harm is brought on gradually and imperceptibly, but it is unavoidable.]

In 1801, this outreach to a large public of non-specialists translates into a new medium with the publication of a household code by the physician Christian Friedrich Benedict Ettmüller (1773–1849) with instructions on how to preserve the health of one's eyes. The subtitle clearly points to the responsibility of everyone to respect the advice given: »Bemitleidenswerth ist der, welcher des Lichtes seiner Augen beraubt, in ewiger Finsternis seine Tage verleben muß; aber doppelt unglücklich muß er sich fühlen, wenn er diesen Verlust durch eigne Schuld sich zugezogen hat.« [Pitiable is he who, deprived of the light of his eyes, must spend his days in eternal darkness; but he must feel doubly unhappy if he has incurred this loss through his own fault.]⁵⁴ The German term »Haustafel« is coined by Martin Luther and designates a summary

51 Adams: Anweisung zur Erhaltung des Gesichts, p. 117.

52 Lichtenberg: Ueber einige Pflichten, p. 54.

53 Adams: Anweisung zur Erhaltung des Gesichts, p. 118.

54 Christian Friedrich Benedict Ettmüller: Von den Mitteln die Gesundheit der Augen zu erhalten, ihren Krankheiten vorzubeugen und solche vernünftig zu behandeln. Eine Haustafel für alle Stände, Lübben 1801.

of actions related to the New Testament which each member of a household is expected to perform. Etmüller's one-page household code, which can conveniently be hung on a wall, is composed of a short first part that describes the anatomy of the eye, »die Werkstatt des Sehens« [the workshop of vision].⁵⁵ The second part is dedicated to the actions and means of preventing blindness. The link between the two parts is the religious assumption that the eyelids and the eyelashes reflect the will of God to protect the eyes and, consequently, it is the duty of everyone to do likewise. In 1801, Etmüller's arguments reiterate the moral and religious reasons given for blindness at the beginning of the 18th century. He still recommends green veils and washing one's eyes frequently, but he primarily blames ›immoral‹ behaviour: »zu viele hitzige Getränke trinket, unmäßig im Beischlaffe ist, (man hat Beispiele, daß auf unmäßigen Beischlaf Blindheit entstand) ziegellos tanzt, sich erkältet, der heut zu Tage so häufig zur Mode gewordene Misbrauch der Vergrößerungsgläser u.s.w.« [drinking too many alcoholic drinks, having excessive sexual intercourse (there are examples of blindness resulting from excessive sexual intercourse), dancing excessively, catching colds, the misuse of magnifying glasses, which has become so fashionable today, etc.]⁵⁶

Until around 1700, philosophers, natural scientists, and opticians often choose to justify their findings by pretending that an uneducated and thus unbiased and impartial spectator – a child or an illiterate person – confirmed their observations. However, with John Locke's *Essay Concerning Human Understanding* (1690), vision is no longer seen as a gift from God or nature, but rather as a capacity that must be learned and trained. According to him, the development of reason follows almost mathematically from the number and quality of images perceived. A lack of such images inevitably results in a lack of reason and thought. Consequently, by 1700, natural scientists begin to refute the use of an uneducated spectator, as such a person is no longer considered impartial but rather almost foolish. In a translation of Giovanni Bertolazzi's case study of a sixteen-year-old blind girl, he describes her as vivacious and timid, emphasizing that her perceived stupidity is a necessary result of her blindness. Later in the treatise, the translator compares her in a footnote to an orangutan unable to answer questions:⁵⁷ »Sie lebte stets einsam; aller Ideen beraubt aus Mangel des Gesichts, und der gesellschaftlichen Vergnügungen, gab sie nur Merkmale eines stumpfen Verstandes, der sich der

55 Ibid.

56 Ibid.

57 Bortolazzi: Abhandlung über eine seltne Art, p. 69.

Dumheit näherte, von sich.« [She always lived solitarily; deprived of all ideas for lack of sight and of social pleasures, she gave off only the signs of a dull mind approaching stupidity.]⁵⁸ To summarize more crudely: by the end of the 18th century, not only are blind or partially sighted people considered less intelligent and less educated, they are also held responsible for their condition. This forms a vicious circle: supposedly unenlightened behaviour leads to disability resulting in unenlightened behaviour, etc. In conclusion, the rise of the individual and medical model of disability in the 18th century appears to be, at least partly, constructed in and through culture and media in the very concrete sense of advice on gestures, postures and everyone's daily routine.

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58 Ibid., p. 17.

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