



## ABSTRACT

Pier de’ Crescenzi’s *Liber Ruralium Commodorum* (ca. 1305) represents the extent of European knowledge of environmental manipulation for the estate. Even so, most analyses of Crescenzi concern design. This article deals with how he conceived of nature, the elite estate, and resource management. A close reading of the text demonstrates that he saw the environment as an interdependent system, and he believed the estate should be managed according to the tenets of classical humoral theory. He urged the manipulation of environment to create pleasing sights, scents, and textures, which created humoral balance and social distance for the owner and his elite guests. For Crescenzi, landscape mediation was a means to create a harmonious system that balanced productivity, delight, and spiritual and physical renewal for the owner’s consumption.

## ARTICLE<sup>1</sup>

In his famous manual, *Liber ruralium commodorum* (hereafter *Ruralia*), composed in the early years of the fourteenth-century (RICHTER 1995: XII), Pier de’ Crescenzi relays his idealized vision for the elite rural estate. He addresses many topics related to estate management, from how to survey land to select the optimal site to how to manipulate nature most effectively to increase productivity and mold its reception. It is the question of whether Crescenzi’s intention to inspire “delight” anticipates the deliberate aesthetics of the later Renaissance that has preoccupied Crescenzi scholars (FABIANI GIANNETTO 2008: 90-91). But if we want to understand the full implications of Crescenzi’s vision of the ordered, productive, and pleasing estate depicted in the *Ruralia*, we would be well advised to reflect first on prevailing medieval theories about nature. In this article I wish to explore how Crescenzi conceived of nature and its role in creating a hallmark of medieval rural elite culture, the estate.

As with other medieval intellectuals, Crescenzi saw the world as an interdependent system. Nature and all life were governed by the universal precepts of humoral interaction. Each living thing depended on bodily balance among the four humors: blood, black bile, yellow bile, and phlegm. These four elements were combined in all matter and themselves made two distinct pairings of characteristics: hot and cold, dry and moist. While an individual’s unique makeup would be partially responsible for inborn predispositions to a certain imbalance, and thus disease, imbalance could also be caused by external factors, such as air and environment (GARCÍA-BALLESTER 1993: 105). With careful organization of the estate, Crescenzi told his readers that they could impress visitors with the natural splendor of the estate, create a physically and spiritually salubrious locale, and maximize productivity, all of which reinforced the social importance, political authority and wealth of the owner. Humoral theory was a way of comprehending the reciprocal impact of continuous human-environment interaction—what we might call

1 This article was adapted from a conference paper I gave for CHAIA at the University of Évora in February 2014. It benefited immensely from the feedback and convivial discussion of the participants. I would also like to thank the GL&P’s two anonymous reviewers for their helpful comments. The ideas for this article initially germinated in the spring and summer of 2013 when I was in residence at the Huntington Library in Los Angeles, CA and the Dumbarton Oaks Library and Gardens in Washington, D.C. Their generous fellowships allowed me to study the late medieval and Renaissance agricultural manuscripts and *incunabula* held in their collections, as well as benefit from the wide-ranging expertise of other scholars in residence at both libraries on all matters landscape.

“ecology”—and manipulating it to human purposes.

Crescenzi deployed the knowledge he acquired over a lifetime of studying topography, geology, agriculture, and environmental humors to recommend the best site for the most healthful placement of the estate. This also extended to more specific placement of the manor house, gardens, orchards, fields, vines, outbuildings and quarters of the laborers to create the most healthful landscape for the elite inhabitants. Crescenzi filtered his extensive knowledge of nature, which he had obtained both through reading of the texts of classical and medieval thinkers and personal observation, through humoral theory to depict his ideal villa retreat and proffer advice on how to create and manage it. However, he also acknowledged that ideal sites are just that, ideal, and for this reason he discussed at great length practical means to mold the environs to create a productive villa that would be healthful, rejuvenating, and pleasing to the senses. In particular, his model villa required attentive management of the estate’s air, water, and soil balance to maximize productivity of desirable goods, such as cereals, fruit, meat, and wine. He also employed his mastery over cultivation techniques to manipulate those very same principles of nature to encourage what we consider the “practical” elements of physical health, such as purified air and water. But spiritual health was also strongly linked to physical health and mental delight through humoral interaction. Every element of the estate, including those parts that we would not consider aesthetically pleasing, such as the fields, functioned together to engender both delight and health in its visitors.

### **The *Ruralia* in Scholarship**

Despite Crescenzi’s situational and systematic approach to estate management, very few scholars study the text outside of the first three chapters in the famous book on pleasure gardens, Book 8. These three succinct chapters outline the ideal layouts of gardens for those of limited, moderate, and ample means. Later chapters in the same book on pleasure gardens offer detailed instructions on how to create marvelous things out of fields, trees and herb gardens. The overlooked chapters deal more explicitly with the practical realities of management, for example water supply and soil quality. There is no modern English translation of the whole text, although a nineteenth-century modern Italian translation is readily available. So rather than a close reading of the whole Latin text, scholars have often relied solely on later, mostly fifteenth-century, illuminations and woodblocks of gardens and sixteenth-century (and later) translations in an attempt to recreate medieval gardens. Unfortunately, these later illustrations better exemplify how late medieval illustrators, and the elites who consumed the images, perceived Crescenzi’s directions than they do the literal sense of Crescenzi’s text (CALKINS 1984: 168). Few medieval copies of the manual exist but his text traveled quickly. Charles V, King of France, commissioned a translation in 1373 as part of his attempts to strengthen and centralize the French state (AMBROSOLI 1997: 43-49); however, it was printing that propelled the text to monumental importance (AMBROSOLI 1997: 43-49). The *Ruralia* was more popular, and arguably more influential, in the fifteenth- and sixteenth-centuries when landscape manipulation attained greater distinction as “art,” than it ever was in its originating century.

Crescenzi’s vision of nature and the elite estate was heavily influenced by his intellectual curiosity as well as his own experiences on his farm. He was born in Bologna sometime in 1235 (RICHTER 1995: X). He was educated at the university of Bologna and practiced law all over northern Italy until he retired in 1298 (FABIANI GIANETTO 2008: 88-89). When he retired, he retreated to a villa just outside of Bologna where he devoted himself to the practice of what he had learned in his many years of agricultural study (CRESCENZI Preface). The *Ruralia* was not innovative or new. James Harvey called it “an arm-chair compilation” (HARVEY 1981: 76). It is an amalgamation of Crescenzi’s local experience and his extensive knowledge of Roman works on agriculture,

medieval natural philosophy, and medieval medicine (RICHTER 1995: XXV-LXXIII). The high volume of text devoted to Roman authors speaks to the importance of the late Roman landscape tradition in natural philosophy and agricultural writing throughout the Middle Ages. Recent material scholarship confirms that the structured organization and elaborate elements described by Crescenzi, including game woodlands, arboreal palisades, and controlled vistas, share similarities with the layout tendered in the *Ruralia* (e.g. TAYLOR 2000: 38-55).

The *Ruralia* epitomizes an ideal regarding parks and gardens circulating throughout Europe, which can be glimpsed in the reconstructed layouts of many thirteenth-century English gardens (HARVEY 1981:79-93). Despite Crescenzi's discussions of personal practice and observation, the *Ruralia* concerns primarily *ideas* about landscape. It cannot speak to practice because it is difficult to disentangle repeated, but not employed, Roman traditions from those in common use by analysis of the text alone. To do that requires a survey of archaeological data and practice detailed in financial documents, which is not a labor I intend to undertake here. Thus, I argue it is better to consider Crescenzi's text as a portrait of how an elite intellectual imagined the medieval estate and its gardens.<sup>2</sup> It illustrates how elite inhabitants of Europe, and the northern Italian states in particular, understood both nature and its role in politics and culture. The *Ruralia* enumerates the many processes by which medieval people thought the environment could be manipulated to give shape, purpose, and symbolic value to land. Crescenzi relates the conscious process of making place and authority in and through environmental manipulation, which was primarily informed by the tenets of humoral theory and practical understanding of resource management. It confirms John Dixon Hunt's theory that late medieval gardens were "pragmatic planning and maintenance" toward "symbolic expression and cultural rhetoric on behalf of a patron" (HUNT 2000: 3). Crescenzi's ideal estate was a multi-purpose compound that provided spiritual and physical rejuvenation for the owner through careful compartmentalization and manipulation of the environment while simultaneously exploiting the land's fertility for pleasing profit.

### ***Spiritual Utility in the Ruralia***

The *Ruralia* is divided into 12 chapters addressing the orientation and placement of the estate, the nature of the many plants and animals which can reside within it, and how best to cultivate and manage them in the various parts of the estate: fields, vines, woodland, herb gardens, meadows and groves, and pleasure gardens. The chapters regarding the plants and animals go into great depth; each entry expounds on the humoral constitution of the organism and lists their many uses in the estate, garden, and household, including nutritive and medicinal utilizations. Crescenzi cites directly and regularly from a variety of Roman texts regarding agricultural and pastoralism, including Palladius, Varro and Virgil. He also references other ancient authors, such as Vitruvius, Pliny the Elder and Cato. However, he does not restrict his study to Roman knowledge. Several sections of the oft-quoted book on pleasure gardens are taken directly from the work of a medieval philosopher, Albertus Magnus (ALBERTUS 1967: VI.XIV). For medical information, Crescenzi even drew from the Arabic world. Crescenzi tells us his understanding of humoral theory comes from the work of eleventh-century Islamic philosopher, Avicenna (CRESCENZI 1.1.2), who in turn derived them from the work of ancient Greeks on humoral medicine (PORMANN and SAVAGE-SMITH 2007: 41-55).

Crescenzi follows the directives of humoral theory to shape the environment to be more spiritually beneficial. In the humoral system, the state of the body is connected to the soul (8.1.1). Crescenzi believes that spiritual

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<sup>2</sup> Throughout this article, I use the excellent 1995 critical edition of Will Richter. It includes both variations in editions and references to some of Crescenzi's more obvious ancient and medieval citations.

renewal and pleasure are both derived from the experience of an optimized environment. The need to rusticate and renew the soul away from “weighty” political matters signals membership in the elite, ruling circle. Crescenzi emphasizes that the estate should be reserved for elite recreation (CRESCENZI 1.7.5). Joanna Bauman has argued that Crescenzi sees social membership as crucial to the reception of the landscape. He judges the king to whom he dedicated the *Ruralia*, Charles II of Sicily, as able to derive “consolation and delight” from the estate but at the same time declared his subjects would be unable to appreciate it in those terms; for them, it can only provide “perpetual utility” (BAUMAN 2000: 215). For Crescenzi, the ability to enjoy the estate is inborn. Elites have finer senses than the courser laborers who cannot enjoy the metaphysical fruits of their labor. Crescenzi regards the laborers as a part of the landscape. Every bit of resource exploitation and artifice employed on Crescenzi’s estate is created and maintained by the laborer, and Crescenzi seeks to optimize their constitutions and shape their behavior, just as he does with the plants and animals of the estate, through optimal placement and then through environmental modification.

### *Placing and Making the Villa*

Crescenzi’s treatise outlines the importance of managing the estate according to the disposition of the area with the goal of optimizing the productivity and salubriousness of the villa, and thus the rustivating statesman’s delight. Thus, considering location is the most important step in the creation of a new estate for Crescenzi. While he acknowledges that no site is perfect, he insists that the initial, correct placement of the estate in relation to local conditions and the directives of humoral theory will minimize the necessity of modification. His directives go beyond simple awareness of the character of the wind, water and soil at a proposed site. He recognizes that those elements are affected by proximity to various topographical features (e.g. mountains, rivers, marshes, etc.). For example, a mountain may block a healthful wind or cause the sun to dry out otherwise moist soil. Ideally, an estate will abut the base of a mountain so as to receive shade in the summer and the sun’s warmth in winter. It will be open to northerly winds and sheltered from the southern winds, which were often labeled as unhealthy by ancient Greek and Roman authors (HIPPOCRATES 3). The cardinal winds were often personified in medieval texts but their character was not fixed and varied by region (OBRIST 1997: 36-38). Negative associations with the southern wind continued into the Renaissance and beyond (HARDY 2006: 60). Crescenzi’s determination to select a site based on the awareness of humoral interactions between topography, wind, water, and soil aids his ultimate purpose; it is easier to create rejuvenating landscapes and more effective growing conditions for trees and crops in environments already well-suited to those purposes. Because Crescenzi also sees a link between environment and behavior, his ideal site will encourage effective labor from the workers, whom Crescenzi frequently dismissed as “greedy” and “lazy” (CRESCENZI 1.7.3).

Crescenzi shapes the reception of the estate through interior organization. He partitions the estate according to purpose in agricultural terms, dividing pleasing garden from productive field. This layout also highlights social difference because according to his understanding of the peasant constitution, pleasure gardens can only be appreciated by elites. He situates suitable sensually pleasing plants in front of the manor house, by the entrance path, to purify the air and enchant the senses. Beyond the humoral benefits of such a garden, this was (and is) a common technique to impress visitors. The archaeologist Chris Tilley has eloquently described paths as “an essential medium for the routing of social relations, connecting up spatial impressions with temporally inscribed memories” (TILLEY 1994: 31). In other words, moving along a pre-determined path, such as those that Crescenzi recommends bisect the park area, is much like following the plot of a story; pre-determined paths through the me-

diated natural landscape are designed to evoke particular cultural and personal memories in those who experience it (HUNT 2004: 145-46). Medieval landscape scholars agree that in both imagined landscapes in literature and in park practice, the experience as a visitor approached a rural residence was crucial to their appreciation of the house and views of the owners (CREIGHTON 2009: 122). Ancient and medieval parks were intended to be an “extension” of the manor house itself (PLUSKOWSKI 2007: 73).

Beyond the purifying pergola garden, Crescenzi also places additional gardens for the master’s enjoyment and refreshment. At some distance from the house, but still within view, he situates a game reserve scattered with sheltering trees. In this way, the master may observe the animals fleeing and hiding themselves in the groves from the windows of the seigniorial house (CRESCENZI 8.3.1-2). He separates the dwellings of the servants and the animals they rear from these contrived oases overlooked by the house. Similarly, he advocates a discrete area for the cellar, granary, dovecote, chicken coop and stables away from the pleasure gardens and game reserve. He urges the cultivation of vines and fields behind the house (CRESCENZI 1.7). This layout emphasizes social membership and distance by pairing the laborers and animals and divorcing the owner and his gardens from intensive labor while preserving his supervisory presence over game and the laborers.

### *Shaping Nature: Air, Water, and Soil*

In every part of the estate, even the pleasure garden, Crescenzi’s advice hinges on the humoral character of the area, as well as its encompassing purpose. For the manor garden near the entrance path discussed above, he urges the owner to plant grass and sweet smelling, cleansing trees to create that refreshing oasis discussed earlier (CRESCENZI 8.1.4). However, he also balances plant aromas, the shade cast by trees, and the character of the prevailing winds. The owner must be wary of too many or overly thick clusters of trees because “too much shade generates impurities” (CRESCENZI 8.1.2). An overabundance of trees blocks the free movement of air, which makes the garden less salubrious and thus less rejuvenating. A secondary reason for the tree/meadow balance is to nurture wood-pasture for the rearing of captive game and livestock (RACKHAM 1986: 122-129). Even in the open meadows and woodland, Crescenzi emphasizes that trees require wide spacing because too much shade “de-avour[s] the fertility of the fields” (CRESCENZI 8.7.1). Finally, he instructs the reader not to cultivate fruit trees in the garden. Due to their character, fruit trees require additional manure to produce sizeable fruit so they should not be cultivated in the interior garden. He indicates that digging and the application of manure releases noxious fumes, corrupting the otherwise purified air of the grassy, tree-lined oasis (CRESCENZI 8.1.2). However, he does recommend the application of fertilizer, according to the water and soil situation, to increase fertility.

Fertilizer works in combination with water and the sun’s heat to create the appropriate amount of moisture and nourishment for the plants. Any application of fertilizer must consider those elements, as well as the constitution of the plant itself. Too much moisture in the soil harms plants; however, the appropriate amount of moisture is unique to each plant. Cultivated plants require more moisture and different fertilizer than wild plants of the same type (CRESCENZI 2.18.4-7). Likewise, manure should be chosen according to plant, environment, and purpose. Donkey manure is preferable when a garden first is created. Non-aquatic bird dung is useful in most situations, as is that of sheep and goats. But horse manure is inadvisable except in meadows (CRESCENZI 2.13). Composting fertilizer increases moisture coefficient, making it more effective when applied to dry soils nurturing plants with “wet” constitutions. He also observes that rotating crops with fertility-increasing plants, such as vetch and lupine, with periods of fallow increases productivity (CRESCENZI 2.18.25).

Water was the single most important environmental factor that Crescenzi sought to control on the estate. It factors heavily into the initial placement and organization of the estate. Ideally, an estate should contain a natural spring to water the plants in the hot months. However, Crescenzi presents solutions if no flowing water runs through the estate: wells and aqueducts. These must be placed carefully to be both easily accessible to the household and convenient to the workers (CRESCENZI 1.8). In cases when too much water flows, he urges redirection. Too much moisture is not advisable on low-lying, open fields and will encourage rot, even in moisture-loving crops. In such cases, he recommends collection and transport of the water to areas of scarcity for use in other areas of the villa.

Many of the sections on the manipulation of water are copied directly from Roman authors such as Vitruvius. It is unclear if these directives were employed regularly; medieval elites certainly constructed ditches, dikes and locks according to their needs and the restrictions of local conditions (e.g. MAGNUSSON and SQUATRITI 2000: 217-265). Regardless of provenance, Crescenzi's recommendations for the construction and maintenance of wells and aqueducts reflect at least a theoretical awareness of springs and the physical control of water flow. For example, Crescenzi repeats the advice of the Roman agriculturalist Palladius to locate water by observing the spirals of humid air escaping from the ground in the dawn light (CRESCENZI 1.8.2). More practically, Crescenzi notes that certain types of trees and other plants, such as the willow, alder, reeds, and ivy, also signal the presence of water sufficient for a well (CRESCENZI 1.8.4). For aqueducts, he recommends pipes made from lead, wood, or clay but observes that those made from white lead are very harmful to the human body (CRESCENZI 1.9.2). For best flow, the pipe should descend a foot and a half over a length of 60 to 100 feet. If mountains or valleys prevent a straight channel, he instructs the reader to construct supports and arches to create the correct grade. This was very important; the flow of the source, angle, and distance of the pipe controlled the water's flow.

Crescenzi's awareness of water went beyond the manipulation of flow to encompass the disposition of the soil and the character of the desired plant. He maintains that to create the most productive, and thus pleasing, fields and vines, the *paterfamilias* has to balance correct amounts of water, sun, and soil for each field, orchard, or garden and every type of plant. His systematic approach to agriculture has led one scholar to dub him the "Founder of Modern Agronomy" (OLSON 1944: 35). As with the initial situation of the estate, Crescenzi factors the character of the field. For example, he explains that mountainsides receive more sun than valleys so the moisture in the soil evaporates quickly, which means that only "dry" plants grow well in that soil. Demonstrating insight into soil conditions he explains that mountainsides are "dry and unfruitful because all that is in them flows down into the valleys" (CRESCENZI 2.18.1). Mountainsides are maladapted to most types of cultivation because water would constantly wash away the topsoil and nutrients, rendering even fertilizer ineffective (CRESCENZI 2.18.1). Despite these problems, mountainside soil can be beneficial for the right plant; they are ideally suited for plants that require both warmth and dryness, such as grapevines. However, other plants, such as wheat, barley, and rye would be more profitably cultivated in valleys as they require more moisture and also resist decay (CRESCENZI 2.18.4).

Acknowledging that a *paterfamilias* might be obliged to cultivate crops on less-than-ideal hillsides, Crescenzi proffers practical advice on mountainside cultivation. To combat soil-run off, he encourages the digging of furrows to help retain the nutrients in the soil on mountainsides. He explains that furrows must be transverse and embanked. Perpendicular furrows would increase soil run-off (CRESCENZI 2.18.2). However, he also suggests conscious exploitation of the natural decline. Ditches could intentionally direct the flow of the water and soil run-off to the plants in the valley. Crescenzi views the estate's fields as part of a system: the increased fertility of the plants in the valley makes up for the decreased productivity of the plants on the hillsides (CRESCENZI 2.18.3).

Further, he cautions awareness of water flow in fields because too much water or too much soil run-off is just as detrimental to plants as too little water and no nutrients. Even though he considers valleys superior fields, he advises that many large and small ditches must also be cut into the fields of a valley so that torrents of water flowing down the mountainside do not drown the seeds in the valley (CRESCENZI 2.18.5).

### *Marvelous Things*

The observation of the estate's productivity provides the owner satisfaction. Crescenzi says plants "cultivated by appropriate industry" provide pleasure. However, Crescenzi also counsels that the *paterfamilias* should aspire to the cultivation of unusual and seemingly miraculous things in the estate (CRESCENZI 8.8.4). These "marvels" fascinate because although grown with the same effort and care as other plants, they appear to contravene the customs of nature through unexpected combinations serving unusual purposes. For example, latticework fences made of entwined willow branches and hedges that mimic parapets fascinate Crescenzi (CRESCENZI 8.4.1-2). He considers walks and bowers made from nothing but trees as an essential element of the grand pleasure garden for illustrious and wealthy persons (CRESCENZI 8.3.4). Similarly, he believes that trees should be trained to create open summer houses by forcing the top branches of the tree down to form a canopy. In this way, the "house" will "marvelously" protect itself from heat (CRESCENZI 8.4.3). He considers these practices extraordinary exactly because they appear to contradict nature. Unlike the delight Crescenzi derived from the utility and productivity of the fields, vines, orchards, and healthful gardens, his marvelous things delight because they are a seeming paradox. Their appearance defies his understanding of nature, yet it is careful management according to the doctrine of humoral theory and "appropriate industry" that creates them.

Crescenzi's delight in the marvelous extends beyond the trees and plants to their fruits. He devotes significant attention to the many ways in which the *paterfamilias* can create multiple colors and tastes of grapes—and thus wines—that mature at different times by grafting. He also repeats the recommendations of others, such as Albertus Magnus, to graft pears onto other trees so that they bear unusually large fruits (Crescenzi 8.7.3), and that of Martial, to grow cherries without pits (CRESCENZI 8.7.6). He also recommends even more fantastical practices, such as shaping the produce of a plant itself. He reports that placing a clay mold about a fertilized cucumber flower will create a cucumber in the shape of the mold (CRESCENZI 8.8.4). The simultaneous delight conveyed by marvelous garden plants would be transferred via produce to the household table.

### **Conclusion**

Ultimately Crescenzi desires to achieve the perfect harmony between delight, spiritual and physical rejuvenation, and productivity. He realizes his goals through manipulation of humors; that is, he instructs careful human mediation of every element of the environs, especially air, water, soil, flora and fauna to maximize the environment's salubrity and pleurability. He promotes systematic and interdependent management that recognizes the character of the locale and shapes the environment to its perceived ideal purpose within the estate. In particular, Crescenzi's instructions for the initial founding and construction of the estate drive home how he conceives of nature as a complex network united by humors. An owner must consider the character of the locale, its exposure to sun and moisture, the quality of its soil, and the humoral constitution of the plant, as well as the air and water at that site. Moreover, Crescenzi has to consider the human constitution as part of this ecological system. The mediation of the landscape optimizes the humoral balance of the *paterfamilias* so that he may be revitalized

by the senses and delights of the gardens and other marvelous things and derive satisfaction from the observation of the fecundity of his estate.

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