

LEPROSY AND INHERITED DISEASES IN 13TH-CENTURY DISCUSSIONS ON THE ORIGINAL SIN

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Abstract: This essay explores the theoretical treatment of leprosy in 13th-century theological discussions on the transmission of the original sin. According to scholastic theologians, both the existence of the original sin and its transmission from parents to progeny were factual truths, whose dynamics could be explained by analogy with inherited diseases, such as leprosy. Different uses of natural philosophy and medicine in discussing the transmission of leprosy will be shown in theological and biblical-exegetical works of William of Auvergne, Roland of Cremona, Bonaventure, Thomas Aquinas, and Henry of Ghent.

Keywords: inherited diseases; leprosy; original sin; biblical exegesis; natural philosophy; medicine.

1. Leprosy as *morbis hereditarius*: Theological and Medical Background

In the 13th century, the question of parent-to-child transmission of leprosy was an interdisciplinary issue. In order to explain how Adam's sin can be inherited by birth and transmitted from parents to offspring, some theologians employed the analogy with leprosy as the inherited disease *par excellence*.¹ Augustinian and medical traditions resorted metaphorically to the juridical concept of *hereditas*, explaining the disease and the original sin as a sort of legal obligation passed on from parent to child.² Even though theologians

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1 See VAN DER LUGT 2008, 315.

2 VAN DER LUGT 2008, 315.

had no theoretical interest in the physiological dynamics involved in the transmission of leprosy from parent to child, discussions on the transmission of the original sin were loosely modeled on the dynamics of hereditary diseases.

Before the 14th century, the Latin syntagm *morbis hereditarius* was quite rare and sometimes was metaphorically ascribed to diseases conceived as deriving from parents. Nevertheless, in medieval parlance, this syntagm did not convey the contemporary meaning of a genetic model of causality. Rather, it was borrowed from the Roman Civil Law of succession, which was well suited to describe a rule-dictated system of transmissibility from parents to children.³

Even though inherited diseases as a subject of discussion are widely attested in 12th- and 13th-century medical texts, there is no consistent technical terminology for describing them. For example, Avicenna's *Canon Medicinæ* and Constantine the African's *Pantegni* refer to gout, syphilis, and leprosy as diseases which pass from "person to person" or which are "inherited through the seed." Nevertheless, their discussions on the dynamics of inherited leprosy are not as detailed as the observation of contagion.⁴ This mirrors the absence of a well-defined pathological category. Only at the end of the 13th century did physicians begin to devote specific categorizations to inherited diseases, differentiating them from other kinds of pathologies.⁵

The metaphorical use of the juridical concept of *hereditas* is also attested in the theological discussions on the transmission of the original sin.⁶ When Augustine discusses the transmission of the original sin from Adam to hu-

3 VAN DER LUGT 2008, 282–283, 290.

4 See DEMAÏTRE 2007, 155.

5 See VAN DER LUGT 2008, 306–312. See also LOVICONI 2019.

6 See MAROTTA 2020.

mankind, he occasionally resorts to the juridic lexicon. He claims that the original sin is a *peccatum hereditarium*, contracted by birth and descending from father to son through the chain of generations.⁷ It is caused by an active principle actually present in the parent's seed. In Augustine's view, the entire human nature contained in Adam's loins (*lumbi*) was spoiled and corrupted by the fall. Accordingly, human seminal nature (*ratio seminalis*) is transmitted from generation to generation in this corrupt condition.⁸

Luciano Cova suggests that Augustine, rather than sketching a biological model of transmission, employs the juridic metaphor of *hereditas* exclusively for rhetorical purposes.⁹ However, in the following centuries, the Augustinian metaphorical explanation of the transmission of the original sin as a *peccatum hereditarium* was interpreted as a biological and physical continuity between Adam and the whole of humankind. Even though the original sin belongs in the soul, it is the material substrate that corrupts the body which in turn corrupts the soul of the child. Only by admitting that Adam's corporeal substance somehow persists throughout the chain of generations, can one justify the bodily transmission of the original sin, preventing any possible explanation based on the traducianism of the human soul.¹⁰

The physical shift of this model is due to Peter Lombard's *Liber Sententiarum* (12th century). In line with Augustine, Peter claims that the original sin does not derive from the parent's soul but from the flesh produced by concupiscence that infects and corrupts the body. It is the concupiscence of the reproductive act that causes the transmission of the sin. It is by the mere contact with the flesh produced by sexual desire that the soul becomes, in turn, infec-

7 See COVA 2014, 60–61; in the entire Augustinian *corpus* Cova individuates no more than ten references to the syntagm *peccatum hereditarium*, see 111.

8 COVA 2014, 101–114.

9 COVA 2014, 110–111.

10 See BOUREAU 2008, 72–74.

ted itself.¹¹ Peter Lombard's physiological explanation became predominant in 13th-century discussions and was further corroborated by the availability of new medical and natural philosophical sources. According to scholastic theologians, both the existence of the original sin and its transmission from parents to progeny were matters of fact whose dynamics could be explained by analogy with inherited diseases, such as leprosy.

In medieval biblical exegesis, leprosy symbolizes both moral and carnal sin.¹² The analogy between leprosy and the original sin can be traced back to the biblical narrative of Gehazi, the servant of the prophet Elisha. In II *Kings* 5, Elisha heals Naaman, the Syrian, from his leprosy, but declines his reward. Unwilling to accept his master's decision, Gehazi pretends to speak on behalf of Elisha and persuades Naaman to give him the wealth. Once Elisha finds out about Gehazi's dishonest conduct, he punishes his servant with a curse that transfers Naaman's leprosy to him and his descendants.¹³

The first attested instance linking Gehazi's leprosy and the original sin occurs in the theologian Praepositinus of Cremona (ca. 1150–1210), Peter Lombard's student in Paris. He resorts to the leprosy example to stress the passing on of punishments from fathers to progeny rather than focusing on the physiological dynamics of disease/sin inheritance.¹⁴ However, in the 13th cen-

11 PETRUS LOMBARDUS 1971, vol. I, *Sententiae*, II, dist. 31, c. 3–4, 506, 8–28: “Non igitur secundum animam, sed secundum carnem solam, peccatum originale trahitur a parentibus [...] In concupiscentia igitur et libidine concipitur caro formanda in corpus prolis. Unde caro ipsa, quae concipitur in vitiosa concupiscentia, polluitur et corrumpitur; ex cuius contactu anima, cum infunditur, maculam trahit qua polluitur et fit rea, id est vitium concupiscentiae, quod est originale peccatum.”

12 See GRIGSBY 2004, 38–49; see also MILLER, NESBITT 2014, 100–101.

13 II *Reg.*, 5, 27: “Sed et lepra Naaman adhaerabit tibi et semini tuo in sempiternum et egressus est ab eo leprosus quasi nix.”

14 See VAN DER LUGT 2008, 316–317. See PRAEPOSITINUS DE CREMONA 1942, vol. IV,1, *Summa theologiae*, 91: “Lepra Giezi causa est quod omnes successores eius leprosi sunt, et tamen quilibet successor eius iam habebit lepram. Ita peccatum Adae causa est quare omnes successores sunt peccatores, et tamen quilibet suam habebit maculam, id est peccatum.”

tury, the availability of technical jargons and explicative models coming from Greek and Arabic medicine and philosophy helps to deepen the physiological dynamic of transmissibility. The seed is unanimously deemed as the material vehicle of defects, diseases, and the original sin. Divergent positions arise, though, in identifying the ontological status of what is conveyed. Is the parent's leprosy/original sin of the same nature as that of the child? Does the seed convey leprosy/original sin in potentiality or actuality? Moreover, since the original sin belongs in the soul, how can it be materially caused? In answering these questions, scholastic theologians categorize leprosy within different models of transmissibility.

2. Gehazi's Leprosy: William of Auvergne and Roland of Cremona on the Analogy between Leprosy and the Original Sin

One of the first theologians to engage with the integration of Greek and Arabic sources within the theological framework was William of Auvergne (ca. 1180/1190–1249).¹⁵ In his *De vitiis et peccatis* (ca. 1228), he expands on Peter Lombard's physical argument on the dynamic of transmission of the original sin, linking it to the Aristotelian doctrine of animal generation.¹⁶ The cause of transmission of the original sin is the corrupted flesh (*caro corrupta*) which generates something similar to itself (*sibi similem generat*).¹⁷ This is confirmed by Aristotle, who claims that the power of generating the similar belongs to the paternal seed, which, as a residue of the digestion of food previously as-

15 See TESKE 2006 and SANNINO 2022.

16 GUILIEMUS DE ALVERNIA 1674, *De vitiis et peccatis*, V, 256b: "Caput V investigat causas quibus originale peccatum in posteris transfunditur, docetque modum transfusionis."

17 GUILIEMUS DE ALVERNIA 1674, *De vitiis et peccatis*, V, 268a: "Verum nos dicimus quia si omne vitium nascendi, et tota concupiscentia etiam tolleretur a parentibus, corrupta tamen caro non nisi corruptam sibi similem generat [...]."

simulated by the parent's whole body, acquires and conveys the similarity.¹⁸ William gives a personal twist to the Aristotelian doctrine on the origin of the seminal fluid. According to Aristotle, the seminal fluid is a blood-like substance, i.e., a "useful residue," resulting from the digestion of food. Nevertheless, Aristotle rejects the so-called "pangenetic" origin of the seminal fluid, according to which the seed derives from the entire body of the generating party, from which it acquires the resemblance.¹⁹ Reformulated in a "pangenetic tone," the Aristotelian argument offers a solid theoretical foundation for Lombard's doctrine on the bodily transmission of the original sin. The *caro corrupta* of the father generates something similar to itself because the seed stores and conveys in potentiality the resemblance of such corruption.

In the generative process, the seed conveys not only physical features, defects, and diseases, but also Adam's fallen human nature. This is established by the work of nature (*operatio naturae*) which demands that "what generates" and "what is generated" are similar (*similia ex similibus*).²⁰

On a physical level, the theory of transmissibility of the bodily resemblance from parent to child demonstrates the natural necessity of the transmission of the corrupted human nature; on a theoretical level, however, it does not explain why the punishment for one individual's sinful action redounds

18 GUILLELMUS DE ALVERNIA 1674, *De vitiis et peccatis*, V, 268a: "Quia semen nostrae generationis potentia totum corpus est, quod ex eo generandum est. Et secundum Aristotelem totum corpus, ex quo deducitur sive transfunditur; et hoc est quoniam secundum ipsum superfluitas est tertiae digestionis, quae in omnia membra cum assimilatione assumitur."

19 *De generatione animalium*, I, 17, 721b13–27. For an overview of the debate on the seminal fluid, it is still worth looking at ZIRKLE 1946.

20 GUILLELMUS DE ALVERNIA 1674, *De vitiis et peccatis*, V, 270b: "Est quam jam diximus causa propter quam transfunditur in posterios per generationem ista corruptio, videlicet natura ipsa quae generata generantibus assimilatur, praesertim in eis quae naturalia, vel quasi naturalia sunt generantibus, interdum autem et in moribus. Unde et naturam diffinierunt aliqui viri, vim rebus infinitam procreandi similia ex similibus, et Aristoteles omnem operationem naturae dicit per similitudinem esse."

to those who are not responsible for it.²¹ The biblical narrative of Gehazi's leprosy allows William to go deeper into the dynamics of divine justice:

The second example is in one who is punished by the Lord with leprosy for his guilt [*pro delicto suo*]. However, it happens, or at least can happen in a natural way [*naturaliter*], that [the leprous] begets a leprous child, albeit completely saint. But it is evident that the child's leprosy is not an ailment consequential to his guilt [*plaga illata pro delicto ipsius*], given that he has committed no sins; neither it is [consequential] to someone else's guilt, since this would be an injustice. Rather, leprosy came to pass in the child in a natural way, i.e., as a natural disposition or infection, which is derived from the parent through the generative process. Therefore, whereas in the father, the ailment was a consequence of a fault, in the child this is a contracted nature [*natura contracta*]. What was acquisition [*acquisitio*] in the father is inheritance [*hereditas*] in the child. If one wonders why the father is leprous, we will say that this was for his guilt, while the child is leprous for that natural right [*ius naturale*] or law of nature [*lex naturae*] by which the flesh generates what is similar to itself [...] Thus, it is clear that God does not act unjustly [*non iniuste*] toward Adam's children when he preserves the law of nature and natural right in them.²²

Both father and child are infected by a disease of the same kind, but the causes of their infection differ. Gehazi acquired his leprosy as a result of his own fault. On the contrary, his child received leprosy in a natural way (*naturaliter*), because the law of nature (*lex naturae*) and the natural right (*ius naturale*) established that "the flesh generates what is similar to itself." On the one side, the pairing of terms *acquisitio/hereditas* aims at distinguishing the

²¹ For more on this, see COVA 2014, 89–100.

²² GUILIEMUS DE ALVERNIA 1674, *De vitiis et peccatis*, V, 271a: "Secundum exemplum est in illo qui pro delicto suo lepra percutitur a domino, evenit autem, vel saltem evenire potest naturaliter, ut filium leprosum generet, licet sanctissimum: evidens autem est, quia lepra in filio non est plaga illata pro delicto ipsius, cum non deliquerit, neque pro delicto alterius, quia hoc esset iniquitas, sed magis est in eo lepra huiusmodi naturaliter, id est naturalis dispositio, vel infectio, contracta per generationem ab ipso generante. In patre, igitur, fuit plaga illata pro delicto, in filio natura, ut diximus, contracta. In patre fuit acquisitio, in filio hereditas. Si quaeratur quare leprosus est pater? Dicemus quia pro proprio delicto, filius autem iure, ac lege naturae, quae est, ut caro sibi similem generet [...] Apparet ergo Deum non injuste agere in filios Adae, dum legem naturae, et ius naturale servat in illos."

‘source’ of the punishment (i.e., Adam’s/Gehazi’s fault) from the ‘result’ of that punishment (i.e., inheriting the corrupted human nature). On the other side, the use of such terms in a substantive form suggests the reification of the corrupted nature (i.e., by leprosy or original sin), which, much like a legal obligation or wealth, materially passes on from parent to child.

In William’s view, leprosy is a natural disposition or infection that, acquired by the father, is passed on to the child much as an inheritance. Therefore, what is conveyed by the seed is not leprosy as a corrupting agent in itself but rather a leprous nature that resembles the parent’s.

However, the very fact that children could inherit all sorts of corruptions from their fathers is not a sign of divine injustice but demonstrates the primacy of the *lex naturae* established by God over the uniqueness of Adam’s and Gehazi’s sins. Subverting the natural order would be an even greater injustice than condemning a child who is not responsible for his/her parent’s fault. The generative process is a rule-dictated system, which demands that what is generated inherit its nature (even spoiled by the original sin or leprosy) from that of the agent who generates it. As long as God preserves this natural order, the rightfulness of this dynamic cannot be questioned.

The analogy between leprosy and the original sin is further developed in the *Summa theologiae* (1232–1234) of Roland of Cremona (ca. 1178–1259), the first Dominican master who was entrusted by William of Auvergne himself with the teaching of theology in Paris.²³ Among early-13th century theologians, Roland stands for his extensive knowledge of natural philosophy and medicine. This is mirrored in his theological and exegetical works, which show deep interaction between liberal knowledge and theological issues.²⁴

23 On the relationship between Roland of Cremona and William of Auvergne, see SANTI 2005.

24 EVEN-EZRA 2018. It is not clear whether Roland actually taught and practiced medicine

Such interaction is apparent in his discussion on the analogy between leprosy and the original sin. In Roland's view, the biblical account of Gehazi's story established a link between leprosy and the sin of simony,²⁵ and demonstrates the universal order established by God:

Human beings have no reason to complain about the punishment inflicted since God has inflicted pain of such kind, i.e., that generates sin, exclusively to the first man who actually committed the sin, and who deserved [*dignus*] to be punished with the harshest punishment. And you contracted that punishment from your father, much like a leper is born from a leper, as in the example of Gehazi, who was infected by Naaman's leprosy as a punishment for his own actions [*merito suo*]; if Gehazi had begotten a son, this son would have been leprosy. Thus, Gehazi's son would have had no reason to complain to God, since God would not damage the universal order He established. The order of the universe demands [*exigit*] that he who has leprosy in the flesh begets a leprosy child.²⁶

In the footsteps of William of Auvergne's exegesis, Roland compares Adam's sin with Gehazi's: both were solely responsible for their sins, however, the consequences of their sinful actions (respectively the original sin and leprosy) are visited upon their descendants. Complaining that God's punishment passes on to progeny would mean questioning the universal order (*ordo universitatis*) established by the divine providence, which demands that those who generate and those who are generated be similar:

at the University of Bologna before teaching theology in Paris, see FILTHAUT 1935, 10–19.

25 In this work, Roland devotes a chapter to the biblical events of Gehazi and Simon Magus, where he demonstrates that both biblical figures were punished for committing simony, see ROLANDUS CREMONENSIS 2015–2017, vol. III, *Summa theologiae*, III, 416, 1248–1251.

26 ROLANDUS CREMONENSIS 2015–2017, vol. II, *Summa theologiae*, II, 27, 344–345: “Nec habet homo unde conqueratur de Deo, quia non infligit huiusmodi penam quae generat peccatum nisi primo homini qui peccavit actualiter et dignus fuit huiusmodi pena et maiori. Et tu contraxisti penam illam a patre tuo, sicut leprosus nascitur de leproso, sicut potest poni exemplum de Giezi, qui merito suo percussus fuit lepra Naaman; et, si Giezi generasset filium, leprosus fuisset. Filius Giezi non haberet unde de Deo conqueretur, quia Deus non debet suo ordini universitatis iniuriam facere. Ordo autem universitatis exigit ut de leproso nascatur leprosus in carne.”

The order of nature and of the universe [*ordo naturae et universitatis*] is that from a leprous, a leprous is generated, and from a grapevine wine. Thus, the order of the universe is that from a body rightly [*iuste*] deprived of the harmony of both [i.e., soul and body] a similar body is generated. The first human had rightly a corrupted body, since he had sinned, and it was necessary to observe the natural order of nature and of the universe in his successors.²⁷

Roland reformulates William's concept of *lex naturae* as *ordo naturae et universitatis*, aiming at stressing the universality of the dynamic of transmissibility of the resemblance from "what generates" to "what is generated." This is confirmed by the botanical reference to the grapevine: the providential order does not rule exclusively the reproduction of rational beings, but extends over all living beings. Thus, while Adam was rightly (*iuste*) punished with a corrupted body, the dynamic of transmissibility is out of any moral judgment since it is necessitated by the universal natural order.

While the leprosy/original sin analogy is useful to explain the dynamic of transmissibility, it does not fittingly exemplify the model of causality involved in the corruption of the original sin. Resorting to his natural-philosophical and medical knowledge, Roland tacitly questions the physiological premises of William's use of the analogy with leprosy:

A corruption of this sort [i.e., leprosy] is produced [*creatur*] in the way corruption resulting from putrefaction does. For this reason, it is claimed that the potential cause of the corruption is in the seed, but the actual corrupting cause is in the flesh. In this regard, the leper is not a good example, because the cause producing the infection [*causa faciens infectionem*] is stored in the leper's seed, and only afterward this affects the whole body in actuality [...].²⁸

27 ROLANDUS CREMONENSIS 2015–2017, vol. II, *Summa theologiae*, II, 27, 357: "Ordo naturae universitatis est ut de leproso nascatur leprosus, et de vite nascatur vinum. Ita ordo universitatis est ut de corpore, cuius iuste fracta est utraque armonia, nascatur corpus tale: primus autem homo iuste corruptum habuit corpus quia peccavit, et in sequentibus oportuit observari ordinem naturae et universitatis."

28 ROLANDUS CREMONENSIS 2015–2017, vol. II, *Summa theologiae*, II, 27, 357: "Et huiusmodi corruptio creatur tamquam a corruptibili et putribili. Unde dicunt quod causa potentia-

In Roland's interpretation, those who hold the leprosy/original sin analogy believed that the model of causality involved in the leprosy infection was similar to that of putrefaction. It followed a distinction between the potential cause of the infection in the father's seed (*in semine*) and the corrupting cause in actuality in the child's flesh (*in carne*). This would imply that leprosy would be latent in the seed and that, exclusively once in contact with the embryo's matter, it would pass from potentiality to actuality. However, in Roland's view, there is one single cause producing leprosy (*causa faciens infectionem*), which is already at work in the seed and is passed on to the child's flesh in this active disposition.

While William described the transmission of leprosy in terms of the passing on of the 'leprous nature' just as a material inheritance from parents to child, Roland's use of the Latin verb *facere* aims at describing leprosy as a corrupting agency already in actuality in the father seed.

3. *Leprosus generat leprosum*: Bonaventure and Thomas Aquinas on the Mode of Existence of Leprosy

In the second half of the 13th century theologians display less interest in the moral aspect of the leprosy/original sin analogy, rather focusing on its theoretical implications. William's argument on the bodily transmission of the original is summarized in the Latin expressions *leprosus generat leprosum* or *leprosus est de leproso*, and is usually recalled in supporting arguments on the transmissibility of accidental characters from parents to children, both in theological and philosophical fields.²⁹

lis illius est in semine, sed causa actu corrumpens in carne. Quantum ad hoc non est bonum exemplum de leproso, quia in semine leprosi est causa faciens infectionem, postea in toto corpore est actu [...]."

²⁹ For example, while in his theological work Albert the Great does not resort to the *lep-*

Strengthening the tendency already attested in Roland, Thomas Aquinas, and Bonaventure question the physiological foundations of the analogy. Relying on the natural philosophy at their disposal, they differently explain leprosy transmissibility: while they agree in considering the seed as the material vehicle of the disease, divergent positions arise with regards to the mode of existence of what is conveyed by it.

The Franciscan *magister* Bonaventure (1221–1274) discusses the analogy in a question of his *Commentary* on Peter Lombard’s *Sentences* (ca. 1250), which focuses on the possibility of removing the cause of transmission of the original sin thanks to the sacrament of baptism. One of the arguments in favor rests on Augustine’s theory of the original sin as *morbis hereditarius*:

If someone cures one who has leprosy, which is a hereditary disease [*morbis hereditarius*], the very healing from leprosy gives the power to generate a healthy child; therefore, by the same reasoning, if the original sin is a hereditary disease, it seems that it cannot be removed, unless the corruption through which the original sin is transfused into another is removed too.³⁰

The core of the argumentation is the transmissibility of the original sin: unlike leprosy, it cannot be prevented. When a leper is healed from leprosy, the pos-

rosus generat leprosum argument, in the natural-philosophical framework, he makes use of the leper example in support of the theory of the seminal transmission of accidental genetic contents from parents to offspring. See, e.g., ALBERTUS MAGNUS 1916, *De animalibus*, IX, tract. 1, c. 6, 698,22–28: “Adhuc autem frequentissime accidit, quod occasiones parentum resultant in natis aut aeque fortes aut forte fortiores, sicut quod podagricus generat podagricum et leprosus leprosum et aliquando cancosus aut melancolicus de melancolia corrupta generat leprosum. Universaliter enim loquendo res innaturales parentum communicantur aliquando toti generationi per generationem succedentem sibi.” See CERRITO 2023, 89–93. On Albert’s explanation of the transmission of leprosy see PALAZZO 2023, 241–244 and PALAZZO 2024, 69–72.

³⁰ BONAVENTURA DE BALNEOREGIO 1885, *In II Sententiarum*, dist. 32, q. 2, art. 2, 763: “Si aliquis curet aliquem a lepra, quia lepra est morbus hereditarius, hoc ipso quod a lepra curat, dat ei potentiam generandi filium sanum: ergo pari ratione, si originale morbus est hereditarius, videtur quod non deleatur, quin auferatur illa corruptio per quam originale in alterum transfunditur.”

sibility of transmission to the progeny is gone. In this view, a potentially inherited disease would lose its transmissive power. If the original sin is a *morbis hereditarius*, just like leprosy, it follows that to be effective, the cure of the baptism should remove not only the guilt from the child's soul but also its transmissive power.

In discussing this argument, Bonaventure clarifies to what extent the original sin can be compared to leprosy:

Leprosy is not a hereditary disease like the other disease which corrupts both nature and person [i.e., the original sin]; but leprosy corrupts exclusively the body of the human being, both in the nutritive and the generative powers. For this reason, a leper generates a leper [*leprosus generat leprosum*] because in the leprous person, the generative and the nutrimental moistures are equally corrupted. However, once one is cured of leprosy, both such moistures are healed at the same time. On the contrary, in the original sin, both the corruption of the person and that of the nature are present. This is the reason why these two corruptions [leprosy and original sin] differ. Indeed, the corruption of the person concerns the free will, while the corruption of the nature, as being generated by it, pertains to the generative power.³¹

Although leprosy and the original sin can both be defined as hereditary diseases, the subject of their corruption differs. While the subjects of the original sin are both nature and person, which respectively belong to the generative power and to the free will of the generating individual, the subject of leprosy is exclusively the individual nature, corrupted both in its nutritive and generative powers. In this passage, Bonaventure condenses the Aristotelian theory

³¹ BONAVENTURA DE BALNEOREGIO 1885, *In II Sententiarum*, dist. 32, q. 2, art. 2, 764: "Lepra enim sic est morbus hereditarius, quod non est alius morbus ut corrumpit personam et ut corrumpit naturam, eo quod totum hominem inficit ex parte carnis, non solum quantum ad nutritivam, sed etiam quantum ad generativam; et ideo leprosus generat leprosum, quia ita corruptus est in eo humor generativus, sicut nutritivus: et quando homo a lepra curatur, uterque humor simul in ipso sanatur. Sed in originali peccato est corruptio personae et naturae, ita quod istae corruptiones sunt diversae. Corruptio enim personae respicit liberam voluntatem; corruptio vero naturae, secundum quod ab illa causatur, respicit generativam virtutem."

of the nutritive origin of the seminal fluid: the generative moisture is infected by leprosy because it is the result of digestion of the nutritive moisture already infected by the same disease.

On the basis of humoral physiology, Bonaventure draws a distinction between the first cause of infection (i.e., the *humor nutritivus*) in the generating individual and the cause of transmission of the infection (i.e., the *humor generativus*). While removing the first cause of leprosy, the possibility of passing it on to the progeny is also removed; the same does not apply when removing the original sin through baptism. This is because baptism does not heal the bodily nature of the individual, but exclusively his/her spiritual nature. The sacrament clears the first cause of the infection of the original sin, i.e., Adam's fault (*culpa*), from the child's individual soul, although it does not remove the capacity to transmit the corrupted human nature to the descendants. The transmissive power lies in one's bodily nature, not in the persons themselves.

Unlike William of Auvergne, who defines leprosy as an *hereditas*, suggesting a reification of leprous nature, Bonaventure describes leprosy as *morbis hereditarius* rather than as a corrupting agency in itself. The editor of Bonaventure's *Commentary on the Sentences* traces back the reference to leprosy as a hereditary disease to Avicenna's *Canon of Medicine*, where the disease is placed among those inherited via the seed (*in semine hereditantur*).³² However, while in the *Avicenna Latinus*, the verb *heredare* is used in a passive form, suggesting that leprosy is something that is received from birth,³³ Bonaventure uses *hereditarius*, an adjective from the same root, to point to a

32 See AVICENNA 1507, *Canon medicinae*, fen 2, doct. 1, c. 8, 27v: "Et sunt egritudinum quedam que in semine hereditantur sicut albaras alba et tinea naturalis et podagra et ptisis et lepra."

33 Nevertheless, Avicenna just occasionally stresses the hereditary features of leprosy, see VAN DER LUGT 2008, 281–282.

pathology that is both the cause of the infection and the cause of its transmission.³⁴ As long as the first cause of leprosy runs in the body of the parents, its transmissive power persists.

At variance with William and Bonaventure, Thomas Aquinas (1225–1274) prefers to describe the original sin as a *morbis contagiosus*:

That corruption [i.e., the original sin] which has the characteristic of passing onto another is usually defined as infection [*infectio*]; for this reason, contagious diseases [*morbi contagiosi*], such as leprosy, scabies, and similar, are called infections.³⁵

In his *Summa Theologiae* (1265–1274), Aquinas prefers to qualify this disease as *contagiosus*, i.e., spreading from one person to another by contact, in order to stress the ‘person-to-person’ transmission, rather than suggesting a formal principle that is infective and transmissive at the same time. Following Lombard’s teaching, he holds that the corruption of the original sin is not originated by a corrupting agent present in actually in the seed, but by the generative act in itself.³⁶ Contagious diseases are not consequences of Adam’s sin, but they naturally belong to the fallen human nature. They are caused by human mistakes (e.g., a disorderly diet) or by the malfunctioning of the natural powers (e.g., the weakness of the formal principle in the generative process).³⁷

34 In the following passage of his *Sententiae*, Bonaventure defines again leprosy as a hereditary disease, see BONAVENTURA DE BALNEOREGIO 1889, *In IV Sententiarum*, dist. 32, q. 1, art. 2, 733: “Lepra est morbus hereditarius, ergo transmittitur ad prolem [...]”

35 THOMAS DE AQUINO 1999, *Summa theologiae*, I^a-II^{ae}, q. 83, art. 4, co., 911b: “Respondeo dicendum quod illa corruptio praecipue infectio nominari solet, quae nata est in aliud transferri, unde et morbi contagiosi, sicut lepra et scabies et huiusmodi, infectiones dicuntur.”

36 THOMAS DE AQUINO 1999, *Summa theologiae*, I^a-II^{ae}, q. 83, art. 4, co., 911b: “Corruptio autem originalis peccati traducitur per actum generationis, sicut supra dictum est. Unde potentiae quae ad huiusmodi actum concurrunt, maxime dicuntur esse infectae.”

37 THOMAS DE AQUINO 1999, *Summa theologiae*, III^a, q. 14, art. 4, co., 1941a: “Quidam autem defectus sunt qui non consequuntur communiter totam humanam naturam propter peccatum primi parentis, sed causantur in aliquibus hominibus ex quibusdam particu-

Albeit the seed is the vector of both the original sin and leprosy, and more generally of all physical and psychic defects, it is not the actual subject of either. In the seed, leprosy and original sin are not present as corrupting causes already in actuality, but rather *virtualiter*:

[...] even if the seed does not store the corruption of the fault [*infectio culpae*] in actuality, it does nevertheless in a virtual way [*virtualiter*], as it is shown by the fact that the leper's seed generates a leprous child, although leprosy is not in actuality in that seed. A certain defective power [*virtus deficiens*] in the seed produces the defect of leprosy in the child.³⁸

As regards the Latin adverb *virtualiter*, this is frequently used by Aquinas as a synonym of *potentialiter* (as opposed to *actualiter*), in order to describe a mode of existence "according to the power or potentially."³⁹ In this perspective, the leprous seed does not contain leprosy as a corrupting agency but exclusively a defective power, which, in turn, determines the precondition for leprosy in the body of the offspring.

For this reason, the corruption in the seed cannot be truly defined as a disease (*aegritudo*), but it is exclusively a potential resemblance of the corruption of the generating body:

Properly speaking, before the infusion of the soul, the corruption in the seed cannot be defined as a fault [*culpa*], therefore it cannot be defined as a punishment [*poena*] either [...]. It is rather a kind of defect since the resemblance with

laribus causis, sicut lepra et morbus caducus et alia huiusmodi. Qui quidem defectus quandoque causantur ex culpa hominis, puta ex inordinatione victus, quandoque autem ex defectu virtutis formativae."

38 THOMAS DE AQUINO 1929, *Scriptum super libros Sententiarum*, II, dist. 30, q. 1, art. 2, ad 4, 772: "[...] licet semen non habet in se infectionem culpae in actu, habet tamen in virtute, sicut etiam patet quod ex semine leprosi generatur filius leprosus, quamvis in ipso semine non sit lepra in actu: est enim in semine virtus aliqua deficiens, per cuius defectus contingit defectus leprae in prole."

39 See DEFERRARI, BARRY 1948, 1159.

the nature of the generating agent virtually [*virtualiter*] persists in the seed, in the way leprosy in the leper's seed is not a disease [*aegritudo*].⁴⁰

In Aquinas' perspective, all the defects conveyed by the seed are not actually present in it, and thus they cannot be truly categorized as formal principles able of passing on from parent to child. On a bodily level, the *leprosus generat leprosum* argument justifies the physical continuity between who generates and who is generated, but on a theoretical level, it does not explain how a defect of the soul can be materially caused.

In Thomas' interpretation, the genesis of the analogy between leprosy and the original sin has to be framed within the rejection of the traducianism on the origin of the soul. Since the sin belongs in the soul, the issue at stake was to justify the transmission of the sin from parent to child without presupposing the transmission of the soul itself.⁴¹ To solve this theoretical impasse, those who hold the leprosy/original sin analogy resort to the philosophical theory of proportionality between soul and body:

[...] some have tried to clarify how the parent's fault (*culpa*) is transmitted to the offspring without presupposing the transmission of the soul by referring to the fact that defects are transmitted from the parent to the offspring so that a leper begets a leper (*leprosus generat leprosum*) and a gouty a gouty (*podagricus podagricum*), due to the same corruption of the seed, although a corruption of that sort cannot be truly defined leprosy or gout. Now, since the body is proportion-

40 THOMAS DE AQUINO 1929, *Scriptum super libros Sententiarum*, II, dist. 31, q. 1, art. 1, ad 4, 806: "Ad quartum dicendum quod, illa infectio quae est in semine, sicut non habet rationem culpae, proprie loquendo, ante infusionem animae, ita nec poenae [...] sed est defectus quidam, in quantum similitudo naturae generantis in semine virtualiter manet, per modum etiam quo lepra in semine leprosi non est aegritudo."

41 THOMAS DE AQUINO 1999, *Summa theologiae*, I^a-II^{ae}, q. 81, art. 1, co., 901b-902a: "Ad investigandum autem qualiter peccatum primi parentis originaliter possit transire in posteros, diversi diversis viis processerunt. Quidam enim, considerantes quod peccati subiectum est anima rationalis, posuerunt quod cum semine rationalis anima traducatur, ut sic ex infecta anima animae infectae derivari videantur." On Aquinas' doctrine of the original sin, see COVA 2014, 188-193 and JOHNSON 2007.

ate to the soul, and the defects of the soul redound to the body, and vice versa, they conclude that in the same way a defect of the soul is transmitted by the seed, even though the seed is not the actual subject of the fault.⁴²

Once again, Thomas maintains that physical defects conveyed by the seed cannot be truly categorized as diseases (e.g., leprosy or gout), but exclusively as corruptions infecting the body. Given that the human soul is meant to animate a specific body and that some physical defects fall on the soul and vice versa, it follows that the seed can corrupt the child's soul without being itself the actual subject of the fault:

The original sin does not pass on by way of his subject, i.e., the rational soul, but is transmitted by the seed. Since the father's soul was corrupted by sin, a disorder in the body follows, which was deprived of that order that the established nature [*natura instituta*] had received before. Thus, from that seed is generated a body deprived of such order, and the soul infused in this body is affected by the disorder of the fault [...] as well as, due to some corruption of the seed, a defect is produced not only in the offspring's body generated out of that seed, e.g., leprosy, gout, and other similar diseases; but also in the soul, as it is evident in those who are naturally [*naturaliter*] stupid from birth.⁴³

42 THOMAS DE AQUINO 1999, *Summa theologiae*, I^a-II^{ae}, q. 81, art. 1, co., 902a: "Alii [...] conati sunt ostendere quomodo culpa animae parentis traducitur in prolem, etiam si anima non traducatur, per hoc quod corporis defectus traducuntur a parente in prolem, sicut si leprosus generat leprosum, et podagricus podagricum, propter aliquam corruptionem seminis, licet talis corruptio non dicatur lepra vel podagra. Cum autem corpus sit proportionatum animae, et defectus animae redundant in corpus, et e converso; simili modo dicunt quod culpabilis defectus animae per traductionem seminis in prolem derivatur, quamvis semen actualiter non sit culpae subiectum."

43 THOMAS DE AQUINO 1929, *Scriptum super libros Sententiarum*, II, dist. 30, q. 1, art. 2, ad 3, 772: "Ad tertium dicendum, quod peccatum originale non traducitur per traductionem sui subjecti, quod est anima rationalis, sed per traductionem seminis: quia ex quo anima patris per peccatum infecta fuit, sequitur etiam inordinatio in corpore, subtracto illo ordine quem natura instituta prius acceperat: et ita etiam ex semine illo generatur corpus tali ordine destitutum; unde et anima quae tali corpori infunditur, deordinationem culpae contrahit ex hoc ipso quod hujusmodi corporis forma efficitur; cum oporteat perfectionem perfectibili proportionatam esse: sicut propter aliquam corruptionem seminis contingit non tantum defectus in corpore prolis ex illo semine generatae, ut lepra, podagra, vel aliqua hujusmodi infirmitas; sed etiam defectus in anima, ut patet in his qui a nativitate naturaliter sunt stolidi."

Therefore, leprosy, gout, and other physical defects in the child are caused not by a corrupting agency inherited by the seed but by the corruption of the seed itself in its ability to reproduce the resemblance of all sorts of defects. The dynamic of transmission of physical and psychic defects is due to the power that organizes the body (*virtus dispositiva corporis*), which guarantees both the proportionality between soul and body and the psychic and bodily resemblance between parents and offspring:

Although the soul is not in the seed, there sits a power that predisposes the body to receive the soul [*virtus dispositiva corporis*] that is infused along with the body, and that is also proportionate to the body since everything is received according to the mode of the receiver. For this reason, one ascertains that offspring resembles the parents, not only in corporeal defects, like a leper begetting a leper and a gouty a gouty, but also in the defects of the soul, like a hot-tempered [*iracundus*] begetting a hot-tempered, and fools [*amentes*] being born to fools. Even though the foot, i.e., the subject of gout, is not in the seed, and neither is the soul, i.e., the subject of anger [*ira*] or stupidity [*amentia*], in the seed lies the formative power of the body parts and the power to predispose to the soul.⁴⁴

When the power that predisposes the body to be ensouled is defective (e.g., due to the corruption of leprosy or gout, or because it acquires the resemblance of physical defects from the parents), it could cause defectiveness pertaining to both soul and body. The seed contributes as a *physical instrumental cause* to the transmission of both leprosy and the original sin without convey-

⁴⁴ THOMAS DE AQUINO 1953, *Super Epistolam ad Romanos*, c. 5, 1, 3: “[...] licet in semine non sit anima, est tamen in semine virtus dispositiva corporis ad animae receptionem, quae cum corpori infunditur, etiam ei suo modo conformatur, eo quod omne receptum est in recipiente per modum recipientis. Et exinde videmus quod filii simulantur parentibus, non solum in defectibus corporalibus, sicut leprosus generat leprosum et podagricus podagricum, sed etiam in defectibus animae, sicut iracundus iracundum et amentes ex amentibus nascuntur. Quamvis enim pes, qui est subiectum podagrae, non sit in semine, nec anima quae est subiectum irae vel amentiae, est tamen in semine virtus formativa corporalium membrorum et dispositiva ad animam.”

ing the actual subject of these.⁴⁵ As Thomas exemplifies, neither the subject of gout (and leprosy), i.e., the foot, nor the subject of anger and stupidity, i.e., the soul, are actually in the seed.

In Thomas' view, leprosy and original sin exist only in their subject, respectively the foot and the soul. Before the bodily configuration and animation of the embryo, leprosy and the original sin are just corruptions affecting the formative power of the seed. These are not formal causes capable of passing on from parent to child, but they are a virtual resemblance of the corruption of the generating body. In other words, a child's leprosy is caused by *the seed of a leper*, and not by *a leprous seed*.

4. Henry of Ghent and the formal infective disposition

Henry of Ghent (1217–ca. 1293) offers one of the most detailed and comprehensive treatments of the leprosy/original sin analogy. In his first *Quodlibet* (ca. 1276), he develops his interpretation of the Augustinian model of transmission of the original sin.⁴⁶ Henry outlines an “invasive infection” which, descending from the first parents, is not confined to the seed, but permeates every fiber of the generating body and is able to infect every soul coming into contact with such bodies like an actual disease.⁴⁷ In order to explain how sin can be passed on from parent to child, he resorts more precisely to the analogy with the way of transmission of leprosy. The cause of leprosy in the offspring is the infected substance from which it derives:

By joining with the body formed out of that matter, the soul contracts the original sin, in the way in which, if someone were infected with leprosy,

45 See GIBELLINI 1958, 147.

46 For the chronology of Henry's *Quodlibeta*, I follow PORRO 2006, 171–232.

47 See COVA 2014, 246–247.

everything that proceeds from their substance, formed out of it, would be infected with leprosy.⁴⁸

Once again, the ‘leper begets a leper’ argument demonstrates that the natural order demands that who generates and who is generated share substance. However, in *Quodlibet X* (ca. 1286), he clarifies that, in the offspring, the original sin and leprosy are not caused by an individual reality numerically identical to that present in the substance of the parent:⁴⁹

Actually, what is transfused into the child’s bodily substance is the residue of the nourishment and not some part of the parent’s bodily substance, as someone used to claim to justify what is owed to the original sin.⁵⁰

What is transmitted via the generative process is not a substance detached from the parent’s body, but rather a residue of the nourishment which results from the parent’s digestive process

Recalling the Aristotelian doctrine on the origin of the seminal fluid, Henry details step by step how the infection takes place both in the case of leprosy and of the original sin:

Before being taken in the generative vessels [*vasa generationis*], the nourishment is not in that morbid disposition [...]. But after [the nourishment] is taken in the

48 HENRICUS DE GANDAVO 1979, *Quodlibet I*, q. 21, 174,70–73: “[...] ex coniunctione cum corpore formato ex illa materia contrahit anima peccatum originale, ad modum quo si aliquis lepra infectus esset, et quidquid ex eius substantia procederet, ab illa formatum, lepra inveniretur infectum.”

49 HENRICUS DE GANDAVO 1981, *Quodlibet X*, q. 5, 123,37–38: “Nec causatur illa dispositio in prole per aliquid idem numero transfusum in substantiam prolis, quod prius fuit in substantia parentis.”

50 HENRICUS DE GANDAVO 1981, *Quodlibet X*, q. 5, 123,38–41: “Immo quod transfunditur in corporalem substantiam, non est nisi residuum nutrimenti, non autem aliqua portio corporalis substantiae parentis, ut quidam solebant dicere volentes per hoc salvare contractum originalis.”

generative vessels, the generative power corrupts the glutinous form [of nourishment] generating the form of the seed; and only then is this naturally [*naturaliter*] released and intrinsically ordered to the generation of the offspring, it is in that moment that the morbid disposition [*morbida dispositio*] is infused.⁵¹

Here, Henry is merging two different but complementary doctrines on the role of the generative or seminal vessels (*vasa seminaria*) in the generative process. According to Aristotle, they are organs that store the seminal fluid. On the contrary, Galen deemed that the testicles, alongside the female seminal vessels, were also the place of the generative power.⁵² Even though the corrupted seminal fluid results from the digestion of nourishment, it acquires its infection after being drawn into the generative vessels and transformed into seed. Implicitly following Galen, Henry maintains that the *vasa generationis* store the generative power, which acts upon the nourishment, by shaping it in the form of the seed that, afterward, is fully able to lead to the generation of the offspring.

The following stage of infection happens in the *locus formationis*, i.e., the uterus:

When the infected seed is detached from the parent, and it passes to the place where the formation happens [*locus formationis*], the same generative power, which configures the body and that before was in the body of the parent, remains in the seed to generate the body from it: by educating the corporeality, or the form of the body [*forma corporeitatis*] from the potentiality of matter, and by corrupting the form of the seed, likewise by infecting the body with the same disposition of which the parent was infected (just as the parent's generative power already had infected the seed of the same infection of which the parent

51 HENRICUS DE GANDAVO 1981, *Quodlibet X*, q. 5, 123,42–58: “Nutrimentum autem prius quam recipiatur in vasis generationis, nullo modo habet in se illam morbidam dispositionem [...] Sed postquam receptum est in vasis generationis et vi generativa corrumpitur forma glutini et generatur forma seminis, tunc primo oritur naturaliter et per se ad prolis procreationem et infunditur semini illa morbida dispositio.”

52 On the contrast between Aristotelian and Galenic doctrines on the seminal vessels, see JACQUART, THOMASSET 1985, 76.

was infected). Indeed, even though the original sin is formally removed, its spark [*fomes*] remains in the material body parts [...].⁵³

This passage is interesting for several reasons. First of all, Henry stresses the formal continuity between the infectiveness of the generative power in the father's body and that of the generative power that takes charge of the formation of the embryo. Secondly, he refers to Avicenna's doctrine of *forma corporeitatis*, i.e., the three-dimensional extension of matter that persists identically throughout the substantial change and which has ontological continuity with the substantial form in actuality.⁵⁴ This is connected to Henry's personal doctrine on the 'dimorphism' of the human generation, which involves two different substantial forms: the form of the mixture educed from the potentiality of the matter that prepares the body to be ensouled by the soul it is meant for and the rational human form, which is infused by God once the body is fully formed.⁵⁵

In this perspective, the infection of both leprosy and the original sin is caused by the generative power which, beyond producing corporeality from the potentiality of the matter, also infects the body with the same disease that

53 HENRICUS DE GANDAVO 1981, *Quodlibet X*, q. 5, 123,59–68: "Cumque semen infectum a parente descinditur et in locum formationis reponitur, eadem vis generativa et membrorum informativa quae erat in parente ad generandum semen ex nutrimento et inficiendum ipsum dicto modo, manet in semine ad generandum ex semine corpus humanum, corporeitatem sive formam corporeitatis educendo de potentia materiae, et corrumpendo formam seminis, et similiter inficiendum illud corpus eadem dispositione qua semen erat infectum, sicut et vis generativa parentis infecit semen eadem infectione qua ipse infectus erat. Etenim si remissum est originale formaliter, manet tamen fomes in membris materialis [...]."

54 AVICENNA 1992, *Liber primus naturalium: Tractatus primus de causis et principiis naturalium*, 18,5–19,16.

55 As pointed out by Gabriella Zuccolin, Henry maintains that "conjoined twins are only one entity from the point of view of the form of the mixture (i.e., the form of the body educed by natural generation from the potency of the matter), but two distinct persons from the point of view of rational souls," ZUCCOLIN 2017, 583. See also ZUCCOLIN 2019, 169–183.

the parent was infected with. The very fact that the same disease persists as an infective principle from the parent's body to the offspring's shows that, in Henry's view, leprosy and original sin are *formal infective dispositions* that never lose their infective power. As Henry concludes, not even the formal remission from the original sin through baptism could remove that infection from the material body which is radically permeated by that infectious disposition.

The infective power of both leprosy and original sin perdures during the whole embryogenetic process:

Even if we posit many natural generations and corruptions between the first generation of the form of the seed, and the last generation of the human body, this would not change because in any intermediate stage between the seed and the parent, the power to generate and to infect that was in the seed and in the parent perdures. In the same way, leprosy parents radically [*radicaliter*] generate leprosy children.⁵⁶

As Henry concludes, the infective principle involved throughout the whole generative process maintains its infective power from the formation of the seed in the parent's generative vessels to the completion of the human body in the female's uterus. A leper generates a leper because leprosy has radically permeated the parent's body.

5. Final Remarks

Based on more or less direct knowledge of medical and natural philosophical doctrines on human generation and inherited disease, 13th-century theolo-

⁵⁶ HENRICUS DE GANDAVO 1981, *Quodlibet X*, q. 5, 124,69–74: "Nec est differentia in hoc sive plures generationes et corruptiones naturales ponamus inter generationem primam formae seminis et ultimam corporis humani, quoniam semper manet vis eadem generandi et inficiendi in quolibet intermedio, quae fuit in semine et in ipso parente. Et per hanc eandem viam radicaliter leprosi parentes naturaliter generant leprosos."

gians show a plurality of approaches in discussing the analogy between leprosy and the original sin. In the first half of the 13th century, this is used for two related purposes: (i) on one side it is employed as an argument to show the providential order underlying the repercussion of the punishment for one individual's sinful action on humankind; (ii) on the other side, it demonstrates the natural necessity of the similarity in nature between 'who generates' and 'who is generated', even if this nature is corrupted.

In William of Auvergne's exegesis, leprosy is described as a *hereditas*, i.e., a leprous nature akin to that of the father, which is inherited just like a material wealth or legal obligation through the chain of generation. William's argumentation is grounded in the Aristotelian tenet, according to which what is generated inherits its nature (even if spoiled by the original sin or leprosy) from that of the agent who generates it. Therefore, what is conveyed by the seed is not a potential infection, but a leprous nature already in actuality.

In line with William's interpretation, Roland of Cremona stresses the universality and the necessity of the dynamic of passing on the resemblance from the generating to the generated party. However, what passes on from a leprous parent to the child is not a leprous nature, but an active cause that produces leprosy, which is passed on to the child's flesh in an active disposition.

In the second half of the 13th century, theologians still discuss the leprosy/original sin analogy, synthesized in the Latin expression *leprosus generat leprosum*, though they shift their focus on the mode of presence of leprosy and the original sin in the generative seed. In describing leprosy and the original sin, Bonaventure turns to a precise medical terminology: he defines both as *morbi hereditarii* in order to stress their intrinsic transmissive power, which as long as it runs in the body of parents, can never be prevented. In discussing

the points of difference between leprosy and original sin, Bonaventure refers to the possibility of healing from leprosy: unlike the original sin, this could be removed from the generating body by acting upon the nutrimental moisture, i.e., the first cause of the infection.

Thomas Aquinas, too, employs medical terminology in describing leprosy, which is rather defined as *morbus contagiosus*. In contrast with those who (like Bonaventure or William) stress the hereditary feature of both leprosy and the original sin, Thomas prefers to underline the 'person-to-person' dynamic of contagion. By questioning the physiological and philosophical premises underlying the analogy, Thomas investigates the mode of existence of leprosy in the generative seed. It is neither a formal principle that is infective and transmissible at the same time nor a formal cause capable of passing on from parent to child through the seed. In the seminal stage, leprosy is rather a virtual corrupting power that cannot be truly categorized as a disease, since a 'disease' must actually affect the subject. In Thomas' view, leprosy's subject is the foot, which is not actually present in the seed. Therefore, he concludes that leprosy in the seed is a virtual resemblance to the corruption of the generating body.

All these perspectives merge into Henry of Ghent's discussion. Resorting to both the Aristotelian doctrine on the origin of the seminal fluid and the Avicennian notion of *forma corporeitatis*, Henry describes leprosy as a formal infective disposition that perdures through the entire generative process that starts with the production of the seminal fluid in the infected body of the generating individual. In Henry's view, there is a formal continuity between the infectiveness of the generative power in the father's body and that of the generative power that takes charge of the formation of the embryo. By detailing step by step the different stages of infection, Henry claims that leprosy, which

is acquired in the *vasa seminaria* of the leprous parent, does not lose its infective power: this perdures identically during the whole embryogenetic process. Leprosy and the original sin are diseases that radically permeate the generating body, which cannot generate anything but another body affected by the same infectious disposition.

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