

Speaking about disease:

Provincialläkare Lars Montin and the inoculation of smallpox

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Abstract

Smallpox inoculation gave an effective protection against this epidemic disease, and the new technique was heatedly debated during the entire eighteenth century. The question was not so much why it worked, as whether imposing illness on somebody meant setting oneself in God's place. Propagating inoculation also meant confronting popular beliefs about fate, illness and the reigning forces of the universe. Among the enlightened men taking on this task, we find the Swedish physician Lars Montin. His work supplies an example of how the new practice led to negotiations between different strands of knowledge and different traditions of belief. Montin's paper *Anmerkninger ved den nye Koppodnings Maade* was published in 1774 and is a comment on the English doctor Dimsdale's book from 1767. Montin's interest in inoculation can also be read out of the reports that he sent to *Collegium Medicum* in 1761 and 1765. In this way, Montin's paper is situated at a cross roads between two worlds. It reflects his own practice as a doctor in a rural region of Sweden and his experiences with its local culture. On the other, it also relates to the international discourse on the new medical technology, its possibilities, consequences, and dangers.

Keywords

smallpox inoculation, discovery of popular culture, medical history

During most of the 18th century, a revolutionary new medical technology was heatedly debated in Europe. Even if nobody knew why it worked, inoculation of smallpox provided effective protection against the ravages of this deadly epidemic disease. After the technique had been imported into Europe from the Middle East by Lady Mary Wortley Montague in 1718, texts on smallpox inoculation appeared in a large variety of genres, from medical papers to poems and sermons. Fundamental issues were at stake, for inoculation represented far more than a new medical remedy. It was

not a means to cure illness, but to *avoid* it. Some of the issues raised were: Would God really permit such a thing? Was illness not His tool to punish man for his sins and to make us atone for them? Did not inoculation mean setting ourselves in God's place? Or was it rather a gift of God, a protection against evil?

Smallpox was a highly feared illness not just because of its high mortality rates, but also because it led to a very painful death. Could it be right to *impose* such an illness on anybody, even in the mild form normally following from inoculation? The new

method was not without casualties. Some of the inoculated patients developed lethal cases of smallpox, others set off epidemics of the disease. The new practice also challenged the traditional philosophical system of European medicine. In its European context, the technique of inoculation was quickly surrounded by elaborate regimes of “preparations” and “purgings”, i.e. the use of emetics, laxatives and blood-lettings, which increased not only its mystery, but possibly also its complications (cf. discussion in Brimnes 2004:208). However, European doctors and clergy did not only have to negotiate traditional views on religion and medicine among the educated elite. Propagating the new technology also meant confronting popular beliefs about fate, illness and the reigning forces of the universe. The new technology thus raised very fundamental questions, concerning not merely smallpox prevention in itself, but the nature of disease in general, and the relation between individual fate, medical arts and natural and divine powers.

The debates on smallpox inoculation serve to articulate understandings of this disease as a physiological and medical phenomenon, but they also illustrate the profound cultural embeddedness of any such understanding. Regarded as a discourse, not merely as a medical practice, inoculation and debates on inoculation made disease culturally visible. Even if words alone did not save lives or have direct demographic effect, speaking and writing about inoculation did have an impact on how disease was understood, on how therapy and prophylactics were regarded, and how the role of the medical doctor and the system of health-care were shaped as social realities. To understand how this happened, it is important to investigate not merely what was done, i.e. how inoculation was actually

practised, but also how disease, prophylactics and therapy were spoken of and described. Trying to understand what the new technique actually meant in the 18th century, what was said about inoculation, should also be taken into consideration, as well as the actual practice of it.

Bearing this in mind, the present article is a case study. Among the numerous professionals and civil servants taking on the task of propagating smallpox inoculation, we find the Swede Lars Montin (1723–1785). His work supplies a good example of how the new practice led to negotiations between different strands of knowledge and different traditions of belief, making disease visible, but also making visible the cultural situatedness of the understanding of disease and the social role of the medical arts. Originally a botanist from Uppsala and a disciple of Linné, Montin was awarded his medical degree in Lund in 1751. In 1754, he was appointed *provincialläkare* (physician of the region) in the town of Halmstad and the region of Halland in southern Sweden, and held this position until his death. A conscientious and hard-working doctor, Montin also nurtured his scientific interests and his contacts with other scholars. He was a member of several scientific societies and published scholarly papers, mostly on botany. His large herbarium was left by legacy to his nephew who was librarian of the Royal Society in London, and it is now in the National Museum of Natural History in Stockholm. In 1772, Montin was elected member of the Royal Norwegian Society of Sciences in Trondheim, and in 1774 his paper *Anmerkninger ved den nye Koppodnings Maade* (Remarks on the New Method for the Inoculation of Smallpox) was published among its proceedings. Montin's interest in inoculation can also be discerned from the

reports that he sent to *Collegium Medicum* in 1761 and again in 1765 (Arborelius 1987), where his efforts to introduce the new practice in the region are mentioned among other pieces of information. His own practice is also the basis of the paper from 1774. At the same time, another reference is just as important. The “New Method” heralded in the title is the one presented by the English doctor Dimsdale in his book *The Present Method of Inoculating for the Small-Pox*, originally published in 1767 and then in five new editions in as many years. In this way, Montin's paper is situated at a cross-roads between two worlds. On the one hand, it reflects his own practice as a doctor in a rural region of Sweden and his experiences with its local culture. On the other, it also relates to the international discourse on the new medical technology, its possibilities, consequences and risks. This situation was far from unique. Rather, it makes Montin a typical agent of the Enlightenment in general and of smallpox inoculation in particular, uniting an interest in theoretical science with practical utility.

In her study of French natural history before and during the Revolution, historian of science E.C. Spary points out that the modern distinction between pure and applied science tends to obscure the typical character of 18th century projects. “Cleansed” of all their practical aspects, much of the original meaning of the scientific projects of this period is lost. On the other hand, regarded merely as “useful improvements”, the *scientific* aspect of many typical enlightenment projects will just as easily be overlooked. To understand this kind of work in its own right, both aspects – the theoretical and scientific, as well as the useful and practical – must be investigated (Spary 2002:99f). Montin

writes as a *provincialläkare*, but he is also the scholar and savant, taking an active part in international enlightened discourse. This article will examine Montin's efforts to investigate how he moves between the two worlds and what use he makes of the different resources they represent. What are his views on disease, and how does he find it appropriate to speak about it? How does he articulate his understanding of inoculation and smallpox? What use does he make of the various traditions he encounters? The article is in two parts. While the first will focus on Montin's understanding of disease through an analysis of his text on Dimsdale's book, the second will build on this when investigating his report on his efforts to promote inoculation in his own district.

The texts refer to practice, i.e. to smallpox inoculation. This is obviously the case with the medical reports, written for Montin's superiors to present his work as a regional doctor. In the scholarly paper, it is the fact that Montin personally has inoculated a large number of people that gives him the authority to deliver his own views on the new technique. On the other hand, the texts may also be read as reflections on the ideas or mentalities lying behind them, most obviously concerning disease and medicine. Both these perspectives are obviously relevant for understanding Montin's views on disease. Nonetheless, the main interest of this article will be to regard the texts as historical realities in themselves, not merely as sources to something beyond. As we shall see, even when no actual inoculation had taken place, the new technique still represented a practice to be unfolded *in* the text. Regarded as a practice, inoculation includes speaking about it, describing the disease, discussing the technique and recommending the best way to treat the

patient – not merely inoculating smallpox. The new treatment was shaped by words and texts, not only by variolous matter and incisions in the patients' arms. It is this historical reality of the text itself, this cultural autonomy of verbal expression, that will be the main focus of the following investigation. Like all other cultural expressions, the texts in question are of course marked by their historical context, and medical traditions and inoculation practice are important elements in this. However, the texts are not to be seen as mere reflections on such contextual factors, or solely as sources to them. As parts of a discourse and as elements in patterns of social interaction, the texts have their own expressive power and their own historical value.

Dealing with disagreement

Montin names Dimsdale the inventor of the new method of inoculation. In actual fact, important elements of the method advocated by Dimsdale had been developed by his compatriot Daniel Sutton. A vital point was the simplification of the preparatory regime, with a shortening of this period from about one month to eight or ten days. Moreover, Sutton let his inoculated patients enjoy fresh air and cold water during the mild attack of smallpox that usually followed inoculation, as opposed to the cure of strong heat, hot drinks and strict indoor confinement that traditionally had been used to treat all kinds of fever. This so-called “cold treatment” of fever had been introduced by Thomas Sydenham in the 1680s. Sutton incorporated it into his method for smallpox inoculation. With the motto “safely, quickly and pleasantly”, Sutton made his system a commercial success in the 1760s, setting up inoculation clinics in the coun-

tryside. Despite accusations that the clinics, with inoculated patients wandering freely about, actually were nests of contagion, his business flourished. To Dimsdale on the other hand, publishing the method in print not only gave him a perhaps undeserved title as its inventor, it also constituted the grounds for his celebrity. In 1768 he was invited by Catherine of Russia to inoculate herself and her son. The operations went well, and Dimsdale was richly rewarded for his work and given the hereditary title of baron.

None of this contextual information shines through in Montin's text, and it must be supposed that he merely knew Dimsdale by means of the latter's book – neither through his celebrity as the inoculator of Catherine the Great nor through his rivalry with Sutton. Montin's text starts as a eulogy to Dimsdale. However much the art of medicine has improved in “this century”, Montin writes, no discovery has been greater than the *new* method for inoculating smallpox:

It has given new light to the art of medicine, both by showing an easy and comfortable way of meeting the violence of this otherwise so ruining disease, and by demonstrating clearly the faults of the old method, which was to keep the patient in all kinds of malignant decomposing and rash fevers and away from that which most will cool and calm a heated blood, namely cold water and fresh air, after which any ill person always naturally will long so much for his salvation (Montin 1774:159, all translations from Montin are my own).¹

The English doctor Dimsdale deserves an immortal name not only for this invention,

but for having made it generally well known by the means of print, Montin concludes.

Even accepting Montin's restricted knowledge of the Dimsdale/Sutton rivalry, the praise is paradoxical. The invention of smallpox inoculation must necessarily be a more ground-breaking event than any subsequent improvement of its method. The paradox increases when Montin goes on to say that as all inventions can be improved, even Dimsdale's method may gain larger perfection as time goes by. It is not difficult to see that the statement works as an introduction to the main part of Montin's text, which is a presentation of his own work with inoculation and his efforts to refine the method. In other words: it is an attempt at improving Dimsdale's method. Neither is it difficult, for a modern scholar, to accept this way of going about presenting one's own scientific work. Pointing to imperfections or lacunae in the present state of knowledge, or declaring disagreement with some of the prevailing views, are quite normal ways of entering into a field of investigation before presenting one's own findings and suggesting alternative interpretations. But contrary to modern scholars, Montin finds it necessary to explain very carefully what he is about to do, and what use this might have. In this strategy, the introductory eulogy is no accidental paradox, but serves a very precise function.

Steven Shapin and Simon Schaffer have discussed how the experimental natural philosophy of the 17th century was not only based on new kinds of practice, but also on a new kind of discourse, regulated by "gentlemanly" ideals. An important aim of the discursive conventions that were developed was to manage disputes, as they say: "Since experimental philosophers

were not to be compelled to give assent to all items of knowledge, dispute and disagreement were to be expected. The task was to manage such dissensus by confining it within safe boundaries" (Shapin and Schaffer 1985:72). One reason was that litigiousness would be destructive for the newly established community of natural philosophers, another that consensus was vital "to the establishment of *matters of fact* as the foundational category of the new practice" of philosophy (Shapin and Schaffer 1985:73, italics added). But also, as Shapin has discussed elsewhere, accusing another gentleman of lying was the worst thinkable affront within this culture, and one that could only be met with a challenge to duel (Shapin 1994). Anything reminding of dissent or hinting at another person's untruthfulness thus had to be avoided. "In general, the practice of opposition was recognized as a serious threat to the good order of civil conversation. Means had to be found to account for and repair faulty utterances and acts without impugning credit, sincerity, or competence" (Shapin 1994:116). Transferring the ideals of "civil conversation" from the gentlemanly to the scientific world therefore also meant importing a highly developed competence for avoiding open dissent.

These very close ties between truth and personal honour were still present in the scholarly discourse of the following century (cf. Eriksen 2007:184ff). In Montin's text, this is what gives the rationale for the introductory eulogy: Just because Montin is going to argue other points of view than those held by Dimsdale, and just because he thinks Dimsdale's method may be improved, or even that his own practice actually has done so, it is of great importance to him to be very clear on one point: Dimsdale is the most honourable and

truthful gentleman. The dispute is to be “about the findings and not about the persons” (Shapin and Schaffer 1985:73). It is his eagerness to ascertain this that makes Montin present Dimsdale's improvement of the method of inoculation as greater than the method itself.

Facts and method

So what are Montin's own findings and interpretations, and in what ways do they differ from Dimsdale's? These questions are more easily posed than answered. One reason is Montin's strategies to avoid open dissent. Another is that not only the opinions of their authors differ, but also the structures of the two books. This means that even if Montin's text presents itself as a comment on Dimsdale's method, specific points from Dimsdale are not easily identified in corresponding parts of Montin's discussion. While Dimsdale's book is organised according to the development of the inoculation procedure and the disease it brings about, Montin's is a narrative of cases. In Dimsdale, one final chapter is dedicated to “anomalous symptoms and appearances”, while a separate section at the very end of the book is given to actual cases. This structure has the effect of making the technology of inoculation appear as just that: A certain way of going about it, with its own tools and requisites (laxatives and emetics, lancets, pustules with variolous matter, fresh air and cold water), its own natural course and an inherent temporal structure. In Dimsdale's presentation, inoculation gains autonomy in a way that makes it independent of actual cases and persons, it is very clearly seen and evaluated as a thing in itself. Even if insight into this regularity has been derived from actual practice, the cases that are finally presented

appear more as illustrations of the rule than as its empirical foundations.

Historian of science Lorraine Daston has argued that the nature of the “scientific fact” radically changed in the period between 1660 and 1730, “from a singular and striking event that could be replicated only with great difficulty, if at all, to a large and uniform class of events that could be produced at will” (Daston 2005:13). The inoculated smallpox of Dimsdale's book very clearly appears as this kind of modern scientific fact, and inoculation itself as the technique to produce and reproduce it. Daston is emphatic that the “older” understanding of the scientific fact also was part of modern natural philosophy, but that a process of generalisation took place during the period she investigates. Using Robert Boyle as an example of the older mode, she says that his “militant empiricism fixed upon singularities as the phenomena most revealing of the nature of things”, while the inductive empiricism that developed in the 1730s “systematically tamed singularities into regularities” which now were believed to be the phenomena most revealing of the nature of things (Daston 2005:21). This taming strategy is reflected in the structure of Dimsdale's book, when “anomalous symptoms” are isolated in a chapter of their own, and a separate section is reserved for the case stories with all their idiosyncrasies. What remain as facts are the regularities.

This kind of strategy for taming singularities into regularities is not equally apparent in Montin's text, whose perspective shows a closer relationship to Boyle's 17th century empiricism. To Montin as well as to Boyle, the scientific fact seems to be the singular and striking event, rather than the reproducible regularity. Nevertheless, writing Montin off as simply “old-fashioned” would be incorrect. Being *pro* inoculation

was in itself a very modern position. Montin's continual emphasis on what is *new* also contributes to this stance: Dimsdale's *new* method is contrasted to the older and more incorrect one, giving the medical art *new light*; *new* inventions are praised as being generally better than old, but may be further improved in the future, and so on. Furthermore, as it appears already from the title of his paper, Montin too is working with inoculation as a distinct *method*, a technology in its own right. Even if his paper is a narrative of cases, they are still organised with the intention of discussing certain questions raised precisely because of the new technique. Consequently, other reasons must be found for the different structure of Montin's paper. His efforts to deal with disagreement have already been pointed out, but a divergent understanding of the nature of illness is just as important. His way of speaking of disease is simply another than that of Dimsdale.

The points on which Montin and Dimsdale differ were questions generally discussed in inoculation literature. One concerned *when* the variolous matter could be taken from an infected person to inoculate one or more others: As soon as it appeared, or only after fever and a larger number of pustules had erupted? Views on this varied, but a common opinion was that the matter must not be taken too early, and not before the fever. The rationale behind this argument was an understanding of smallpox as a kind of purge (e.g. la Condamine 1754). For it to be sufficiently forceful, fever and a larger amount of pustules were needed in the patient offering the matter. Montin subscribed to this view. According to his experience, variolous matter taken too early did not bring about smallpox in the inoculated patient. According to Dimsdale, on the other hand,

variolous matter could be taken and used as soon as it appeared. The two men also disagreed somewhat on *how* inoculation should be carried out. The traditional method was to place a thread saturated with smallpox matter in a small incision in one or both of the patients' arms, covered with a plaster and kept in place for a couple of days. This was the method preferred by Montin, who nevertheless acknowledged the value of the more recent method advocated by Dimsdale: Inserting fresh pus in the incision and using no plaster.

A vital element in Dimsdale's method was the shortening of the preparatory period. His description of the regime to be followed by the patient is very exact. It includes the use of laxatives, prepared according to Dimsdale's own recipe, together with a diet intended to strengthen the patient's constitution. Even if he underlines that "the particular state of health of every person entering upon the preparatory course should be inquired into and considered", Dimsdale is very emphatic that by adjusting the diet and the remedy dosage, his method can be used on all patients, apart from very young children (Dimsdale 1772:20). Montin seems to think that Dimsdale touches too lightly upon preparation, and even indicates that Dimsdale and others have suggested omitting it. He says that

I have no reason to raise even the smallest doubt about the experience of Dr. Dimsdale or *medici* that the cure may happily occur without it. Still, as a case as sensitive as this needs all possible care, it seems to me that the laxative and purging means, before as well as after inoculation, should never be missed but in the most extreme emergencies (Montin 1774:164).²

Montin also gives far more attention to the constitution of each individual patient, the best season for inoculation and the possible impact of chronic diseases. This means that his descriptions of the actual regime are considerably less specific than those of Dimsdale. While Dimsdale presents one regime to be followed by all patients, it is Montin's opinion that preparations will have to be adjusted to the individual case. Thus even if Montin considers them far more important than what Dimsdale does, preparations do not emerge as a separate, describable phenomenon in their own right.

These disagreements may not appear to be substantial. Nevertheless, the comparative lack of correspondence reflects profound differences, making the disease as well as its prevention by means of inoculation emerge as different phenomena in the two texts. On all the points in question, Dimsdale's views support his overall attitude towards inoculation as a practical remedy at the physician's disposal, and the smallpox itself as a fairly predictable chain of events that will follow from his skilful use of this remedy. In his text, smallpox has become a "matter of fact": It belongs to that "uniform class of events that could be produced at will". To Dimsdale, then, variolous matter is not the outward sign of a purge taking place in the patient, but a natural resource to be put into use as soon as it becomes available. Also, the preparation is not something happening *in* the patient, but a regime systematically administered by the physician, i.e. a method that can be described. Inoculation becomes a tool, and the competent physician is an agent of change. He is the powerful master of events, rather than a mere witness to them.

Montin's way of presenting his arguments, on the other hand, represents some-

thing more than a mere reluctance to break the gentlemanly code of scientific discourse by announcing open dissent. His elusive way of structuring the argument has significance in itself as an expression of his understanding of disease and of the role of the physician.

Worms, purgings and lunar phases

In his paper, Montin does not discuss any question that has not been treated by Dimsdale. What distinguishes his presentation is rather the way he elaborates on the different themes. Organising the text according to cases, Montin presents his argument as a narrative of patients, not of method. The cases are of course recorded as examples relevant to various questions concerning the best way of inoculating smallpox. Nonetheless, the narrative organisation of arguments has the effect of preventing inoculation from acquiring an autonomy comparable to what it has in Dimsdale's paper. Instead, inoculation and the smallpox disease become parts of a complex interactional pattern that includes a number of agents and forces.

The question of intestinal worms is important and recurring in Montin's text. It is first introduced as part of the need to consider the impact of chronic diseases when preparing a patient for inoculation. Montin observes that fever and other pains caused by intestinal worms generally tend to increase during a smallpox attack.

This mainly happens in those patients who are stricken so heavily with smallpox that they lose all their appetite, which causes the worms to suffer from a lack of food so they start moving and attack the intestines, which is the cause of the aforementioned disorder and

trouble. The course of the disease is quite different for those who for the most part pass relatively easily through the disease after inoculation that they always maintain their appetite, apart from sometimes when the eruption of fever is strong. By then, the worms are not alarmed by anything apart from the laxatives, and in particular the calomel powder, which is used for preparation as well as later under inoculation and during the disease (Montin 1774:162. Calomel powder is mercury chloride).³

Even if every careful physician will do his best to expel the worms before any cure is commenced, Montin continues, the worms will hide themselves well or effectively resist all attempts at removal. In such cases, the worms can cause considerable pain for the inoculated patient as well as trouble for the physician. He then relates the case of one of his patients, a small girl of seven who had shown no signs of having worms, but who was still horribly tormented by them when preparations started. Luckily, some light clysters of milk given on the fourth day calmed them down, and the subsequent inoculation still went very well. Montin comments on the case:

It is probable that the worms became very unquiet because the preparation was applied the day after the beginning of the new month. For this reason, it will not be unadvisable, with all such persons, who have an affliction of worms, and have not completely been liberated from them, to take the cure at the beginning or end of the last quarter, so that, if any inconvenience manifests itself, it will be at a time before inoculation takes place and it can be postponed. Best of all would be if it could

be arranged for the inoculation to take place some days after the beginning of the new month, when the hardest cases mostly are past, and before the last quarter has started (Montin 1774:63f).⁴

One of the other case-stories concerns a boy who died after inoculation had led to a case of extremely virulent smallpox. Montin argues that what actually caused the boy's death was not smallpox itself, but the violent attack of worms that accompanied the illness. To support his case, he mentions that three worms were seen to leave the boy during his final illness. Montin also suspects that the fatal outcome of this case partly was due to variolous matter taken too early from the original patient, i.e. before fever had erupted (Montin 1774:167).

Intestinal worms are a quite common infectious disease, not least among children, that can cause considerable trouble, and is highly contagious, but normally not lethal. What is interesting here then is not so much the occurrence of worms in Montin's patients as their role in his text and in his presentation of disease and its cure.

Montin presents his readers to strong forces reigning within the patients: worms, fever and smallpox. These forces are themselves subject to the even stronger cosmic power of the lunar phases. The behaviour of the worms is dictated by the moon. They are unquiet when the moon is new, while a waning moon keeps them quiet. All these powers and agents demand respect. The task of the physician is to position himself so wisely and to use his arts so competently that he can negotiate a confrontation between the forces. A good doctor will be able to arrange for the confrontation to

take place, and to a certain extent manipulate the situation to secure a good outcome, but he can not completely control it. Purgings and inoculation are given equal status as remedies in these manipulations. Here, inoculation is not a mechanically functioning technique with results that can be reproduced at will. Neither is it a tool that will work independently of specific circumstances within and outside the patient. Rather, inoculation as well as purgings, are strategies the competent and careful physician *might* use to manage to negotiate a lucky outcome of the confrontation between forces in each individual case.

Montin's whole argument centres on the idea of purging. This is most explicitly articulated in his emphasis on the need to prepare the patient before inoculation, the length of the preparatory period and the thoroughness of the regime. It is clear that to Montin, the aim of the preparation is to purge the patient, while to Dimsdale it was to strengthen his or her constitution. Furthermore, according to Montin, purgings should continue during the entire period, i.e. not only prior to inoculation of variolous matter, but also during fever and the eruption of pustules. In this way, he turns purging into an element of inoculation itself.

Actually, inoculation appears to be a new and additional kind of purging just as much as a radically new technique for preventing smallpox. It might be asked if Montin really thinks that smallpox is *prevented* through inoculation, or whether he rather understands the disease itself as a kind of purge and inoculation as a new means to undergo it in a safe and effective way.

This way of thinking places Montin within the paradigm of traditional Hippocratic humoralism, with its focus

on temperaments, the four humours (blood, phlegm, black and yellow bile), and disease as some imbalance between the humours to be cured by purgings. This was the traditional medicine taught at European universities and medical schools, and the paradigm unto which the new practice was “inoculated”. To modern medical thinking, based on bacteriology and the knowledge that specific germs and viruses cause specific diseases, it might seem obvious that inoculation – a technique to bring about immunity against a *specific* disease through deliberate infection – would represent a radical challenge to understandings that saw the cause of illness in a *general* imbalance within the individual body. But Montin's text demonstrates that inoculation could be incorporated into this traditional paradigm, and that a pro-inoculation stance did not presuppose anything resembling a modern, bacteriological understanding of the causes of disease.

Despite its long traditions in European medical teaching, Hippocratic medicine should not be written off as merely “old” or “traditional”. One important element in Hippocratic theory was its emphasis on climatic and environmental factors, i.e. the impact of such things as air, earth, water, seasonal change and weather conditions on the health of the patients and the risk of developing disease. In general, climatic theories received much attention during the eighteenth century, and climatic factors were seen as the explanation for a number of cultural, societal and other differences between nations or groups of people. Today, Montesquieu's *De l'Esprit des Lois* is the most well-known example of these ideas. In the medical field, a neo-Hippocratic revival gave the answer to these more general concerns (e.g. Corbin 1986). In Sweden, Hippocratic texts were translated in the 1730s, and

Hippocratic theories held a central place in medical theses defended at the universities during the 1750s (Frängsmyr 2000:158f). Montin's comment in the introductory part of his paper that "the circumstances of time, place and other factors will change the external appearance as well as the internal character of the disease" (Montin 1774:160), signals a very explicit adherence to Hippocratic principles. To Montin, this also supplies the main argument as to why Dimsdale's method will have to be improved: It is necessary to consider the exact circumstances of the cases. Inoculation can *not* be treated merely as a mechanical tool.

Inoculation and popular culture

It seems that Montin's practice as an inoculator started in the mid 1760s. In his medical report from 1766, he writes with obvious satisfaction that children of three families in the county now have been inoculated. They all belonged to the local elite (Arborelius 1987:83). Peter Sköld, who has made a systematic study of medical reports of the period, sees the 1760s as the turning point for inoculation in Sweden generally (Sköld 1996:265). That the elite were the first to inoculate their children is also a general trend, not only in Sweden, but in a general European context (Sköld 1996, and e.g. Seth 2008).

The article presents cases from Montin's own work, which is vital to the argument. Montin appears as an inoculator, and the cases as *experiences*. That is what gives them their authority as "proof" and that is also what makes it possible for Montin to suggest that he might contribute to improving Dimsdale's method: "The other year," he inoculated thirty-two persons, Montin declares. Even if not all cases are presented individually in the text, their

number lends authority to the argument and the way Montin goes about presenting his own views.

In his first report as *provincialläkare*, written five years earlier (1761), Montin had also mentioned inoculation. Then the situation was far less satisfactory. Montin wrote that

The art [of inoculation] has during later years, despite all hindrances set up by superstition and evil, made so much progress that all its sceptics now have lost most of their eloquence, and the feeble-minded their doubt, and smallpox [...] can be inoculated with all desirable advantage. It would have given me a far greater joy, if this time I was able to report that inoculation had been put into use in Halland, than merely to assure that I never neglect any opportunity to encourage the more sensible inhabitants of the county to start this most useful practice. Some seem not to be unwilling, but still there is no realisation, for which one not unimportant reason is that an inoculation house has not been acquired. As long as our region lacks such an institution, where most of the children could undergo the treatment for free, a thing that hardly can be achieved but at the King's expense, I consider it quite impossible to treat any peasant's child, for in the entire county, one would not find as many as 50 peasants who would willingly pay one *daler* to get a child happily through smallpox (In Westman 1929:129f).⁵

This discussion falls into two parts. The first concerns the general reluctance towards inoculation, and the possible reasons for this. Despite differences between the enumerated causes, Montin's answer is

the same: Technical improvement in the method of inoculation makes them increasingly groundless. With his short phrases, Montin presents himself as an enlightened person, a man who demonstrates good knowledge about scientific development, and is capable of arguing against scepticism and feeble-mindedness as well as evil and superstition. Here, Montin's position resembles that of Dimsdale. He presents inoculation as a mechanical tool and inoculated smallpox as "a matter of fact", in contrast to vague and fluffy things like superstition and feeble-mindedness. Improved to perfection, inoculation will work independently of situation and circumstance. The second part of the text concerns practical and concrete matters of local economy and politics, and relates to a quite specific debate about inoculation houses in Sweden. Quite recently, one such house had been established in Stockholm, and another one in Gothenburg, close to Montin's own district (Sköld 1996:262f). A common denominator still is that when it comes to inoculation, nothing has actually happened in Montin's district. Nobody has been inoculated, no institution has been established, nothing has been *done*. Despite this, the text has more than a negative source value: In itself, it represents a practice and a social reality. By speaking of inoculation the way he does, Montin presents himself as a person who knows what *ought* to be done, how things *ought* to be arranged. The new technique clearly works as a social resource even when it has not been taken into use as a medical one. To Montin, it supplied a means to situate himself culturally as well as professionally.

The local peasants were not only reluctant to be inoculated, Montin goes on in his report, they also showed little propensity to seek more general medical help from

a physician. Despite his wish to help them, no patients showed up. If anything, they preferred to go to quacks and wise women when they fell ill or suffered from some ailment (Montin in Westman 1929:117). One reason for this is that

... they believe that every suddenly occurring disease has been thrown upon them by somebody by the means of some dark arts or by evil spirits, which they call a throw of an evil man, an ogre's shot, a ghost's hug, an evil encounter with a ghost or some other supernatural power whose name reeks of heathendom (Montin in Westman 1929:118).⁶

As their wise men and cunning crones very well know how to keep up the delusions of the ignorant peasants, their confidence in the art of the *medici* will hardly increase unless religion becomes more enlightened, Montin maintains. Luckily, the situation is somewhat different among the nobility, the clergy, the bourgeois and persons of the conditioned state. However, the general scepticism towards medicine also has more profound reasons than confidence in the craft of wise women. Montin writes that

Through long experience and closer knowledge about the peasants' way of reasoning, I know nothing among them that is more general than a deeply rooted idea of some kind of inescapable fate, according to which the highest Providence governs the life and health of every human being, even those who perish by accident (Montin in Westman 1929:117).⁷

Fatalistic attitudes among peasants and the poor were generally noted by inoculation

propagators (e.g. Sköld 1996:289ff, Bonderup 2001, Razzell 1977:52). Even if fatalism is commonly presented, in the sources as well as in historiography, as a main explanation for the popular reluctance to inoculation (and later vaccination), its more precise content has been less investigated. Frequently, it is lumped together with religiously motivated reluctance (regarding inoculation as sinful), while apathy caused by high infant mortality has also been cited as an element. It seems obvious that various motivations for *not* wanting inoculation merit closer investigation but also that sources of these motivations are difficult to find and interpret. At present, more nuanced perspectives on popular resistance to inoculation and vaccination are coming from studies of non-European countries (e.g. Brimnes 2004, Bhattacharya and Brimnes 2009).

Montin's report on (deficient) inoculation practice in his district, folk beliefs about disease and its causes, and popular fatalism, is a valuable historical source. It provides information on medical history as well as on folk culture, and supplies a good example of what kind of challenges inoculation propagators met with on the purely practical level, as well as concerning popular beliefs and world-view. But there is more to it than that. Regarding the text as an arena where speaking about disease makes social reality appear, folk culture and popular beliefs represent not merely obstacles to be overcome, but also cultural resources to be employed. These resources are made use of in two different ways. The first regards their content, the second concerns the structure they give to the text and the way they help Montin position himself socially and culturally.

In the first place, even if Montin was very careful not to announce open dissent,

the analysis above made clear that his understanding of disease and its causes differed considerably from that of Dimsdale. Although Montin's views may be explained quite satisfactorily by his adherence to neo-Hippocratic theories, it may also be argued that his way of thinking had considerable likeness to the popular beliefs that the fate of the individual was destined by the powers that ruled the universe. Not least does the great emphasis that Montin puts on the lunar phases bear strong resemblance to similar ideas in folk medicine. Such traditions also included a strong interest in the calendar and the "right time" for blood letting and other cures (e.g. Mellemgård 2001:211f). Hence, Montin's ideas on the relationship between the individual patient and the reigning cosmic forces have as much in common with popular beliefs as they have with Dimsdale's ideas about inoculation as a mechanical tool whose results can be reproduced at will.

My point here is not to argue that Montin was a superstitious peasant, or that his medical theories were hopelessly provincial. The views held by Montin were just as accepted as those of Dimsdale within the scholarly world they both shared. What is important is that the lines between this world and that of "superstition" were not clear cut and well defined. Medical knowledge of the 18th century can be seen as a field of actual and potential positions making up a continuum rather than constituting clearly separated compartments. Dimsdale, Montin, and what we now call "folk medicine" all represented different, but related positions in this continuum. One very obvious reason for this was that large parts of popular medicine, as it was found in almanacs, popular medical books, grimoires, hand-written manuscripts and oral tradition originated in scholarly medi-

cine of former times. Consequently, divisions were not fixed, and neither folk culture nor folk medicine was a given entity. Lines of separation had to be *made*, and this was done linguistically and discursively. Montin engaged in this work, and this is where his second use of folk culture enters. Here the focus shifts from content to structure, and from similarities to contrast.

Making medicine a social reality

In his studies of 19th century Indian resistance to inoculation and vaccination, historian Niels Brimnes has pointed out that the frequent British explanation for this resistance, “superstition”, can be seen as part a more general construction of colonised people as Europe's “Other” (Brimnes 2004:200). Brimnes presents this logic as specific to the colonial context, but when it comes to the 18th century, the model can easily be applied to Europe itself. Here, the process of “othering” was directed towards the common people, who gradually emerged as the folk, with a “folk” or “popular culture”. The discovery of popular culture has been given much attention since Peter Burke first coined the term in 1978. Recent works have emphasised the aspects of power inherent in such processes. In his investigation of the “folklore canon”, created during the late 18th and the 19th centuries, cultural historian Arne Bugge Amundsen has discussed how terms like folk belief and folk religion not only represented differentiation, but also distributed power. The concepts of folk belief and folk religion were not merely descriptive, they also established a hierarchy between certain kinds of belief on the one hand, and religion proper on the other (Amundsen 1999). What has received less attention is the two-sidedness of this process. It is not

only folk belief or folk culture that is being created through this process of differentiation, but also belief or culture proper. One obvious reason for this relative lack of attention is the uncontested authority of the institutions and cultural forces that carried out much of the definition work, above all theology and the church. In the case of medicine, this situation has been different. Not least during the 18th century, medicine was itself in need of being made into a proper authority, and creating clear categories like “superstition”, “quack” and “folk medicine” was one strategy for becoming one.

Medicine represented a long tradition of knowledge in Europe, with its own chairs at the universities, its *collegi medici* and so on. Nevertheless, its authority was by no means undisputed, and its position in society not at all clear and well defined. On the one hand, access to professional medical help was long reserved for the elite. On the other hand, the social standing of the physician was unclear and somewhat uncertain. His profession gave him a disparate number of tasks and made him move among strange people. What we today understand as the medical profession was traditionally divided: Surgeons were artisans who treated wounds, bones and performed blood-letting. They were organised into guilds, had practical training and obtained much of their experience from the battlefield. To the physicians, marking social as well as professional distance to the surgeons was important. The physicians were university people with a philosophical training. Among their tasks was to control yet another group of professionals, the pharmacists, who produced medicine that was sold together with such articles as pigments and dyes, wines and spices in the pharmacies.

In late 18th century Europe, the traditional patterns were about to change. Development of what gradually became health care systems was part of the Enlightenment project in many European countries. The number of medical doctors and surgeons increased, medical education was improved, rural pharmacies were organised, systems for regional doctors were developed, midwives were educated, child care organised and so on. The overall aim was to make medical help and health care available to all social groups. Ethnologist Signe Mellemgård has pointed out that this work brought with it a paradoxical structural problem. The reluctance not only to inoculation, but also to medical help and professional doctors in general, of exactly the kind that Montin describes in his report, can be found in numerous sources from various parts of Europe. Mellemgård describes this as the result of a real cultural gap caused by the fact that the physicians and their rural patients belonged to different social classes. Ordinary people simply did not have very much confidence in these doctors, coming from a place – socially, economically, culturally and often geographically – far from their own (Mellemgård 2001:201). The doctors, on the other hand, wanted to help. Apart from their professional duty to do so, it was also in their social interest. The emergence of new ways of thinking about disease, health and health care as social phenomena and in terms of political responsibility gave the physicians a new and very powerful position in society. But, and this is the paradox as Mellemgård puts it, while this new and highly influential position demanded that medical service be made available to new and large groups in society, the doctors “risked losing their social status through too close contacts

with the lower classes” (Mellemgård 2001:199). Because their own social status still was so uncertain, the academically trained doctors had to be careful about their social reputation. It was important to them to mark social distance to their patients, and to avoid too close contacts (Mellemgård 2001:201).

It is within this field that Montin is positioning himself. As *provincialläkare* he was part of a new system of regional doctors, offering medical help to all social classes, typically propagating inoculation, supervising the local pharmacy, and, because he is also a professional botanist, making systematic inventories of local plants that might be used as substitutes for expensive, foreign medical ingredients. At the same time, he employs strategies that enable him to do exactly what Mellemgård describes as crucial for the new kind of doctor: He ensures that the patients' social status does not “rub off on the physician.” (Mellemgård 2001:199). His strategies are not unique. Describing popular reluctance to accept medical help, discussing popular fatalism and superstition, and denouncing folk medicine, wise women and cunning men is quite a *leitmotif* in medical and health literature of the period. One very influential example, using the same line of argument and probably well known to Montin, is S.A.D. Tissot's book *Avis au peuple sur sa Santé*, translated into Swedish in 1764. Somewhat contrary to what its title indicates, it was not primarily written for the common people, but rather about them. The intended readers of Tissot's book were the higher social groups in the countryside, i.e. the clergy and wealthy landowners.

In this perspective, it is important to acknowledge that popular beliefs actually did represent a resource to Montin, not just

a problem to be overcome. But to work as such, folk culture had to be *spoken of* as a problem and also as something very different from real medicine. Only from the contrast thus emerging could the medical knowledge represented by Montin and his professional colleagues be put on display as an autonomous body, as a specific and true way of knowing and handling disease, and as the basis for the authority and social position of Montin and other medical doctors. Establishing folk culture as superstition meant speaking about it in certain ways, which at the same time contributed to defining medical knowledge as its opposite, as truth, science and rationality. Focusing, on the other hand, on the similarities in content that easily *could* have been found between his own and the popular understanding of disease and its cure, Montin would have undermined the structural potentiality represented by popular beliefs, as a contrast to his own medical knowledge.

In this complex interplay, inoculation had its place both as a medical and as a discursive practice. Even when inoculation did not take place, speaking about it represented a resource, a “site” where Montin – or any other enlightened person – could stage himself as just that, demonstrating his competence in the arguments, logic and rhetoric of enlightened social medicine. This is the use that Montin makes of inoculation in his report, where it is further enhanced by the contrast with popular superstition and reluctance. There is of course no reason to doubt that Montin would prefer to see popular resistance to inoculation overcome, and lives saved by the new technique, but there is equally little doubt that his way of describing the situation reflects the paradox of the new group of medical doctors and contributes

to creating a social position for this group of professionals and its special kind of knowledge.

Notes

1. ... at have givet Lægekunsten et nyt Lys, saavel i Henseende dertil, at den viser en let og beqvemmelig Vei til at møde Voldsomheden af denne ellers ødeleggende Sygdom paa, som og at den tydelig legger for Dagen den gamle Methodes Urigtighed, at afholde den Syde i alle Slags Hidsige Forraadnelse- og Udslæts-Febrer fra det, som mest køler og svaler et ophidset Blod, nemlig koldt Vand og kølig Luft, hvorefter en Syg dog alligevel længes saa meget af naturlig Drift til sin Redning.
2. ... har jeg ei Aarsag til at drage hverken Doctor Dimsdales ei heller andre Medicorum Erfarenhed i mindste Tvivl, at jo Curen kan gaae lykkelig for sig uden den samme. Dog, saasom man udi saa øm en Sag behøver al Forsigtighed, synes mig, at det afførende og rensende Middel, baade før og efter Podningen, aldrig bør forsømmes uden i høieste Nødsfald.
3. Dette hender sig dog for det meste hos saadanne, der faae kopperne saa svære, at de tabe al Madlyst; hvorved Ormerne lide Mangel paa Føde, bringes i Bevægelse, og angribe Tarmene, hvilket bliver Aarsag til forommeldte Uordener og Besværligheder. Heelt anderledes skeer det med dem, som efter Podningen gaaes mestendels Sygdommen saa let igiennem, at de stedse beholde god Madlyst, nogle Gange undtagne, da Udslags Feberen er stærkest. Hos disse foruroliges Ormerne ikke særdeles af noget andet end laxerende Midler, og fornemmelig Calomel, hvilken nyttes saavel under Forberedelsen, som siden under Podningen, og under Sygdommen.
4. Troeligt er det, at Ormerne bleve derfor saa meget urolige, fordi Beredelsen skede Dagen efter den nye Maanedes Begyndelse: hvorfor det heller ikke vilde være uraadeligt, med alle saadanne Personer, der have fornummet til Orme, og ei fuldkommen ere blevne befriede derfra, at foretage Kuren ved sidste Qvarteers Begyndelse eller Slutning, paa det at, om nogen Sverrighed ytrer sig, saadant da maatte hende sig, inden Podningen skeer, og den samme saaledes kan udsettes. Allersikkerst var det, om saadan Anstalt giordes, at Podningen skeede nogle Dage efter den nye Maanedes Begyndelse, da de sværeste Tilfælde mestendeels vare forbi, til det sidste Qvarteer faldt ind.
5. Denna kånsten har uti sednare åren, oakadt alla de hinder vidskepelse och ondska lagt i vägen, gort sådana framsteg, att alla dess missgynnare förlorat sin mästa värtalighet, de klenmodiga

sinnen gå villorådde, och icke allenast kåppor utan ock mässling ympas med all önskelig fördel. mig skulle det varit en langt högre fågnad, om jag för denna gången kunnat berätta, det början härmed redan skett uti Halland, än att endast försäkra, det jag icke underlåtar vid alla tillfällen upmuntra de förnuftigare Länets innebyggare til en så nyttig sak. Hos en och annan synes väl som hog och vilja ej feltes, men ännu har det brustit uti värkställighet, hvartil ej ringa bidragit, att ett fromlight kåppymningshus ej kunnat erhållas. Så läne orten är i mistning af en dylik inrättning, hvarest mästa delen barn kunna ärhålla fri skötsel, som näppeligen står att vinnas utan på kronans bekåstnad, anser jag det för en ren omögelighet att få något bondebarn under samma cur, emedan uti hela Länet skulle fåfångt sökas 50 bönder, som hade hjerta att våga. En Daler smt för det ett barn skulle lyckeligen gå igenom kåpparna.

6. ... de tro, det alle hastigt påkommande sjukdomar äro dem tillskyndade ad andra menniskor genom något slags oloflig kånst eller af onda andar, hvilket de kalla ett utkast af en elak menniska, trollskott, gastkrystning, ondt möte af spöken eller rån med flera slika af hedendomen stinkande talesätt.
7. Igenom en längre förfarenhet och närmare kundskap om menige hopens tänkesätt förnäm jag ingenting vara hos dem allmännare än en inrotad inbildning om något slags oundvikligt öde, hvarefter högsta Försynen bestyrer om alla menniskors hälsa och lif, ja äfven deras om alla vådeligen omkomma.

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