4. Aesthesis ex negativo: smallpox and monsters

"Deformity and ugliness are (...) unsettling because they are disordering; they undo the complacency that comes with disattendability; they force us to look and notice, or to suffer self-consciousness about not looking or not not looking. They introduce alarm and anxiety by virtue of their power to horrify and disgust."[1]

So far, the preparations from the eighteenth-century Leiden anatomical collections appear to be predominantly examples of normal – or even perfect - human anatomy, prepared in such a way that they convey the aesthesis of anatomy. The result of particular yet tacit ideas of beauty, perfection and elegance, most of the body parts were chosen for these preparations because they were already in themselves perfect specimens: there are no obvious pathologies, and most of them were (part of) young, lean, healthy bodies. This made it easier for the creator of the preparation to inject and preserve them elegantly, skilfully distracting the attention of his audience away from the disgust and horror associated with severed body parts. Yet ultimately, severed body parts on the brink of decay –the ultimate emblem of disgust- are the constituents of this collection, and as in the course of the eighteenth-century research into pathology and abnormalities became increasingly important, an aesthesis *ex negativo* emerged: an aesthesis of the ugly and the imperfect.

In this chapter I use two seemingly unrelated preparations as starting points to show that the mostly tacit quest for beauty and perfection by the makers of the eighteenth-century Leiden anatomical collections at some point became a means to deal with the ugly, the deformed, and the monstrous, and that their aesthesis-based approach included elements - such as poetry - we would not recognize as 'scientific' nowadays. The first is a preparation of a deformed dog with a cleft lip taken from the collection of professor Wouter van Doeveren (1730-1783), the second is a preparation of an ear from the apparently perfect collection of B.S. Albinus (1697-1770), which

[1] Miller 1997, p.82.

was maintained and invested with new meaning by Van Doeveren in the 1770s.[2] Analysing the materiality of these preparations clarifies the first as being a representative of the complicated and changing relation between humans and animals in the eighteenth century, and, studied through the combined perspectives of aesthesis and modern aesthetic theory, it will clarify the role of anatomical preparations in general and that of monstrous specimens in particular. The second preparation will turn out to be a signifier of a major eighteenth-century medical controversy and social issue, unveiling an unexpected intermingling of academia and aesthesis in settling controversies. Yet before exploring the preparations in detail, some points regarding the relevant theoretical framework need to be noted. Moreover, this chapter will show that, even by the end of the eighteenth century, looking at, and the making of, anatomical preparations, like drawing, remained simultaneous acts of seeking beauty, selection, and accentuation.[3]

Winfried Menninghaus in his 2003 philosophical work on disgust stated that aesthetics and anatomy are opposing disciplines, as 'the aesthetically pleasing body has no interior, hence allows no dissection or anatomy'.[4] Yet in his explorations of theories of disgust over the past 250 years, he readily admits that 'the field of aesthetics always covers more ground than just the beautiful', and discusses the work of eighteenth-century authors such as Burke, Mendelssohn and Lessing, all of whom address in their writings on beauty the paradoxical pleasure we find in (representations of) horror, the ugly, gruesome, and revolting.[5] As we will see in this chapter, these paradoxes are less contradictory than they first appear. Philosopher Carolyn Korsmeyer's recent take on that eighteenth- century aesthetic experience *par excellence*, the sublime, will prove to be extremely helpful in understanding the aesthesis at work in the creation and appreciation of these preparations.[6] This is the kind of anachronistic conceptualism Nick Jardine advocates and that helps to clarify the historical meaning and significance of knowledge, objects, and events beyond the significance attached to them in the period when they occurred.[7] But the leads are once again given by the preparations.

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[2] LUMC catalogue numbers of the dog and the ear are Ad0022 and Ab0100 respectively.
[3] Daston & Gallison 2007, p. 104.
[4] Menninghaus 2003, p. 55.
[5] Ibid., p. 33-6.
[6] Korsmeyer 2008, 2011.
[7] Jardine 2000, p. 253.

Monsters: A dog with a harelip

Preparation Ad0022 from the collection of Wouter van Doeveren is a little spotted dog with what is commonly known as a harelip or cleft lip [Ill. 17, colour plate 3]. In a way, this preparation is an exception among the preparations that serve as case studies for the collections in this book. It is the only preparation so far that has not been injected, dissected, or decorated. Obviously, there has still been some sort of intervention from the collector: he has chosen this specimen over others to include in his collection, and has carefully preserved it in conservation liquid and chosen an appropriately shaped and sized phial to display it. Yet, it is remarkable in its plainness and the lack of artful enhancement in the form of coloured waxes, mercury, plants, lace, beads, or coins. In fact, I will argue that in this case the absence of such additions and the plain materiality of the preserved dog answers the questions it evokes just as well as do the added materials in the other preparations. In this section, I will explore this plain deformed dog and try to answer the issues it raises just as I did with the more thoroughly manipulated preparations previously discussed. So why did Van Doeveren collect preparations of congenital deformities? And why did he want this particular preparation, a *dog* with a *harelip* for his collections?

A dog…

Why did Van Doeveren want a *dog* with a harelip in his collection when he was primarily interested in human anatomy? Of the 441 preparations in the Van Doeveren collection listed in the 1793 *Museum Anatomicum*, only fifteen are of animals, but four of those preparations were dogs. The others were four pigs, three chickens, a kitten, and a pigeon. Obviously, these are all domestic animals and thus relatively easy to acquire. The most likely reason for the dominance of dogs and pigs in the small animal section is that their anatomy and teratology are fairly comparable to that of humans. Both were traditionally used as stand-ins in human anatomy research, but a mature dog of average size is easier to handle than a fully grown pig, which can weigh up to two hundred kilograms.[8] Moreover, a pig is potential food,

[8] In Antiquity, when dissecting humans was forbidden, the Roman physician Galen (CE 129-216) already taught human anatomy based on the dissection of apes, pigs and dogs. (Porter, ed. 2009, p. 62) It should be noted that 'comparative anatomy' was always primarily about human anatomy – animals initially served solely as stand-ins that clarified human anatomy, and only from the eighteenth century onwards did animal dissections also start to serve as investigations into animal anatomy.

whereas although dogs were also primarily kept as working animals such as hounds, guard or cart dogs until the nineteenth century, they were not considered appropriate food.[9] Being inedible, dogs were considered appropriate subjects, and very useful in medicine and anatomy.

For example, Van Doeveren's contemporary Martinus Houttuyn (1720-1798), another medical doctor with a Leiden degree, published an extensive multiple-volume natural history based on Linneaus' system in the second half of the eighteenth century. In the second part of the first volume, he discussed the origins, races and uses of dogs. Although the eating of dogs was something Houttuyn dismissed as only customary in other parts of the world, according to his texts dogs could well be used in the manufacturing of medicines. 'Young Dog Balm', a kind of 'eucalyptus' balm made out of young dogs boiled in olive oil with herbs, was available in most city apothecaries, and purified dog fat was used to make a kind of chest relief balm. Small dogs, Houttuyn writes, could be used as living hot-water bags to treat colic pains with their body heat, and having them lick wounds was generally known to speed the healing process. Whereas these latter uses seem rather innocent, it was also perfectly acceptable to have a dog lick the legs of a gout sufferer – although it was likely to kill the dog, it cured the sufferer.[10] Socks of dog leather could be used to suppress bouts of gout, gloves of dog skin were beneficial for contractures in the joints of the hand, and the skin of a freshly-slaughtered dog could be applied as a curative to any body part affected by atrophy.[11] This must have been of interest to Van Doeveren, who was a long-time gout sufferer himself and eventually died of the disease.

In anatomy research, dogs were used as cheap replacements in dissections and for experiments on living animals that were not allowed on humans.[12] As Houttuyn put it:

"The Art of Dissection has taken great Advantage of the Dog. It has served Avellius in the discovery of the Lymphatic Ducts; Pecquetus in the finding of the Lymph Tube that runs through the Chest; Harvaeus to demonstrate the Circulation

[9] Zijlmans 2002.
[10] Houttuyn 1766, p. 66-9.
[11] Jütte 2003, p. 167. Before the eighteenth century, human skin was preferred over dog skin for these purposes, but as this was scarce and expensive, dog skin was a good alternative.
[12] Guerrini 2003.

of the Blood (…). Yes, this Animal makes the foremost Subject of Comparative Anatomy, and for that reason the Dog has since long bore the name of ***Martyr of the Physicians****."*[13]

Although the lap dog was quickly gaining popularity with the upper classes in the late eighteenth century, no one would have been shocked by the use of dogs in vivisections and dissections – structural anti-vivisectionism first appeared in the course of the nineteenth century.[14] Confusing to the modern mind, one use of dogs did not exclude the other: Descartes is known to have experimented on dogs and yet to have had a pet dog that he liked, and not vivisected or dissected it as far as we know.[15] Van Doeveren too experimented on dogs. The earliest records of this are the irritability experiments he performed on dogs while studying in Paris with his friend Jan Tak.[16] Experiments defining irritability and sensibility, (the responses of muscles and nerves to stimuli), were essential in mapping the separate and combined functioning of the sensory organs, nerves, and brain. Physiologists throughout the eighteenth century did similar experiments, ever since Albrecht von Haller had started them in the 1730s.[17] The main subjects in these experiments were dogs, for the reasons already stated: their anatomy and physiology resembles that of humans, they were widely available and relatively easy to handle.

Bearing the above in mind, the dog in Van Doeveren's collection does not seem so awkward anymore. Dogs were used abundantly in eighteenth-century anatomy and medicine, so Van Doeveren was probably given this dog by a colleague or patient who knew he would be interested in it as an addition to his collection of monsters, the first systematic collection of birth defects compiled in Leiden as far as we know. The exploration within this section of my book makes clear why this dog mattered primarily to Van Doeveren: as his collection shows, he was not interested in a specimen of a dog with normal anatomy. He accepted only a limited number of

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[13] Houttuyn 1766, p.65. The original Dutch text reads: *"De Nuttigheid, welke de Ontleedkunde van den Hond getrokken heeft, is groot. Hy heeft AVELLIUS gediend tot het ontdekken van de Chylvoerende Vaten; PECQUETUS in het vinden van de Chylbuis, die door de Borst loopt; HARVAEUS om den Omloop van het Bloed aan te tonen (…).Ja dit Dier maakt het voornaamste Onderwerp uit van de Vergelykende Ontleedkunde, en om die reden heeft de Hond al lang den naam gedragen van Martelaar der Geneeskundigen."* (Translation mine, hyphen mine)
[14] On the rise of Dutch anti-vivisectionism in the late nineteenth-century, see Kluveld 2000, chapter 2.
[15] Guerrini 2003, p. 33.
[16] Elshout 1952, p. 76 (refers to Boon 1851, p. 185).
[17] Steinke 2005, p. 101, 119.

animal specimens in his collection, when they could show pathologies similar to the human but for which human specimens were hard to acquire. This brings us to the second question which this preparation evokes: why did Van Doeveren include a dog with a *harelip* in his collection?

…with a harelip

The first thing that draws our attention in this preparation is the dog's mouth: its upper lip is split right up to its nose. It has a cleft lip, colloquially known as a harelip, and in earlier centuries sometimes also referred to as wolf mouth or devil's bite.[18] This congenital deformity of the upper lip and/or palate nowadays has an incidence of about 1 in every 700 births, meaning it is something every experienced obstetrician or midwife is familiar with. This incidence was probably higher in the eighteenth century, as women now routinely take folic acid around conception, which reduces the chances of cleft palate.[19] The correction of a cleft lip, and even a cleft palate, is now a fairly easy and cheap procedure, and people born with the deformity who are operated on early enough can go on to lead reasonably healthy lives. However, back in the eighteenth century, these procedures were obviously not widely available, nor were they very sophisticated.

Leiden professor of anatomy and surgery Antony Nuck mentioned in his 1733 surgical and medical handbook that a harelip, if not too severe, could only be corrected in young children. The procedure, described by Nuck in a rather wry tone, must have been traumatizing. The obviously unanaesthetised child would be trussed and held in a hold by an assistant, while the surgeon had to cut, stretch, and pinch together the lip with thin needles, which would only be taken out one by one in the week after the surgery.[20] The consequences of being born with a cleft lip and/or palate in the eighteenth century thus ranged from infant death due to feeding problems in severe cases, to trauma and considerable social stigma in milder cases.[21] Yet Van Doeveren's predecessors' collections in Leiden, notably the Albinus collection, did not contain any preparations of cleft lips that we know of. In other contemporary collections, preparations of cleft lips are also few and far between. In

[18] Bradt 2010 p. 63. Unfortunately the evidence for the synonym 'devil's bite' is only anecdotal.
[19] Bianchi et al 2000, Wilcox et al 2007.
[20] Nuck 1733, p. 73-77.
[21] For a case history of infant death because of cleft palate see Sandifort *Observationes* vol. I, 1777, p. 29.

the eighteenth-century London Hunterian collection for example, there is only one preparation of a cleft lip; it is from an adult subject and has visibly been corrected in childhood.[22] Apparently, at least to Nuck and his contemporaries, a birth defect such as a harelip was a given that could sometimes be solved by surgery, but was not something worth collecting systematically in an anatomical collection. So how was this preparation related to the rest of the Van Doeveren collection, and to contemporary ideas on birth defects?

The apparently sudden appearance of these kinds of human and animal monsters in the Leiden collections, collections thus far dominated largely by normal human anatomy, may at first seem strange but is in fact perfectly understandable from the perspective of its collector. Although so-called monsters had long been a prominent part of cabinets of curiosities and both private and institutional anatomical collections, these were first and foremost unique rarities; not examples representing certain categories of regular malformations. For example, in the catalogue of the Leiden anatomy theatre from 1687, we find that around the circumference of the theatre 'a most *curious* Skeleton of a Man wasted with old age' – he probably suffered from a progressive bone disease - was placed alongside the skeletons and skins of all kinds of domestic and exotic animals, but there was no particular section within the theatre's collection devoted to preparations of deformations. Little changed in this display of singular monsters and rarities in Leiden until the second half of the eighteenth century, as professor Albinus was occupied with his own projects and could not be bothered with the collections displayed in the anatomical theatre.[23] Yet as Hagner has pointed out, in the course of the eighteenth century displays of monsters as singular examples of nature's capriciousness or as intriguing curiosities for the connoisseur disappeared, and monsters became subject to natural classifications and taxonomy.[24] Van Doeveren was the first Leiden anatomist to attempt to build a systematic collection of monsters, moving them out of the sphere of wonder and curiosity and into that of natural

[22] RCSHC/ P129, probably <1750.
[23] For the minimal changes in the display in the Leiden anatomical theatre in the course of the eighteenth century, see for example the various editions of the *Catalogues of the Rarities in the Leiden Anatomy Theatre* kept in the British Library (1669-1753).
[24] Hagner 1999, p. 179.

philosophy.[25] With this systematic approach, he moved monsters from the negative to the positive, although a tension remained, as the monsters were often not viable.

In order to understand why Van Doeveren collected what he did, including the hare-lipped dog, we need to understand his research interests and the big issues of his time. What is illustrative here is Van Doeveren's annoyance with the expensive purchase of the Albinus cabinet by Leiden University in the year of his appointment, 1771.[26] The source of his irritation was twofold. On the one hand, he might have been hoping to purchase some interesting preparations himself for further research, as he did when he bought a preparation from the cabinet of the late Noortwyk at an auction in August 1771. In a letter to his German friend Wagler, dated 23 August 1771, Van Doeveren writes how he has managed to acquire the 'old uterus and foetus' which Noortwyk described in his 1743 *Historia Uteri Gravidi.*[27] In that book, Noortwyk defended the view that blood circulation of the placenta and the uterus were connected. Van Doeveren doubted this and wrote to Wagler shortly after the purchase saying that he looked forward to examining the preparation closely himself, suggesting he would be taking the wet preparation out of its phial and possibly even dissecting it again.[28]

On the other hand, Van Doeveren was likely to be irritated by the expensive investment the university made with the Albinus collection because it was of little value for the courses he wanted to teach as the newly appointed professor. Like Eduard Sandifort, he wanted not only to research and lecture on physiology and normal anatomy, he also wanted to prove his worth on big issues in the medical field. This ambition shows in many aspects of his work, to begin with his in doctoral thesis on worms in the intestines: in it, he argued that physicians should pay more attention to *pathologia animata*, or diseases caused by living organisms in the body.[29] Van Doeveren's role in the inoculation debate that has been explored in the first half of this chapter was also an example; the study of, and theorizing about, 'monsters' is another. Like many of his contemporaries, Van Doeveren tried to answer the question of *how* monsters originate. The general explanation before the eighteenth century for monsters was that the mother saw something terrible during her pregnancy, or had

[25] Also see Hagner 1999.
[26] Also see chapter 3.
[27] Noortwyk 1743.
[28] Van Doeveren. MS UvA: UB: HSS-mag.: IV A 9:2 [j].
[29] Van Doeveren 1753.

acted immorally. In the sixteenth and seventeenth centuries, harelips had even been explained as proof that the mother had intercourse with the devil – the devil sometimes appeared as a hare, or with the head or ears of a hare in iconography, something which may well have had something to do with the reputed lustfulness and speed of reproduction of the animal.[30] [Ill. 45] These explanations had been mostly discarded by the second half of the eighteenth century – by physicians at least; the strength of the maternal imagination on the unborn child lived on in popular belief well into the nineteenth, and even the twentieth, century.[31]

Physicians and natural philosophers had noted that not all pregnant women who had seen something terrible gave birth to monsters. Van Doeveren nonetheless still examined this, as appears from an episode he recounts in his book *Specimen observationem*. He asked the family of a woman who had just given birth to an anencephalic baby whether she had been badly influenced during her pregnancy, in particular by anything she saw.[32] Neither the family nor the woman remembered anything unusual. Yet, Van Doeveren says:

"Nonetheless, the common people, blinded by prejudices, spread the rumour –which was strengthened by circulation - that fear induced by the sight of the slaughtering of a ram had caused the monstrosity."[33]

Moreover, the explanation of *imaginatio materna* or the mother's immoral actions as the cause of deformations required reason, morality, and imagination in the mother to impress the image of the terrible thing on the foetus, thus giving no satisfying explanation for monsters in animals and plants – which after all, have no reason, morality, or imagination. Yet although scarce, there were too many monsters to be coincidences, and moreover, the teleological idea of Nature as a system created by an almighty and infallible God in which everything had a purpose did not allow for mistakes. In line with the great taxonomical projects of the century, such as Linneaus' work, many tried to figure out whether monsters might be some kind of

[30] Hall 2008, p.149.
[31] I.e. Wilson 2002.
[32] Van Doeveren 1765, p. 47-48.
[33] Ibid., p. 48: *"Nihilominus tamen praejudiciis occaecatum vulgus famam excitavit, quae eundo quoque crescebat, terrorem, spectaculo arietis mactati productum, huic monstro causam fuisse."*

misunderstood category.[34] Maybe, some natural philosophers and anatomists argued, they formed a particular category and had a purpose (teleos) within the great system of nature that had so far been overlooked.[35]

The word 'purpose' is essential here. In the teleological view, purposefulness had long been equated with perfection, but not necessarily beauty, and this is exactly what explains this *aesthesis ex negativo*. Ancients like Xenophon and Longinus, and eighteenth-century writers like Mendelssohn and Burke, had used the example of the (apparent) ugliness inside the human body to explain that neither ugliness nor anomaly were contradictory to the perfection of nature, or to the will of God.[36] Moses Mendelssohn (1729-1786), a student of Baumgarten and Shaftesbury, in 1755 published his *Letters on the Sensations*. He stated that although he agreed with Leibniz that ours is the most perfect universe possible, not every expression of perfection equates with beauty. Some forms are perfect, as they fulfill their *teleos*, their goal, but still they are ugly. Mendelssohn argues that 'underneath the skin terrible forms lie hidden' and that 'all vessels are seemingly without order'; harmony and unity cannot be discerned.[37] Burke uses this same example of the intestines of man as perfectly suited for their goal, but ugly.[38] In the same vein, Van Doeveren believed his monsters to be perfectly suited to their goal, although he was not entirely sure what that was: to discover this was precisely what teratology aimed at.

This is a tendency that can also be found in the literature of the eighteenth century and beyond: both Goethe and Bilderdijk have written arguments in which they explain how the apparent ugliness of the inside of the body is actually beautifully purposeful, and that dissection is therefore not to be thought of as disgusting.[39] As early as 1748 the Irish painter Barry wrote:

"According to the definitions generally given, Beauty consists of unity and gradual variety; or unity, variety, and harmony. Our rule for judging of the mode

[34] Linneaus himself classified *Homo Monstrous* as a specific species, next to *Homo Sapiens*. Also see Wilson 2002, p. 7-8.
[35] Hagner 1999, p. 199-200.
[36] Hammermeister 2002, p. 16.
[37] Mendelssohn 1755 (in 1788) p. 59.
[38] Burke 1990 (1757), p.97.
[39] Von Goethe, "Zur Morphologie." 1987 (1795-6) section 2, vol. 8, p. 64, Bilderdijk 1783.

and degree of this combination of variety and unity seems to be no other than that of its fitness and conformity to the designation of each species."[40]

Thus he connected beauty to perfection, in the sense that what is perfect or beautiful is to be completely fulfilling its purpose; but not necessarily to be pretty. This is exactly how Van Doeveren's aesthesis led him to interpret his monsters: as freaks of nature, deviations of the beautiful pattern of nature, but in these freaks, that same nature proved her astonishing power.[41] Such a sense of purpose, of meaning, probably also helped to make monsters less disgusting, which may explain why the anatomized body appears to have been more acceptable within the public sphere then than it is nowadays.[42]

Buffon and Hunter, natural philosophers, anatomists, and contemporaries of Van Doeveren, also gave teleological explanations for the presence of monsters and their categories, so Van Doeveren's wish to contribute to the debate, expressed in his case studies of monsters, partly explains the presence of the hare-lipped dog in his collection.[43] However, one would expect that the tendency to no longer view monsters as one-off wonders or as devil's brood, but rather as purposeful parts of a larger system, would suggest that a collector like Van Doeveren would try to collect as many specimens of a particular deformity as possible. Yet Ad0022 was the only preparation of a creature with a hare-lip in Van Doeveren's collection. In the collection of diseased bones Sandifort described two children's skulls with cleft palates, and which are the only preparations with this deformation that were in the Leiden collections circa 1792.[44] The *Museum Anatomicum*, in which these preparations are listed, is primarily a catalogue with little or no explanation of the many individual preparations, and we have no known writings on this particular preparation by Van Doeveren, so the significance of this specimen within the collection can only be

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[40] Barry, 1748, p. 103.
[41] Van Doeveren 1765, p. 34: *"Naturam haud raro in Hominum generatione aberrare a pulcerrimo illo ordine, quo ab ejus sapientissimo Auctore est imbuta, et saepius quoque Lusus amare, quibus majorem, magisque mirandam, suae potentiae vim commonstret, docent innumera monstrosorum Fetuum, eorumque diversissimae formae, exempla, a fide dignis Scriptoribus observata."*
[42] Alberti 2011, p. 189, argues that *"Over the last three centuries the sight of the corpse and the internal workings of the human body have increasingly been deemed disgusting" and that "While disgusting things were removed from the public sphere, that which constituted 'disgusting' expanded."* However, Ruysch 1744, p. 691, mentioned a preparation of a foetus with a cleft palate and spina bifida that he would only show on request, as he did not want to frighten anyone with it. Also see Knoeff 2012.
[43] Fontes da Costa, 2009, p. 125-131.
[44] Sandifort 1793, vol. I, p.163-4, also see Sandifort 1777, vol. IV, p. 29.

understood through analysis of secondary sources. First, I will shortly discuss Sandifort's work on cleft palates to give an impression of how they were dealt with by the Leiden anatomists. Subsequently, I will use the listing of the Van Doeveren collection in the *Museum Anatomicum* to define the place of this preparation within his collection, as this is the earliest available listing of the collection as a whole.

Between 1777 and 1781, Eduard Sandifort published a series of four books of anatomical-pathological observations. He did so to register and disseminate his findings in dissections of pathologies, hoping that it would eventually lead to a better understanding of birth defects. In the third chapter of the fourth book, Sandifort describes a case that is exceptional because it is one of the very few of the period in which a patient is described both before and after death. It also painfully illustrates the fate of children with severe birth defects at the time. A newborn girl with a complicated double cleft lip, palate, and nose was brought to Sandifort by her parents. Sandifort stressed that her parents were good Christians and that this was their eleventh child, but the first one with such a deformation, once again trying to shed the persistent belief that the imagination, or morals, of the mother influenced the formation of the unborn child.[45] Sandifort was aware that less complicated cases could be successfully operated on, and that these children could live well into adulthood. Yet a defect as severe as this one was impossible to cure, so Sandifort could do nothing but give a very detailed description, illuminated with a drawing of the child from three different angles. In one of the illustrations, she is crying [Ill. 46].[46]A child with such a severe cleft lip and palate is difficult to feed, and at twenty-two weeks old, despite the best efforts of her parents, the girl died of malnourishment.[47] Sandifort persuaded the parents to give him the body, and carefully dissected and described the skull [Ill. 47].[48]

Van Doeveren had also encountered his share of birth defects in his career. Over a decade before Sandifort published his account of the girl with a complicated cleft palate, Van Doeveren compared a number of monstrous births in a series on pathological specimens he observed while serving as anatomy professor at Groningen University. One of them was a child in a comparable state as the girl brought to Sandifort, but this child could not eat at all, and Van Doeveren notes that, as he could

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[45] Sandifort *Observationes*, vol. II, liber IV, caput III, p. 30.
[46] Ibid., p. 30-32, 36-38, Tab. VI.
[47] Ibid., p. 32.
[48] Ibid., p.32-35, Tab. VII.

offer the parents no cure or comfort, he was forced to send them away again.[49] It is not surprising, being confronted with this kind of suffering, and unable to do anything about it, that Van Doeveren wanted to understand more about the occurrence of birth defects like cleft palate, and whether they had some kind of purpose. So precisely what kind of position did monstrous preparations have in his collection?

The monstra, often taken as representative of the Van Doeveren collection, in fact form a very small part of it: only 28 of the 441 preparations, so less than seven per cent. Of these monstra, 23 are human and 15 are animal.[50] As we have seen, the animal monstra are also the only animal preparations within this collection of human anatomy, suggesting they were used as additional or stand-in specimens within a category that was difficult to fill for the collector. As the debate on the function and meaning of monsters and the desire to practice taxonomy grew in the eighteenth century, monstrous specimens were likely to have become even more desirable and thus scarcer commodities for the assemblers of natural history collections. Exactly what kind of monsters did Van Doeveren collect, and what were his ideas about them? Most importantly how do Van Doeveren's monsters reflect eighteenth-century aesthesis?

When we consider the 'monstrosities' in the twenty-eight monstrous preparations in the Van Doeveren collection, we find in the human specimens section five cases of anencephaly, one specimen of what is now known as TRAP[51], one case of craniopagus (twins conjoined at the head), a case of spina bifida, three cases of malformed uteri, a case of hydrocephalus, a rectum with fungus, a brain tumour in a child, enlarged testicles, dactylitis ('sausage digits'), a placental tumour, a case of molar pregnancy, four parts of placentas from molar pregnancies, and a liver tumour. In the animal section, we find after the dog with the hare-lip a dog with five legs, one with three legs and one with two legs, a double-headed kitten, a cyclops pig, a pig

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[49] Van Doeveren 1765, p. 48: *"Sugendi facultate carentem, & difficillima, si ulla, deglutitione valentem, misellum tanto majore morti proximum, incurabilem, tristesque parentes optato solamine destitutos, dimittere fuerim coactus."*

[50] Numbers based on the sales catalogue of the Van Doeveren collection (1785) and the listing of the Van Doeveren collection in the 1793 first volume of the *Museum Anatomicum*. Today very few preparations from the Van Doeveren collections remain; most were damaged beyond repair in the 1807 explosion of a gunpowder ship on the Rapenburg canal.

[51] TRAP: twin reversed arterial perfusion. A rare complication of twin pregnancies, involving an acardiac twin (i.e. a twin without a heart, and mostly also without a head and arms) whose structural defects are incompatible with life, and an otherwise normal "pump" twin. Basically, it looks like a baby with the abdomen and legs of another one growing out of its chest.

with a misshapen upper jaw, two preparations of pigs with one head and two bodies, a four-legged chick, a chick with only one eye and a deformed upper beak, a chick with two heads and three legs, a grown finch with two heads, a pigeon with a split sternum, and finally a monstrous salmon head.[52]

This small, odd assembly of both congenital defects and pathologies shows that teratology and pathology were indeed emerging fields in Van Doeveren's time.[53] Also, the limited number of these preparations in his and other eighteenth-century collections suggests that it must have been very hard to find these specimens, let alone find more than one with a particular deformity or pathology.[54] Yet the number of human anencephales, misshapen uteri and molar pregnancies in Van Doeveren's collections suggest some kind of specialisation in these deformations. Another possibility is that Van Doeveren sought particular specimens which illustrated his theory about the function and meaning of monstrosities. This is the point where we have to turn to Van Doeveren's known writings to figure out whether this was indeed the case, and if his texts suggest anything on why he included the hare-lipped dog in his collection. Unfortunately, these written sources are limited to some of his correspondence and his published work, as his will stated that his personal archives with unpublished material were not to be published after his death.[55] This wish was respected, but anyway most of these personal archives were probably subsequently destroyed in the 1807 gunpowder ship explosion.

Among Doeveren's first publications was a number of case studies of monsters in a book, *Specimem observationum academicarum ad monstrorum historiam, anatomen, pathologiam et artem obstetricam, praecipue spectantium* (1765), published when he was professor of anatomy at Groningen University. Although he writes nothing in it about hare-lips, cleft palates, or our little dog, from the illustrated case study of a double-headed lamb (a specimen not even listed in the *Museum Anatomicum*) we can learn a lot about Van Doeveren's ideas on monsters and birth

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[52] E. Sandifort 1793, p. 110-111

[53] From the end of the eighteenth century, teratology became a particular area of interest for anatomists as there was still no satisfying explanation for the occurrence of birth defects. Many expected that a more systematic study of such deformations would lead to more knowledge about how they occurred. Moreover, disease had long been thought of in terms of humoral imbalances, but in this period the realization grew that disease could actually be located in very specific parts of the body, like one particular organ, limb or structure. Also see Lewis 2011.

[54] I.e. within the collection of Petrus Camper (http://anatomie.ub.rug.nl/index.htm), we find only one human 'monster': a specimen with a cleft palate (A0502).

[55] Van der Zwaag 1970, p. 66.

defects. [Ill. 48] He was given the specimen by his Groningen colleague Nicolaas Engelhard, a professor of philosophy, and used it to discuss the problem of the generation of monsters.[56] There were generally two views on this: either monsters come into being accidentally, because of external forces, or they are so-called primigene monsters, which are actually purposeful, and thus beautiful. In line with earlier work by Von Haller and Winslow, Van Doeveren argued that this lamb proves that monsters are meant to be the way they are, because of the wonderfully symmetrical, purposeful way it was build.[57]

The lamb, according to Van Doeveren, proved that there is most likely only something he called *monstra primigena*, deformities which were purposefully created by nature. The possibility of *monstra accidentalia*, meaningless, accidental, congenital defects he rejected. In the case of the lamb, he argued, it could not have emerged from two lamb embryos pushed together, as the fusion was perfect and seamless.[58] To Van Doeveren, it was exactly in the deviations from the beautiful patterns in the Creation that Nature proved her exceptional powers.[59] This reverence for the exceptional power of Nature reminds us of the sublime, a term coined in the eighteenth century by Edmund Burke to describe the overpowering sensation of fear-inducing beauty sometimes experienced when confronted with natural phenomena, such as a ravine, a thunderstorm, or a great waterfall.[60] Interestingly, the objects of the sublime are always things or phenomena that could cause us pain, but are experienced as sublime precisely because we experience them in a situation or representation that ensures we are safe from them – think of a painting of a ravine or a panorama platform over a great waterfall.[61] In a way, that goes for these monsters as well: if alive or unpreserved, they could be dangerous for us, but dead and safely conserved in drawings and preparations, they are harmless.

Yet the eighteenth-century notion of the sublime appears to have applied only to things and phenomena much bigger than oneself, suggesting the monsters of Van Doeveren are closer to the category of eeriness than to the sublime. But the awe Van

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[56] Engelhard himself did not publish anything on monsters, but his editorship of a book including a paper on monsters (Engelhard, 1736) suggests he was aware of, and interested in, the debate surrounding them.
[57] Van Doeveren, 1765, p. 46.
[58] Ibid., p. 47.
[59] Ibid., p. 34.
[60] Burke 1990 (1757). I have not found any eighteenth-century Dutch publications mentioning the sublime or an equivalent.
[61] Guyer, 2005, p. 35.

Doeveren clearly felt when studying these monstrous specimens obviously has little to do with the gross-out we seek when we watch a horror movie, for example. Korsmeyer has recently tried to find a way to both include and distinguish the kind of sublime-like awe Van Doeveren felt for these relatively small preparations. Her solution is the category of the *sublate*. Although the essence of the experience is in the same sphere as that of the sublime, 'the sublate can come in small and subtle doses', 'bringing home general truths in a particularly vivid manner', and the insights it provides 'are grasped not only with the mind but also with palpable somatic resonance'.[62] So not only can the sublate be found in small objects, such as an anatomical preparation, through its eerie beauty, a sublate object also exemplifies general truths in a sensory experience.

Korsmeyer writes with (contemporary) art in mind, yet it appears her description of the sublate serves very well in understanding the result of the aesthesis Van Doeveren sought to instill in his preparations of the apparently deviant, pathological, and monstrous. He sought beauty and perfection in the materiality of the freaks of nature he collected, relying on his own sensory perceptions, and – quite exceptional in eighteenth-century aesthesis - sometimes even voicing this explicitly, as in the case of the lamb that was so wonderfully and purposefully built, that nothing indicated the two lambs had been coincidentally pushed together.[63] This aesthesis helped Van Doeveren to deal with the disgust that always hovered so very near, using it to vividly draw attention to what he believed to be general truths. Preparations of monsters certainly had more somatic resonance for him than the drawings he made of them to illustrate his treatises, as appears from his eagerness to acquire a preparation from his deceased colleague Noortwijk of which the latter had an illustrated work.[64] From his views on monstrosity, in which Van Doeveren derived a general rule from singular examples, it appears that seeking purpose and meaning in what was generally thought to be horrific and weird was also his way of dealing with the atrocities of nature he encountered in his practices. Moreover, by preserving specimens like these in fairly non-offensive preparations and drawings, eighteenth-century anatomists made them more acceptable for display, maybe even suitably to evoking some kind of aesthetic experience, and converted them into useful and

[62] Korsmeyer 2011, p. 134-5.
[63] Van Doeveren, 1765, p. 43-46. On this case also see Elshout 1952 p. 81-82, Van der Zwaag 1970, p. 80-81.
[64] Van Doeveren. MS Uva *Letter to Petrus Camper,* 23 August 1771,UB: HSS-mag.: IV A 9:2 [j].

meaningful didactic instruments. Yet some controversies however could not be solved through making preparations and illustrations; in the case of smallpox inoculation, anatomists turned to poetic rhetoric.

Smallpox and poetry

At first sight, preparation Ab0100 is a typical Albinus preparation: a sensory organ of average size and shape, the other sensory organ covering it, the skin, partly removed so the structure of the cutis is visible, and injected with coloured wax so it has the life-like appearance Albinus preferred. Yet it is not entirely perfect, as we might expect from an Albinus preparation: it has a tiny smallpox mark [Ill. 16, colour plate 2].[65] In this section, I will use the most remarkable aspect of its materiality, the smallpox mark, so unlikely in the work of this anatomist, to explore the impact of smallpox on the Leiden anatomists, their work, and their aesthesis.[66]

A smallpox mark…

Albinus' reason to inject this ear with coloured wax and preserve it in his collection was that he used it in his study and teaching of the sensory organs.[67] Yet while he tried to find perfect specimens for each of his preparations, in this case he appears to have had no choice than to accept an imperfection: a tiny smallpox mark just above the antitragus. Although the smallpox mark was visible in the illustration of this preparation in Albinus' paper on the lodging of the hair in the skin, he merely acknowledges its presence in the explanation of the table.[68] [Ill. 44] Apparently he felt no need to elaborate on this imperfection, something that seems to have confused Sandifort a little. In the latter's inventory of the Albinus collection in the 1793 *Museum Anatomicum* only two preparations of the auditory organ are listed: this particular ear as number 173 and a preparation of an ear lobe as number 174. After noting the smallpox mark on the adult human ear Sandifort lists the ear lobe with the

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[65] I will not pay much attention to the fact that this particular preparation is an ear, as Albinus' preparations of the sensory organs have already been extensively discussed in chapter 3.
[66] Smallpox should not be confused with pox. Pox in the eighteenth century referred to (the symptoms of) a disease that was also referred to as 'lues', 'lues venera', 'venereal disease', 'French disease', the 'loathsome disease' and 'syphillis'. Smallpox marks were condemned by some because they destroyed beauty, but were so common that they were not considered to be particularly shameful, unlike pox marks, which, especially in women, were considered a sign of loose morals. (see Staves 2010, p. 155)
[67] For more on Albinus' study of the senses, see chapter 3.
[68] Albinus, *Annot. Acad. Lib.*, vol. VI, Caput IX, p.57-62, 158-9 & Tab. III, Fig. IIa. In the explanation of the table, on p. 158, Albinus simply notes: 'cicatrix variolae'; smallpox mark.

words: "Adult human ear lobe, as in 173. But no variola scar is at hand", as if he wanted to stress that unlike 173, this is a hard to find but perfect preparation of an ear.[69] I therefore argue that the fact that Albinus apparently readily accepted the flaw of a smallpox mark in his preparation is indicative of the widespread havoc caused by smallpox in the eighteenth century.

Every three to four years, a smallpox epidemic raged through the bigger Dutch cities. About seventy-five per cent of all people were infected at some point in their lives, and twelve to fifteen per cent of those died of the smallpox. The disease was especially dangerous for the young: a child in an eighteenth-century Dutch city had a one in five chance of dying of smallpox before it reached the age of ten.[70] Those smallpox sufferers who were 'lucky' enough to survive a severe infection were marked for life: especially on the face and hands, which could be left severely pock-pitted [Ill. 49]. With these statistics in mind, it is remarkable that there are relatively few known preparations with smallpox marks in the eighteenth-century Leiden anatomical collections: the Albinus ear is the only one of which we are certain was actually there in the eighteenth century. In the modern catalogue, twelve other preparations with smallpox marks are listed. One (Pa0186) is listed as part of the purchase of the Bonn collection from the Amsterdam Surgeon's Guild in 1822, but as mentioned in the previous chapter, it could also be a Ruysch preparation considering its iconography [Ill. 15].[71] Ruysch made at least one other preparation in which he tried to cover up smallpox marks. He described it as follows:

"The head of a newborn of a negro, in which it should be noted that not only this head but the entire child was covered in smallpox, although the mother during her pregnancy was not affected by pox at all, and as afterwards the head was black and unsightly, to avoid all hideousness, I have decorated it all around with injected veins from another subject.[72]

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[69] Sandifort 1793, vol. I, p. 152: *"CLXXIV. Auricula hominis adulti, ut CLXXIII. Sed cicatrix variolae nulla adest."*
[70] Rutten 1997, p. 49-54, 82-3.
[71] Like in other preparations by Ruysch, in this one human tissue is also combined with lace and plants. The severity of the smallpox marks seems to exclude it as an Albinus preparation.
[72] Ruysch 1744, p. 726: *"Het hoofdje van een pas geboore kindje van een negerinne, waar in aan te merken staat, dat niet alleen dit hoofdje, maar ook het geheele kindje met kinderpokjes bezet waren, hoewel de moeder ten tijde hares dragts van geen pokken aangetast was geworden, en nadien het hoofdje swart en onaangezien was, zoo heb ik het zelve, om alle affschuwelijkheyd te mijden, rondom met opgevulde slagaderen van een ander voorwerp bezet."*

From this description it appears that although smallpox marks were so common that Albinus, the Leiden champion of perfect anatomy, saw no other option than acquiescence when confronted with a specimen with a single smallpox mark, severe cases still evoked disgust in both medical men and others.

In the Leiden collections, three other preparations with smallpox marks are first mentioned in the nineteenth-century Suringar catalogue, and another nine of unknown origins are listed. All or some of these could be from the eighteenth century too, judging by the materials and techniques used, but there are no indications they were made by Leiden anatomists, or that they were present in the Leiden collections in the eighteenth century.[73] The limited number of preparations with smallpox or smallpox marks may have various explanations. In the case of the highly infectious smallpox, there obviously is something to say for avoiding contact with them in the contagious stage of the disease, let alone going through the invasive bodily process of creating a preparation of a smallpox-infected body part.[74]

However, most eighteenth-century anatomists would have caught smallpox as a child, and it was commonly known that once you survived a smallpox infection, you were likely to be immune for the rest of your life. As almost no one had to fear infection from old smallpox marks, it is still remarkable that there are so few preparations with smallpox marks in the collections. Moreover, smallpox marks were so common that they were described as simply another feature, for example of a missing person, like their complexion, hair colour, and height.[75] Their absence can therefore only be suitably explained by the quest for elegance and beauty in preserving normal anatomy that dominated Albinus' work, and also to some extent that of his successors. Yet despite there being few pathological preparations in the Leiden collections until the late eighteenth century, such as preparations of smallpox, this did not mean that the Leiden anatomists were not involved in the debates and controversies surrounding ravaging diseases, such as the smallpox, and their possible cures.

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[73] Concerns preparations Am0089, Pa0187, Pa0277 (Suringar catalogue) and Pa0007, Pa0016, Pa0032, Pa0036, Pa0128, Pa0143, Pa0144, Pa0192, Pd0013 (origins unknown).
[74] Smallpox was only eradicated in 1980, and because vaccination campaigns were terminated after eradication, even today virologists fear that accidental or intentional release of the stored virus could cause widespread epidemics. (Breman & Henderson 2002, p. 1300).
[75] Gowing 2010, p.141.

Learned men and common people alike were appalled by the waste of life these diseases caused, and the fatalism inherent in earlier religious ideas that life was nothing but a preparation for a good death was increasingly abandoned in favour of self-help.[76] As just mentioned, it was commonly known that a mild infection would prevent a person from catching the disease again. This led to practices such as putting healthy children to sleep in a bed with a child with mild smallpox, so they would almost certainly survive the disease and in future be protected from it.[77] Besides these common-sense lay treatments, inoculation was practised by medics from the eighteenth century, causing great academic and public debate. Lady Mary Worthley Montagu (1689-1762), the wife of the British ambassador to Constantinople, imported the practice of inoculation against smallpox from Turkey in 1721, where the practice had been common for centuries. Inoculation, also called invariolation, was the deliberate infection of an individual by making a small lesion in the skin and rubbing in the fresh purulence of a smallpox patient into them.

Lady Montagu had herself been stricken with smallpox early in the eighteenth century, and probably used this personal experience to write *Saturday; the Small-Smallpox*, a poem based on pastoral conventions in which the main character mourns the loss of her beauty to the scars of smallpox.[78] The poem is, in effect, *aesthesis ex negativo*: an experience of deformation, of ugliness, a sensory experience of disgust of one's own body translated into an elegant, eloquent textual account. Although Lady Montagu's children were successfully inoculated, the practice had at least as many adversaries as supporters when it was first introduced in Europe. Many considered it a risky business, which might even advance the spread of smallpox. Other objections were the financial cost of inoculation and theological concerns about interfering with God's providence.

The first recorded inoculation in the Netherlands occurred in 1748, when the French-Swiss Amsterdam-based medic Theodore Tronchin (1709-1781), who had studied in Leiden with Boerhaave, inoculated his eldest son, after the youngest had suffered a severe bout of smallpox. This case was described in 1754 by Charles Chais (1701-1785), a Wallon preacher at The Hague who wanted to refute theological

[76] Porter 2003, p. 211-3.
[77] Rutten 1997, p. 189.
[78] Montagu 1837, also see Spacks 2009, p. 90-1.

objections to inoculation.[79] Other Dutch advocates of inoculation were professors Petrus Camper in Groningen, Gadso Coopmans (1746-1810) in Franeker, and Wouter van Doeveren and Eduard Sandifort in Leiden. The Europe-wide interest in the inoculation debate also emerges from the large number of entries for 'smallpox' and 'inoculation' in the commented bibliography published between 1765 and 1775 by Eduard Sandifort: no less than 85 works on these topics from all over Europe and beyond were discussed by Sandifort in this decade.[80] Apart from case histories and papers we would now identify as academic, the debate was simultaneously enacted in poems and pamphlets by much the same people. The work done by, and the controversy surrounding, Leiden professor Wouter van Doeveren is illustrative here.

Wouter (sometimes anglicized as 'Walter' or latinised as 'Gualtherus') van Doeveren was born in the south-western province Zeeuws-Vlaanderen in 1730 as the son of a government official, and went to school in Goes. He enrolled as a medical student in Leiden in 1747, and took classes with professors Winter, B.S. and F.B. Albinus, Van Roijen, Musschenbroek and Gaub. After finishing his studies in Leiden he spent some time in Paris to study with the famous obstetrician André Levret. On his return to the Low Countries in 1754, he was appointed professor of medicine at Groningen University, where he would remain for almost twenty years. Not only did he teach at the university, he also taught anatomy to the city surgeons and their apprentices, was a city physician, educated the city midwives in obstetrics, served as legal physician, researched pathology, obstetrics, surgery and inoculation, and published on all those topics.[81] In an undated letter to his friend Jan Tak he stated his support for a treatise advocating inoculation by Charles Chais (1700-1785), expressing the hope that it would lessen resistance and prejudice against inoculation.[82] Eventually, Van Doeveren was appointed professor of anatomy at Leiden University in 1771, a position he would maintain until his death in 1783. It was during his career in Leiden that the inoculation controversy in the Netherlands reached its height.

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[79] Chais 1754, p. 651-2, Van der Zwaag 1970, p. 121.
[80] See Sandifort *Natuur- En Genees-Kundige Bibliotheek* 1775, vol. 11 (register).
[81] Van der Zwaag 1970, p.7-70.
[82] Van Doeveren, MS UvA UB: HSS-mag.: Y 123:o, verso II. Chais published on inoculation twice, in 1754 and 1768. The former was also published in the proceedings of the Holland Society of Sciences in Haarlem in 1754, and as Van Doeveren refers to the society before mentioning Chais, it is most likely that the letter is from 1754 or shortly afterwards.

Fortunately for Van Doeveren, when he started his career in Groningen, he found himself in an atmosphere conducive to inoculation and he performed the first inoculations in 1759.[83] What began with seven inoculations in 1759 had grown into an extended inoculation program ten years later, including not only the upper classes, but also the less well-off.[84] Just before his departure to Leiden, in 1770, he wrote in a letter to Eduard Sandifort:

"It is mainly the unanimity of all the physicians in this city which has contributed to the excellent progress of inoculation, a work of so much importance: I have doubted whether there was one amongst them, who did not advocate and practice inoculation: rare example! The noble permission and public declarations of the foremost of our Theologians and Preachers; their prayers and giving thanks from the pulpit; yes, setting an example with their own children and relatives; have contributed to strenghten the work, and to have many embrace the practice."[85]

With Groningen still fresh in his memory, Van Doeveren used his inaugural lecture in Leiden, delivered on 6 May 1771, to once more advocate inoculation as a means to battle smallpox epidemics.[86] However, in the same month, the burgomasters of Leiden officially asked the medical faculty for advice on inoculation policy. The faculty replied that inoculation would not be wise when there are no smallpox cases in the city, in consideration of the risk of contamination.[87] Van Doeveren, his pride piqued, wrote a response to the faculty on 2 June. He explained that although he could understand the point of view that inoculation on a wide scale was not necessary as long as the smallpox had not been diagnosed in the city, he feared that the advice given by the faculty would be misinterpreted and used by the adversaries of inoculation to totally abandon the practice. According to Van Doeveren, once smallpox appeared either in the city itself or in neighboring towns and villages, the university and city should indeed actively promote inoculation.[88]

Initially, his plea seemed to be of little use. On 13 June, the judiciary of Leiden requested the medical faculty as well as all physicians, surgeons, and apothecaries to

[83] Van Geuns in Van Doeveren 1771.
[84] Van Doeveren 1770b, Camper 1770.
[85] Van Doeveren 1770a.
[86] Van Doeveren 1771, p. 48.
[87] Van der Zwaag 1970 p. 132, Daniëls 1875, p. 110-1.
[88] Van Doeveren 1771 quoted in Van der Zwaag 1970 p. 131-2.

no longer inoculate or cure smallpox, threatening punishment if caught.[89] However, when an epidemic seemed to be nigh in late 1772, the ban was lifted and Van Doeveren started inoculation on 16 february 1773 with the six year old child of a fellow professor, treating thirty others in the following two months. Nonetheless resistance among the people of Leiden was fierce, and in the course of 1773 a poetic slander campaign arose against Van Doeveren.[90]

… and poetry.

At the centre of the controversy surrounding Van Doeveren and his plea for inoculation were two anonymously-published Dutch satirical poems. This may seem strange, but the tacit aesthetic attitude of the Leiden anatomists and their social circle not only transpired in their dealing with the shift which would eventually lead to the new disciplines of pathology and comparative anatomy, it also appears in the controversies over anomalies they were part of. In the eighteenth century, it was very common amongst scholars to fight their intellectual battles not only in private correspondence, but, as there were yet no academic journals to speak of, also in public media such as books, spectatorial reviews, and printed pamphlets. In many cases, learned men (they were mostly men) even tried to settle their disputes through poetry. Poetry had long-standing status as an authoritarian 'mode of social and philosophic commentary', which simultaneously allowed for 'openly expressed feeling' and the deployment of 'sensibility as a basis for judgment'.[91] After all, according to Baumgarten, the poem is the perfect sensate discourse, the pre-eminent manner in which to express what is perceived through the senses.[92]

Moreover, neo-Latin literature flourished in the Low Countries until the 1830s, a phenomenon which has been partly ascribed to the lack of standardized grammar, vocabulary, and poetic rules in Dutch, as well as to the fact that classical philology was an integral part of every well-reared young man's education. Already at the Latin schools, between the ages of seven and fourteen, boys learned to write letters, speeches, and poems in Latin. In the Northern Netherlands, the dominant Protestant poets were mostly professors, who often specialized in the genre of the

[89] Daniëls 1875, p. 111.
[90] This controversy has also been partly described in Dutch in Van der Zwaag 1970, p. 120-144.
[91] Spacks 2009, p. 185.
[92] Baumgarten 1735, §1-9 (1954 edition p. 37-9).

descriptive and moralizing Horatian ode.[93] Medical heroic-didactic poetry, the description of the symptoms and cures of virulent diseases, was a literary tradition originating in antiquity that had been enthusiastically cultivated since the Renaissance. It had started with Hieronymus Fracastorius' *Syphilis* in 1530 in Verona, and for many eighteenth-century scholars, new discoveries were not validated until they were celebrated in poetry.[94] The lofty art of Latin poetry was also a manner in which to show one's eloquence, and to discuss what were in themselves rather gory affairs in an agreeable manner.

The poems attacking Van Doeveren were *Portrait van G. van D. .....N* and *Op de inenting der Kinderen-pocken* (on the inoculation of smallpox).[95] Although not written in Latin, they were most likely the products of the pen of Van Doeveren's fellow professor, the old physician and botanist Adriaan van Royen (1704-1779), who was a fierce opponent of inoculation.[96] These works were more squibs than satire. On one hand, the Netherlands did not have much of a tradition of satirical poetry, especially not compared to England. On the other, the writers of these rhymes ignored many traditions of the classical satire. Most importantly, instead of a critique of the vices of an age or region, these poems are outright personal attacks.[97] In *Portrait van G. van D. .....N,* Van Rooijen portrays Van Doeveren as a poser who will quickly be unmasked:

> *"For some time he proudly parades with his cloak and Asclepius' rod,*
> *O joy! The robe falls from his shoulders*
> *There stands Aesop's crow with all his figments"*[98]

The cloak and the Asclepius rod obviously are the traditional accessories of the academic physician, but the rod might also be explicitly mentioned because of the ambiguity of the symbol of the snake: an icon of both rejuvenation and poison, the

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[93] Guépin 1986, p. 138-142.
[94] Sacré 1996, p. 521-2.
[95] Daniëls 1875.
[96] Ibid., p. 99-108. Daniëls was given a set of document by Mr. W.P. Sautyn Kluit, whose grandmother was a granddaughter of Adriaan van Rooijen. The poems were anonymous, but Daniëls compared the handwriting to letters written and signed by Van Rooijen, and came to the conclusion that he must have been the author. He describes this on the first two pages.
[97] Geerars 1971, p. 5/16.
[98] Daniëls 1875, p. 99: *"Hij stapt een wijl met 't pack, en AESCULAAP zijn staf / Trots voort; o vreugd! Het kleed glijdt van zijn schouders af / Daar staat Aesopus' kraay met all' zijn herssenprullen."*

bite of the snake resembles the potentially fatal sting of inoculation.[99] The mention of Aesop's crow refers to the fable of the fox and the crow: a fox sees a crow with a piece of cheese or meat in its beak, and flatters the crow into singing for him so it lets go of the cheese.[100] Despite the classical references, this short poem with its meek ABBA-ABBA-CCD-EEF scheme was a far cry from the erudite medical-heroic Horatian odes of which Van Royen was certainly also capable.[101] Possibly he resorted to this crudeness to safeguard himself from suspicions. If he did so, it had the intended effect, because the adversaries of inoculation still had the upper hand in Leiden. This became clear on 1 May 1773, when the city council of Leiden once more decided to issue a written decree that banned the practice.[102] However, Van Doeveren persisted in advising colleagues in other cities on inoculation.[103] He did not respond with venomous poetry himself however, instead, like-minded friends stood up for him.

In 1777, six years after the start of the Leiden inoculation controversy and shortly after his royal inoculation success, a Latin poem dedicated to Van Doeveren and his inoculation practices was published by his friend Petrus Burman secundus (1713-1778), a classics scholar and Neo-latin poet who was a professor in rhetoric and national history at the University of Amsterdam, and who wrote and republished much classical Latin poetry.[104] That the inoculation debate was far from over is clear from the fact that this poem was immediately replied to with another poem by Cornelis Peereboom, an Amsterdam physician who was a strong adversary of inoculation. However, Peereboom's poem was once again in Dutch, and not as eloquent as Burman's by a long way. Burman used the classical poetic form of an elegiac distich, a Horatian-style lamentation in two-line stanzas of which one line is a hexameter, the other a pentameter.[105] In content, Burman effortlessly mixed Horatian characters and events with current affairs, as appears from this fragment:

[99] On the ambiguity of the snake on the Asclepius rod, see Ronson 1990, p.122-132.
[100] Aesop 2007, p. 112.
[101] Van Royen published various volumes of Elegiac poetry in Latin during his life, i.e. *Poëmata* (1778)
[102] Daniëls 1875, p. 115.
[103] i.e. Van Doeveren, MS UvA OTM:hs. Y123:o.
[104] Burman MS SA 1776.
[105] Luck 1982, p. 405.

Utque diu exemplo Byzantia turba praeivit,	*And once the Byzantine troupes have taken the lead with their example,*
Auxilia & Rheno Bosporis unda tulit,	*And the water of the Bosporus has brought help to the Rhine,*
Exprobrat haec Belgis, Othomana a gente doceri,	*These Belgians are reproached for having let them be taught by the Ottoman people,*
Quae simul ars miseris vulnus opemque ferat.	*This practice that brings injury and help to the miserable ones at once.*
Sic quondam Haemonia Pelidae saucius hasta	*Like once wounded by the Haemonic spear of Achilles,*
Telephus hac ipsa cuspide sanus erat.[106]	*Telephus was cured by that same spearhead.*

Obviously, the first two stanzas refer to the transfer of the inoculation practice from the Ottoman empire to the Low Countries in the early eighteenth century: from the Bosporus to the Rhine. The last stanza, in contrast, refers to a classic legend that also appears in Horatius' *Odes*. According to this legend, Telephus, a son of Heracles, was wounded by Achilles' spear (Pelides is a patronymic for Achilles, son of Peleus) in the battle of Troy. An oracle informed him that the lethal wound could only be cured by what had inflicted it, and in exchange for directions to occupy Troy, Telephus persuaded Achilles to use his spear to cure him.[107] Obviously this myth was thought by Burman to be an almost perfect allegory for the prevention of smallpox by deliberate inoculation with the disease.

But why did Van Doeveren not respond in poetry himself? After an article on the smallpox in the proceedings of the Hollandsche Maatschappij der Wetenschappen in 1770, he appears not to have published anything further on the subject. And this at a time when it was not uncommon for medical professors to write both technical prose and lofty poetry aimed at achieving beauty on the same topic.[108] He expressed his frustration with the course of events in Leiden in letters to his friends, writing to Tak at one point: 'I am ashamed of our Nation, often as I think about the unfortunate history of inoculation'.[109] However, he seems to have made no attempts to publicly defend himself in poetry, although the Latin poem on friendship

[106] Burman 1776, p. 4.
[107] Anthon 1842, p. 1296, Nisbet & Hubbard 2001, p. 171.
[108] I.e. Van Doeveren's contemporary Gadso Coopmans (1746-1810) published both an inaugural speech on smallpox medication (1774) and a poem on the causes and control of the same disease, which was read to mark his resignation (1783).
[109] Van Doeveren, MS UvA OTM:hs. Y123:0, recto I.

he wrote on leaving the Goes gymnasium in 1747 shows he would have been very eloquently capable of doing so.[110] Reasons for this reluctance may have been arrogance, but more likely it was fear of further complicating his position as an inoculation advocate in a city where the practice was forbidden, and of not wanting to strain relations with Leiden colleagues like Van Royen anymore. In addition, in a 1776 letter to Salomon de Monchy, a Rotterdam physician who advised the city on inoculation, Van Doeveren expresses his view that too avid and careless lobbying for smallpox inoculation would only strengthen resistance against the practice.[111]

What remains curious about this episode is that whereas Van Doeveren based his advocacy of inoculation on favourable results from previous inoculations, his opponents seem to have screamed blue murder about inoculation without citing any circumstantial evidence regarding its effects. Apparently Van Royen was somehow less affected by aesthesis, particularly by the aspect of gaining knowledge based on one's own sensory perceptions. So how can Van Royen's aversion to inoculation be understood? The explanation is probably twofold. Van Royen was a religious conservative, and a pragmatic when it came to empiricism. This is made clear, for example, from the introduction he wrote to a translated work on botany in 1745. He opens with the statement that a detailed knowledge of botany is essential for theologians, and only on the third page does he hesitatingly say something about the role of personal sensory perceptions.[112] Although Van Royen had to admit that seeing with one's own eyes and feeling with one's own hands was probably the best method to 'read the Book of Nature', he found the idea that this was a feasible enterprise naïve:

"It is true that the one who works from experience lays the best foundation to build on with certainty, and can give good reasons for his actions, yet how much time passes before one, secured through one's own and repeated experiments, is

[110] Van Doeveren et al. 1747.
[111] Van Doeveren MS UVA Y 123 : l, Van der Zwaag 1970 p. 142.
[112] Van Royen 1745, Voorrede p. i: *"Want slaet men eens het oog op de Godtgeleerdtheidt welke de heilige blaederen doorzaeidt met gelykenissen hier van genomen ontvouwt wat grove misdagen begaet ze niet uyt enkele onkunde van Boomen Kruyden en veelvuldige andere Gewassen zo dat men wel zeggen mag dat een naeuwkeurige kennisse van deeze wetenschap voor alle uytleggers der gewyde Schriften niet alleen nuttig maer zelfs ten hoogsten noodig is …"*

really experienced. A lifetime is truly too short to check everything properly and to see the desired fruits of the labour applied."[113]

Judging by Van Royen's attacks on Van Doeveren's pro-inoculation campaign and these statements, he must have felt that inoculation was an interference with God's ways, and the reliance on previous positive results of inoculation premature.

From this episode it appears Van Doeveren used aesthesis in the inoculation controversy in two ways. First, he remained true to his idea that knowledge should be primarily derived from one's own sensory perceptions and experiments – he himself had acquired good results with smallpox inoculation while in Groningen, so he felt confident advocating it once in Leiden. Van Doeveren thus stuck to his principles of basing his medical beliefs on his own sensory perceptions, the perceptions of others, and the use of reason by analogy, applied with the required cautiousness, instead of simply giving into the pressure of higher-ranking officials and colleagues. This also appears from the discussions he held with his colleagues in other cities, like Amsterdam, and from the extensive notes and tables he kept on his inoculations.[114] Second, he refused to give up good taste and manners even when he was bombarded with poetical squibs. The one poem published in his defense by his friend Burman was a paragon of poetic virtue, a true classics-informed discourse. This poem demonstrated the more learned and refined qualities of the pro-inoculation camp as opposed to those of the religious conservatives who lunged at Van Doeveren with quasi-satirical personal attacks in crude Dutch rhyme.

The ugliness of smallpox marks and the venomous verse of colleagues were not the only unpleasant things Van Doeveren had to deal with in his career. In fact, his is the first of the eighteenth- century Leiden anatomical collections that contained a substantial number of pathologies and monsters. Until the 1770s, the Leiden anatomical collections only contained some pathologies and monstra that stemmed mainly from the seventeenth-century collections. The dominant Albinus collection hardly contained anything else other than normal anatomy, as Albinus' research interests had been focused on the ideal human body, its smallest structures, and the

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[113] Van Royen 1745, Voorrede p. iii: *"T is waer dat die naer ondervindingen te werk gaet den besten grond legt om daer op met zeekerheidt te bouwen en goede reden van zyn handelwyze geeven kan maer welk een tydt verloopt er niet eer men hier in alleen door eyge en herhaelde proefneemingen beveiligt regt ervaeren wordt De leeftydt waerlyk is te kort om naer behooren alles na te gaen en ter belooning van den aengewenden arbeidt de wensehte vrugten te zien."*
[114] Van Doeveren MS UvA UB: HSS-mag.: IV A 9:2.

physiology of the senses.[115] As we will see, aesthesis still defined Van Doeveren's way of working, and studying disease and deformation did not exclude searching for elegance and perfection, using sensory perception and materiality to understand anatomy. Because of the relative scarcity of deformed and diseased specimens, commodification also played an important part in collecting them. In a curious and unexpected way, monstrous preparations are the material remains of an *aesthesis ex negativo,* a search for perfection in the seemingly ugly and horrible.

Conclusion

The exploration of the materiality of a smallpox-marked ear and a monstrous little dog in this chapter has clarified several points regarding aesthesis and the ugly in eighteenth-century Leiden anatomy. First, the monstrous dog provides us with clues about the complicated utilitarian relation between humans and animals in eighteenth-century medicine and society. More importantly, from the way Van Doeveren dealt with monsters it appears he tacitly aimed to change the disgusting monsters and severed, decaying body parts into tasteless, odorless preparations through aesthesis. He used his own observations and sensory perceptions in as many cases as possible, both human and animal, to seek beauty, purpose, harmony, and regularity in what had long been viewed as freakish incidents or even the devil's work. In presenting the monsters as plain, natural, purposeful, inoffensive objects, Van Doeveren implicitly showed that they were not so much ugly, horrible, or disgusting but rather representatives of thus-far unknown categories. If anything, they were at most representations of a purposeful ugliness and thus had the same attraction as the sublime's little sister: the sublate. Because of their rarity and monstrosity, they bring home general truths in a particularly vivid manner. Their suggestion of death and decay, like that of all anatomical preparations, although tasteless and odorless, ensures that the insights they provide are grasped not only with the mind but also with palpable somatic resonance.

Second, it has shown that some diseases, such as smallpox, were so omnipresent in the eighteenth century that they had severe social impact and led to intense academic and social controversy. Ruysch thought it was necessary to cover up

[115] For more on Albinus' research interest see chapter 3. The LUMC catalogue lists a number of other historical monstrous preparations (Al0158-Al0183), but their origins and age are unclear. At least they are not listed in the catalogues of Anatomical Theatre, nor in the *Museum Anatomicum*.

severe effects of smallpox, and not even Albinus, the greatest perfectionist of all, could avoid smallpox marks in his preparations. The intense controversy that arose between the fatalist adversaries and the supporters of inoculation, and thus human intervention, was a sign of changing ideas about death, disease, and the role of medicine. This chapter shows how interest in the ugly refined the eighteenth-century understanding of aesthesis, and how this was reflected in controversy. Academics such as Van Doeveren and his supporters combined the refined discourse of classic Latin poetry and their reliance on their own sensory perceptions and observations to defend their position against adversaries less attached to the principles of observation and experiment, and to increase their standing as men of taste and learning. It would be superficial to distinguish between academic and poetic controversy here, as the publications all belong to the discourse surrounding one and the same controversy.

By the late eighteenth century, the making of anatomical preparations was still an act of selection, accentuation, and seeking beauty, even in the deformed and the ugly. By preserving monstrosities like these in preparations, and averting the immediate danger implied by the visceral disgust such specimens would provoke unpreserved, their makers shaped them into didactic instruments and purveyors of meaning. It could be said that these preparations are a visual and material variant of literary attempts by the likes of Goethe and Bilderdijk to make the damaged, decaying body an object of learning and aesthetic experience. Finally, this chapter has shown that Ad0022 and Ab0100 are material remains of eighteenth-century controversies, social issues, morality, and changing ideas about disgust, disease, and deformities. Only by answering the questions evoked by their materiality, can we fully understand how and why they were collected, created, and used.