

ON THE USE AND ABUSE OF  
OVERFLIGHT COLUMN DOCTRINE

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INTRODUCTION: THE AD COELUM FABLE

In contemporary debates about property and intellectual property (“IP”), one often hears a tale that goes like this: Once upon a time, the common law declared air to be private property, in columns appurtenant to the land directly beneath the columns. This doctrine was an application of a maxim I call here the “*ad coelum* maxim.” “*Ad coelum*” is short for “*cuius est solum, eius usque ad coelum et ad inferos*”: “To him to whom the soil belongs belongs also to heaven and to the depths.” As Blackstone recounted, under this maxim “no man may erect any building, or the like, to overhang another’s land . . . . So that the word ‘land’ includes not only the face of the earth but everything under it, or over it.”<sup>1</sup>

Whatever the *ad coelum* maxim’s original merits, the tale continues, though even a century ago it was clearly out of date. “By the later part of the [nineteenth] century, the *cujus est solum* principle was so ingrained in the thinking of Anglo-American judges that they applied it reflexively to virtually all encroachments into a landowner’s airspace.”<sup>2</sup> When the airplane was invented and then commercialized, if the maxim had been enforced literally, “then crossing each [air] column without permission [would have been] a trespass.”<sup>3</sup>

The tale climaxes like this: to avoid such perverse results, courts and regulators limited the *ad coelum* maxim’s reach in cases decided

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1. 2 WILLIAM BLACKSTONE, COMMENTARIES \*18 (A.W. Brian Simpson intro., 1979) (1766). For a history of the *ad coelum* maxim’s genesis and its penetration into American law, see Andrea B. Carroll, *Examining a Comparative Law Myth: Two Hundred Years of Riparian Misconception*, 80 TUL. L. REV. 901, 912–19 (2006).

2. STUART BANNER, WHO OWNS THE SKY?: THE STRUGGLE TO CONTROL AIRSPACE FROM THE WRIGHT BROTHERS ON 19 (2008).

3. MICHAEL HELLER, THE GRIDLOCK ECONOMY: HOW TOO MUCH OWNERSHIP WRECKS MARKETS, STOPS INNOVATION, AND COSTS LIVES 28 (2008).

between 1920 and 1950. In *United States v. Causby*,<sup>4</sup> farmers sought just compensation for a taking allegedly inflicted by federal aviation regulations entitling army airplanes to fly over their farms. When it considered the *ad coelum* maxim, the U.S. Supreme Court warned: “that doctrine has no place in the modern world.”<sup>5</sup> If the air were not a “public highway . . . every transcontinental flight would subject the operator to countless trespass suits. Common sense revolts at the idea.”<sup>6</sup> “And with that sentence,” Americans lived happily ever after. “[H]undreds of years of property law w[ere] gone, and the world was a much wealthier place.”<sup>7</sup>

Some modern property and IP scholars are fond of this tale, which I call here the “*ad coelum* fable.” The tale seems to illustrate how “it is the special genius of a common law system, as ours is, that the law adjusts to the technologies of the time.”<sup>8</sup> For example, Michael Heller relates this fable as a story about “lighthouse beams,” his way of suggesting how absurd it would be if every landowner could sue in trespass whenever someone else emitted across his property photons from a lighthouse light. Heller uses the lighthouse beam as one of several case studies confirming for readers why “it is wrong to see property ownership as fixed and unchanging. Even the staunchest private-property systems are always adapting rights to manage new resource conflicts.”<sup>9</sup>

No doubt, there was a period of time when landowners, airlines, and lawyers were all genuinely in suspense about how airplane overflights would be treated at common law. Yet the *ad coelum* fable

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4. 328 U.S. 256 (1946).

5. *Id.* at 261.

6. *Id.*

7. Lawrence Lessig, *Google Sued*, LESSIG (Sept. 22, 2005), <http://www.lessig.org/2005/09/google-sued/>.

8. LAWRENCE LESSIG, *FREE CULTURE: HOW BIG MEDIA USES TECHNOLOGY AND THE LAW TO LOCK DOWN CULTURE AND CONTROL CREATIVITY* 3 (2004).

9. HELLER, *supra* note 3, at 27, 29; *see also* BANNER, *supra* note 2, at 11 (“[I]f the lawyers weren’t careful they might put an end to aviation before it began.”); Peter Linzer, *From the Gutenberg Bible to Net Neutrality—How Technology Makes Law and Why English Majors Need to Understand It*, 29 MCGEORGE L. REV. 1, 7–10 (2008) (relying on the *ad coelum* fable to justify a new policy towards an open internet); Ryan Radia, *A Balanced Approach to Copyright*, CATO UNBOUND (Jan. 11, 2013), <http://www.cato-unbound.org/2013/01/11/ryan-radia/a-balanced-approach-to-copyright/> (citing the transition from the *ad coelum* maxim as a precedent for revising contemporary copyright law); Matt Soniak, *Do You Own the Space Above Your House?*, MENTAL FLOSS (June 25, 2012), <http://mentalfloss.com/article/31018/do-you-own-space-above-your-house> (retelling the *ad coelum* fable as told in text).

suggests that the common law of property was not capable of dealing with the overflight problem until Justice William Douglas injected fresh policy reasoning into the law. As Larry Solum has noted, however, that suggestion is “not even close” to a satisfying account of the “relationship between technological change and legal change.”<sup>10</sup> In first-year common law courses, professors teach students that “common law” reasoning involves not only case holdings but also general policies internal to the field of law under study. In times of legal stasis, those internal general policies reconcile most holdings without being relied on extensively. In times of crisis, such as the overflight transition, those policies *are* appealed to explicitly and extensively; they guide legislators and judges as these officials adapt black-letter doctrine to changing circumstances. Solum is far from the first to raise doubts about the *ad coelum* fable. Yet neither he nor anyone else I know of has studied the overflight transition closely and seemed open to the possibility that the relevant doctrines had sufficient internal content to adapt to air travel.

This Article reexamines the *ad coelum* fable in that internalist spirit. The Article has two main claims. First, American property common law was not nearly as attached to the *ad coelum* maxim as the purveyors of the *ad coelum* fable suggest. At least some jurists and lawyers regarded the maxim only as a means to an end. These jurists and lawyers took for granted that property is justified by its tendency to secure and encourage uses of external resources valuable or beneficial to human well-being. Jurists and lawyers so minded used the *ad coelum* maxim as one of several heuristics to help match different resources to basic categories of property. And when judges used the maxim in the more prominent overflight cases decided between 1920 and *Causby*, they used it in a sensible fashion, pretty much as contemporary judges and scholars would.

For my part, I think the overflight transition deserves study because it provides further confirmation that moral or personhood-based theories of property deserve more credit than they get in contemporary property scholarship. When judges appealed in overflight cases to norms about valuable or beneficial “use,” they reasoned consistently

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10. Lawrence B. Solum, Book Review, *The Future of Copyright*, 83 TEX. L. REV. 1137, 1144 (2005) (reviewing LESSIG, *supra* note 8).

with a theory of productive labor I am developing and resuscitating in other scholarship.<sup>11</sup>

That said, I realize that most readers are probably interested in how the *ad coelum* fable is used in contemporary scholarship or opinion advocacy about property and IP. Hence, my second claim: The fable is abused quite often in that scholarship and opinion advocacy. Some opinion writers and scholars have understandable motivations for propagating the *ad coelum* fable. Such writers or scholars favor technocratic approaches to property-related regulatory disputes: in some cases, pro-commons approaches, and in others, approaches that downgrade relatively strong equitable protection for property and upgrade relatively weak, damages-only remedies. In both settings, the *ad coelum* fable makes technocratic approaches to property regulation seem more desirable or inevitable than they really are. The fable sets up a straw man for easy criticism. In this caricature, “property” is all form and no substance—a right to exclude with little or no justification in the policy goals that justify exclusion. Since “property” seems incapable of accommodating policy concerns, by process of elimination other “regulatory” or “commons” approaches seem the only doctrinal vehicles available that can make the appropriate policy trade-offs.

I do not mean to suggest that regulatory approaches, commons arrangements, or weak-remedy private property approaches are misguided across the board. As we shall see, in some situations, such approaches accord with and complete the normative approach to property latent in the best-reasoned overflight cases. But such approaches should earn their own keep. The *ad coelum* fable makes a caricature of traditional principles of American property law. The fable’s main function is to make alternative approaches look more attractive in contrast to that caricature. Educated consumers of scholarship and opinion writing about property policy should discount retellings of the *ad coelum* fable accordingly.

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11. On moral approaches to scholarship, see Eric R. Claeys, *Takings, Regulations, and Natural Property Rights*, 88 CORNELL L. REV. 1549, 1559–61 (2003) [hereinafter Claeys, *Takings, Regulations*]. On productive use and labor, see Eric R. Claeys, *Productive Use in Acquisition, Accession, and Labour Theory*, in PHILOSOPHICAL FOUNDATIONS OF PROPERTY LAW 33–53 (James E. Penner & Henry E. Smith eds., forthcoming) [hereinafter Claeys, *Productive Use and Labour Theory*], available at <http://ssrn.com/abstract=2066166>.

This Article demonstrates those claims as follows. In Part I, I explain how the *ad coelum* maxim fit into basic common law reasoning about property categories. In Part II, I explain how judges used the maxim as one of several resources to implement a moral theory of labor. In Part III, I show how the legal resources explained in Part I and the moral principles recounted in Part II apply to the overflight problem at common law. Of course, in the period between 1920 and 1950, state and federal aviation regulators needed to preempt state common law to insulate airlines from trespass liability. In Part IV, I explain how even a strongly pro-property rights (and labor-influenced) account of eminent domain and inverse condemnation accommodates the shift from the *ad coelum* maxim to aviation servitudes and an aviation air commons.

Parts V through VII prove my second claim. In Part V, I explain my general concerns about how the *ad coelum* fable is used in relation to technocratic approaches to property regulation. Parts VI and VII consider two contemporary case illustrations confirming my concerns—respectively, urban redevelopment with eminent domain, and copyright litigation over the Google Books digitization project.

#### I. SETTING THE AD COELUM MAXIM IN PROPER CONTEXT

Imagine that two historians conduct intellectual histories of the same era in a country. The first historian discovers that, during this era, speakers frequently used the maxim “a penny saved is a penny earned.” He concludes that this era was stingy and incapable of appreciating the finer and magnificent public works that elevate a culture. The second historian discovers that, in the same era, people frequently used the maxim “you can’t take it with you.” She concludes that this era was materialistic and incapable of exercising the self-restraint necessary to conserve the culture’s resources for posterity.

Obviously, both of these histories are defective. A careful intellectual historian would need to explain why people in that culture used both maxims, in what contexts they used each, and how they reconciled the maxims to one another. Yet the method used in these two hypothetical histories is basically the same as the method assumed in the *ad coelum* fable. Just because jurists frequently cited the *ad*

*coelum* maxim, it does not automatically follow that they applied the maxim unthinkingly and dogmatically wherever it might apply.

Take Blackstone. True, he does invoke the *ad coelum* maxim, and he is also notorious for describing “the right of property” as “that sole and despotic dominion which one man claims and exercises over the external things of the world, in total exclusion of the right of any other individual in the universe.”<sup>12</sup> But in between these two passages, Blackstone qualifies his understanding of property:

But, after all, there are some few things, which notwithstanding the general introduction and continuance of property, must still unavoidably remain in common; being such wherein nothing but an usufructuary property is capable of being had; and therefore they still belong to the first occupant, during the time he holds possession of them, and no longer. Such (among others) are the elements of light, air, and water; which a man may occupy by means of his windows, his gardens, his mills, and other conveniences . . . .<sup>13</sup>

So although Blackstone describes a landowner’s air column as exclusive private property, he also described the air in that column as a common resource, in which individuals may acquire property only in the limited form of a usufruct. An inquiring intellectual historian would want to know whether Blackstone had any principles for determining when commons solutions dominate and when the despotic tendencies associated with the *ad coelum* maxim dominate.

Blackstone was not an outlier. Before the advent of the airplane, the *ad coelum* maxim was strained less by trespass litigation<sup>14</sup> than by nuisance litigation involving pollution. If nineteenth-century property law was as formalistic as the *ad coelum* maxim suggests, courts should have applied the maxim unthinkingly in ordinary pollution- nuisance cases. They did not. The 1867 decision *Galbraith v. Oliver* involved a nuisance lawsuit by residents against a flour mill using

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12. 2 BLACKSTONE, *supra* note 1, at \*2.

13. 2 *id.* at \*14.

14. According to one case, in trespass litigation before overflight disputes, the *ad coelum* maxim was cited and considered in suits involving: ownership of birds nesting on land; overhanging structures and tree branches; a horse kicking a plaintiff through a fence separating two lots; ammunition shot over and into property; and telephone wires. See *Swetland v. Curtiss Airports Corp.*, 41 F.2d 929, 934–36 (N.D. Ohio 1930), *modified on other grounds*, 55 F.2d 201 (6th Cir. 1932).

coal to power its operations.<sup>15</sup> Although *Galbraith* was not reported in any national commercial legal reporter of which I am aware, the opinion was praised by the leading late nineteenth-century American treatise on nuisance, as a “very elaborate and able opinion, commendable for the common sense and straightforward manner in which [it gives] the test by which to determine the question of nuisance. . . .”<sup>16</sup>

The judge who decided *Galbraith* understood the *ad coelum* maxim as Blackstone had. On one hand, “[t]heoretically, the maxim is *cujus est solum, ejus est usque ad caelum*. Doubtless his right to pure air is co-extensive with his freehold . . . .”<sup>17</sup> On the other hand, “[t]hese rights are in a measure relative, made so by the necessities of social life in cities and thickly settled communities.”<sup>18</sup> These relative needs led the judge to impose usufructuary qualifications on the rights marked off theoretically by the *ad coelum* maxim: “Practically, a man can only maintain his right to so much circumambient atmosphere as is necessary for his personal health and comfort, and the safety of his property.”<sup>19</sup>

Now, skeptical or cynical readers will conclude that Blackstone and the judge who decided *Galbraith* talked out of both sides of their mouths. Or, that they used “dueling maxims” selectively, much as Karl Llewellyn suggested judges use dueling canons of statutory interpretation.<sup>20</sup> But charitable readers would consider another possibility. Perhaps these and other lawyers shared coherent principles for reconciling the *ad coelum* maxim with contrary maxims—say, “the atmosphere is a commons,” or “claimants may ‘own’ only as much air as they can really ‘use.’”

I suspect they did. As I have shown elsewhere, important strands of Anglo-American property common law internalize principles of

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15. 3 Pitts. R. 78, 82 (Pa. Comm. Pl. 1867).

16. H.G. WOOD, A PRACTICAL TREATISE ON THE LAW OF NUISANCES IN THEIR VARIOUS FORMS; INCLUDING REMEDIES THEREFOR AT LAW AND IN EQUITY § 431, at 474 (1st ed. 1875).

17. *Galbraith*, 3 Pitts. R. at 79.

18. *Id.*

19. *Id.* at 79–80.

20. See Karl N. Llewellyn, *Remarks on the Theory of Appellate Decision and the Rules or Canons About How Statutes Are to Be Construed*, 3 VAND. L. REV. 395 (1949–1950). Note, however, that Llewellyn may have been as uncharitable to canons of interpretation as retellers of the *ad coelum* fable are to common law maxims. See ANTONIN SCALIA & BRYAN A. GARNER, *READING LAW: THE INTERPRETATION OF LEGAL TEXTS* 59–60 (2012).

natural rights labor theory.<sup>21</sup> Those strands have tried (with varying degrees of consistency and conscientiousness, to be sure) to configure property doctrines so as best to promote the free, equal, and concurrent labor by all members of the citizenry. Natural rights–based labor theory has not been the only or (more recently) the main influence on American property law, as Justice Douglas’s Court opinion in *Causby* seems to attest.<sup>22</sup> If one sets aside *Causby*, however, the best-reasoned overflight cases relied on norms about “valuable,” “beneficial,” or “productive use,” and these norms are central to labor theory.<sup>23</sup> These cases confronted the *ad coelum* maxim and other possibly conflicting legal principles, and they reconciled those principles in a sensible fashion.<sup>24</sup>

When I indict previous writings about overflights, readers may wonder: Am I criticizing the leading legal history on overflights, Stuart Banner’s *Who Owns the Sky*?<sup>25</sup> For the most part, no. My main complaints are with contemporary scholars and opinion writers who use the *ad coelum* fable as a sound bite in contemporary policy debates. The questions those scholars and opinion writers have begged could be explored with several different methods. Banner has explored those

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21. See, e.g., Claeys, *Productive Use and Labour Theory*, *supra* note 11; Eric R. Claeys, *Jefferson Meets Coase: Land-Use Torts, Law and Economics, and Natural Property Rights*, 85 NOTRE DAME L. REV. 1379, 1398–1430 (2010) [hereinafter Claeys, *Jefferson Meets Coase*].

22. Cf. *United States v. Causby*, 328 U.S. 256, 261 (1946) (qualifying the reach of private overflight columns because such columns “would clog [the public air] highways, seriously interfere with their control and development in the public interest, and transfer into private ownership that to which only the public has a just claim”). Justice Douglas expressed his hostility toward natural rights principles more directly than he did in *Causby* in his opinion for the Court in *Berman v. Parker*, 348 U.S. 26, 31–33 (1954); see Eric R. Claeys, *Public-Use Limitations and Natural Property Rights*, 2004 MICH. ST. L. REV. 877, 907–10 [hereinafter Claeys, *Public-Use Limitations*].

23. See Claeys, *Productive Use and Labour Theory*, *supra* note 11, at 17–19.

24. Let me address a few sources of possible misconception about my claim in this and the next two Parts. I assume here that labor theory supplies a legitimate and sufficient basis for legal regulation when it applies, *see id.* at 6–7, but I do not mean to claim here that labor theory is the best possible, or a necessary, theory to explain and justify how property doctrines have been applied by American public officials. In addition, readers need not even agree with me that labor theory supplies a sufficient basis for contemporary property regulation. Even if readers think labor theory is misguided or historically outdated, theories of natural rights and labor were predominant in American law until fairly recently, perhaps 1950—as witnessed by the passages from Blackstone and the *Galbraith* case discussed in Part I. If a theory of productive labor justifies the approach taken in the seminal overflight cases in historical context, the *ad coelum* fable represents bad history and bad law regardless of whether that theory applies to present-day issues.

25. BANNER, *supra* note 2.

questions via intellectual history; here, I explore them with a mix of moral and conceptual philosophy as applied to property law.

I say “for the most part,” however, because Banner probably assumes priors about legal and technological change different from the priors assumed by me (or fellow-travelers like Solum). Although Banner does not explain his priors systematically, he gives strong hints at them. When he discusses how the common law adapts to changing conditions, he relies heavily on the “idea that judges were *sub rosa* lawmakers,” which was becoming “a commonplace among the law professors who became known as the legal realists.”<sup>26</sup> When Banner offers conclusions about how American law came to accommodate aerial overflights, he relies on prominent contemporary economic theories of property rights.<sup>27</sup> Although legal realists and economic property scholars differ in other respects, both assume relatively instrumental understandings of law. Both assume that law is implemented to advance policy goals, but both are basically indifferent to whether law internalizes the goals it promotes and embodies those goals in specific doctrines or in concepts running throughout law.<sup>28</sup> So although *Who Owns the Sky?* is very informative about the overflight transition, in my opinion it does not focus adequately on the precise mechanism by which the relevant fields of law adapted to the relevant changes in technology. As I hope to show, in most of the cases covered at substantial length in *Who Owns the Sky?*,<sup>29</sup> social and

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26. *Id.* at 94. Accord Stephen Siegel, Book Review, *Stuart Banner, Who Owns the Sky?: The Struggle to Control Airspace from the Wright Brothers On*, 28 LAW & HIST. REV. 282, 283 (2010) (concluding that, as a matter of legal intellectual history, Banner’s work presents “a standard rendition of the transition from natural law and legal formalism to positivism and legal realism”).

27. See BANNER, *supra* note 2, at 290–91 (citing Harold Demsetz, *Toward a Theory of Property Rights*, 57 AM. ECON. REV. PAPERS & PROCEEDINGS 347 (1967)); *id.* at 291–93 (citing R.H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960)).

28. See JULES L. COLEMAN, THE PRACTICE OF PRINCIPLE: IN DEFENCE OF A PRAGMATIST APPROACH TO LEGAL THEORY 26–31 (2003); Eric R. Claeys, *Exclusion and Private Law Theory: A Comment on Property as the Law of Things*, 125 HARV. L. REV. FORUM 133, 138–40 (2012).

29. By “substantial length,” I mean the overflight cases listed in *Who Owns the Sky?*’s index. These cases include not only *Causby* but also *Hinman v. Pacific Air Transport*, 84 F.2d 755 (9th Cir. 1936); *Thrasher v. City of Atlanta*, 173 S.E. 817 (Ga. 1934); *Gay v. Taylor*, 19 Pa. D. & C. 31 (1932); *Swetland v. Curtiss Airports Corp.*, 41 F.2d (N.D. Ohio 1930), *modified on other grounds*, 55 F.2d 201 (6th Cir. 1932); *Smith v. New England Aircraft Co.*, 170 N.E. 385 (Mass. 1930); *Johnson v. Curtiss Northwest Airplane Co.* (Minn. Dist. Ct. 1923), *reprinted in Current Topics and Notes*, 57 AM. L. REV. 905, 908–11 (1923); and *Commonwealth v. Nevin*, 2 Pa. D. & C. 241 (1922).

normative concepts like “use,” “enjoyment,” “accession,” and “effective occupation” gave the relevant fields of property law the right combination of focus and flexibility to respond to air travel.

## II. THE AD COELUM MAXIM AND LABOR THEORY

### A. *Productive Labor Theory*

Many readers will be surprised at my suggestions that social concepts of “use” or grounding norms of “labor” can guide property regulation; they assume that labor theory is as extreme and unqualified as they assume Blackstone to be. Consider this representative passage from Tim Wu, in his review of the book in which Heller retells the *ad coelum* fable:

[O]ne of the strongest intuitions in Anglo-American thought [holds] that property is a good thing, and that more property is almost always better. In fact, views on property, since about the time of John Locke, have bordered on reverential. Locke, for instance, described property as a natural right given to man by God as the reward for labor.<sup>30</sup>

Obviously, Wu is sloppy in the terms he uses to criticize Anglo-American thought. What might it mean for a legal system to hold that “more property is almost always better”? An increase in the quantity of valuable resources capable of being used to pursue decent life plans? No one should disagree with that. More legal rights to blockade the valuable uses of external resources? No one would *agree* with that. When held to coherent and realistic expectations, however, neither labor theory nor labor-influenced Anglo-American law holds that private property is always a good thing.<sup>31</sup> In both labor theory and labor-influenced property law, legal private property is a means to an end. Private property is justified by whether

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30. Tim Wu, *Move Over Marx: How Too Many Property Rights Wreck the Market*, SLATE (July 14, 2008, 7:22 AM), [http://www.slate.com/articles/arts/books/2008/07/move\\_over\\_marx.html](http://www.slate.com/articles/arts/books/2008/07/move_over_marx.html) (reviewing HELLER, *supra* note 3).

31. Nor do those strands of common law today that continue to enforce policies similar to pre-1950 common law, even if contemporary authorities restate the arguments in favor of such policies while relying on different normative foundations.

and how well it contributes to a social arrangement in which most or all citizens are as free as possible to labor concurrently.

Let me restate the features of productive labor theory relevant here in extremely compressed form.<sup>32</sup> The natural right to labor refers to a pre-political moral interest people have in engaging in activity likely to preserve them or make them more likely to flourish. (Goods likely to contribute to self-preservation, improvement, or flourishing will be referred to here for short as “life conveniences,”<sup>33</sup> and activity that seems practically likely to acquire or generate such life conveniences will be referred to here as “productive labor.”) To secure this interest, a political community should institute legal protections securing personal liberty and private property. Those protections should endow citizens with broad freedom—the greatest freedom that all citizens may realistically enjoy on equal terms “to order their Actions, and dispose of their Possessions, and Persons as they think fit, with the bounds of the Law of Nature, without asking leave, or depending on the will of any other Man.”<sup>34</sup>

Nevertheless, neither labor rights nor the legal rights that declare and protect labor rights are boundless. When Wu refers to “property as a natural right given to man by God,” it is reasonable to read him to be suggesting that labor-based property rights are incapable of being qualified in any significant respect. Not so. Locke’s theory of politics justifies rights not as absolute trumps but rather as domains of freedom simultaneously justified and limited by the flourishing-based interests that ground labor rights.<sup>35</sup> In other words, activity counts as morally defensible “labor”—and generates a robust claim of property over external resources—only if and to the extent that property secures and encourages proprietors to use the resources

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32. My account of Locke’s theory of property relies substantially on accounts developed by A. JOHN SIMMONS, *THE LOCKEAN THEORY OF RIGHTS* (1992), and STEPHEN BUCKLE, *NATURAL LAW AND THE THEORY OF PROPERTY: GROTIUS TO HUME* (1991).

33. See JOHN LOCKE, *TWO TREATISES OF GOVERNMENT* bk. II, § 26, at 286 (Peter Laslett ed., Cambridge Univ. Press 1988) (1690) [hereinafter LOCKE, *TWO TREATISES*] (explaining how the world has been given to “Men in common [with] reason to make use of it to the best advantage of Life, and convenience”).

34. *Id.* § 4, at 269.

35. See Claeys, *Productive Use and Labor Theory*, *supra* note 11, at 23–25. For textual confirmation in Locke’s own writings, see LOCKE, *TWO TREATISES*, *supra* note 33, bk. II, § 4, at 269 (describing the state of natural freedom as being bounded by the “Laws of Nature”); *id.* § 57, at 305 (justifying every law by its tendency to “direct[] a free and intelligent Agent to his proper Interest” and to “prescribe[] no farther than is for the general Good of those under that Law”).

owned in productive fashion.<sup>36</sup> It becomes even more challenging to regulate property in a political community. To coordinate resource uses by many different individuals, property rights must be specified (Locke's term is "settled").<sup>37</sup> Property rights are not secure without specific formal conventions, for all the same reasons that rights of personal safety are not secure on a highway until a legislature enacts a specific speed limit for it. In addition, conventional property rights must be homogenized, structured so that many different individuals may use the same conventional rights to pursue different goals within the range of life plans encompassed by self-preservation and -improvement. If "all the Power and Jurisdiction" any one citizen has is "reciprocal, no one having more than another" on account of moral human equality, legal rights specifying moral rights of liberty and property must confer relatively equal and homogeneous zones of autonomy to different citizens.<sup>38</sup>

Within these moral constraints, although Lockean labor theory justifies rights of private property, it does so only to the extent that the rights are realistically likely to enlarge all citizens' concurrent interests in and opportunities to labor in pursuit of life conveniences. Every owner's property rights in relation to a resource are correlative with the productive labor interests every neighboring owner and non-owner may justly claim on that resource.<sup>39</sup> So conceived, Lockean labor theory does *not* prescribe (contra Wu) that more property is always better. Like Blackstone, Locke acknowledged that water—the ocean—deserves to be regarded "that great and still remaining Common of Mankind"<sup>40</sup> The ocean lends itself to several uses—especially navigation—better promoted by a legal commons than by privatization. The ocean has few if any uses furthered significantly by private ownership. Furthermore, labor cannot be secured and uses cannot be coordinated unless it is easy to "put a distinction between" resources being labored on and resources left in "common."<sup>41</sup> It would be practically impossible to cordon any (private) segment of the ocean off from the (common) remainder.

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36. See Claeys, *Productive Use and Labour Theory*, *supra* note 11, at 12–20.

37. LOCKE, TWO TREATISES, *supra* note 33, bk. II, § 38, at 295.

38. See *id.* § 4, at 269.

39. See Claeys, *Productive Use and Labour Theory*, *supra* note 11, at 14–17.

40. LOCKE, TWO TREATISES, *supra* note 33, bk. II, § 30, at 289.

41. *Id.* § 28, at 288.

*B. Labor-Based Property in Land*

The same principles structure and limit the scope of private property in relation to more traditional objects of ownership—land and personal articles. Ordinarily, relevant property, tort, and remedy doctrines all endow landowners with broad control over their lots. Tort law makes any unconsented entry a trespass,<sup>42</sup> and remedy law presumes that any repeat or ongoing trespass may be enjoined.<sup>43</sup> When justified on labor-theoretic grounds, these doctrines both embody practical judgments that landowners will generate far more life conveniences if they are endowed with exclusive control over their lots than if their control is substantially limited. These doctrines also embody a second, parallel judgment: non-owners will have more opportunities to acquire life conveniences of their own—through purchase, barter, work, or gratuitous access—if they are required to respect landowners’ exclusive control.<sup>44</sup>

Contrary to Wu, however, neither common law nor Locke requires that more control always be better. Assume that a neighbor builds a structure on a landowner’s lot, that the structure encroaches on only a few unused square feet of the lot, and that it would be expensive to tear down the encroaching segment. In cases in which the neighbor builds the encroachment deliberately or carelessly, remedy law continues to entitle the owner to an injunction ordering the encroachment’s removal, no matter how expensive it is to tear down the encroaching segment of the structure. This rule embodies a reasonable indirect consequentialist judgment: trespasses undermine the secure control owners expect as a precondition for laboring, and by enjoining deliberate or careless trespasses now the law deters them later.<sup>45</sup> When the same *de minimis* encroachment is the result of a good-faith mistake, however, the law withholds from the owner the injunction and limits her to permanent damages for the encroached-on land.<sup>46</sup>

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42. See, e.g., *Jacque v. Steenberg Homes, Inc.*, 563 N.W.2d 154 (Wis. 1997); *Longnecker v. Zimmerman*, 267 P.2d 543, 545 (Kan. 1954); *Dougherty v. Stepp*, 18 N.C. (1 Dev. & Bat.) 371, 371 (1835).

43. See, e.g., *Geragosian v. Union Realty Co.*, 193 N.E. 726 (Mass. 1935); *Baker v. Howard Cnty. Hunt*, 188 A. 223 (Md. 1936).

44. See *Claeys, Productive Use and Labour Theory*, *supra* note 11, at 21–27.

45. In Locke’s term, better to protect legitimate owners from those who “deserved the benefit of another’s Pains, which he had no right to.” LOCKE, TWO TREATISES, *supra* note 33, bk. II, § 34, at 291.

46. See *Golden Press, Inc. v. Rylands*, 235 P.2d 592, 595 (Colo. 1951) (en banc).

This exception institutes a reasonable refinement to the indirect consequentialist presumption just explained: when the encroacher makes a good faith mistake, the encroachment does not destabilize the security of property as a deliberate trespass does. As long as the encroachment does not hit the owner where he lives, the structure does not deprive him “of any beneficial use”<sup>47</sup>—i.e., opportunity for likely productive labor—and it secures the beneficial use the neighbor inadvertently and accidentally made of some of his lot.<sup>48</sup>

### C. Labor-Based Accession Policy

The exception for good faith *de minimis* encroachments flags an apparent mismatch between labor norms and legal property rights. Ordinarily, trespass law and its presumptive remedies secure and promote rights of labor even though (or, really, *because*) they do not have elements expressly requiring landowners to labor (in a morally valuable, productive sense) as a precondition of getting legal relief. If this disjunction seems unusual or unrepresentative, it isn't. Throughout the law of property, there exist many seeming mismatches between legal rights and labor- or use-based moral rights. This fact confirms how incoherent it is to ask of a theory of property whether it holds that “more property is almost always better.” Does the law create “more property” by giving the landowner an unqualified right to exclude . . . or by giving *non*-owners rights to appropriate land in extreme conditions? The former maximizes property's exclusionary quality, while the latter increases the sheer quantity of proprietary rights. Sound property law and policy do neither; they scale legal property to the moral use interests that justify it, differently in different contexts. Sometimes (as in usufructs), legal property should be kept narrowly tailored to the moral use interests that justify property. On other occasions (ordinary rights in land), legal property should outstrip those moral use interests. In many close cases (*de minimis* encroachments), property law mixes and matches the two approaches.

This choice (i.e., how best to scale legal property rights to underlying moral use interests) is described most often in property law and

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47. *Lynch v. Union Inst. for Sav.*, 34 N.E. 364, 364–65 (Mass. 1893).

48. See Eric R. Claeys, *Exclusion and Exclusivity in Gridlock*, 53 ARIZ. L. REV. 9, 31–32 (2011) [hereinafter Claeys, *Exclusion and Exclusivity*].

policy in terms of the principle of accession.<sup>49</sup> Assume that a cow grazes in a pasture field.<sup>50</sup> In terms of basic human perception, the dirt, crops, and cows are all different “things.” Legally, however, the crops are accessories of—part of the same “thing” as—the soil by operation of the fixture doctrine, and the cows are the same by operation of the *ratione soli* rule. Morally, these legal classifications are quite easy to justify. The cows, crops, and soil are all better used as a single resource than as standalone resources, and people perceive all three as one single “thing”—a farm marked off by its boundaries—because people’s perceptions tend to run with their practical judgments about use potential.<sup>51</sup> By contrast, accession principles justify treating oil and gas as entities distinct from land. Oil and gas are movable, the land is not, and the oil and gas escape readily from the land when released. In addition, most nonmovable minerals have at least *some* tendency to enhance the use of superjacent land, even if only by supporting the land. By contrast, oil and gas’s most common uses do not benefit the land. In labor-theoretic terms, land and oil or gas are most likely to be labored on productively if they are treated as distinct resources, with different regimes for acquisition and use. So although ordinary minerals are treated as accessories to the land superjacent to the mineral estate, oil and gas are distinguished as being “fugitive minerals,” standalone resources capable of appropriation separate from the mineral estate.<sup>52</sup>

These accession-related judgments highlight what is so problematic about the *ad coelum* fable. If the *ad coelum* maxim applied as relentlessly as the fable suggests, *de minimis* encroachments, oil, and gas should all have been deemed accessories to land. None were so deemed. Judges have kept these resources clear of the *ad coelum* maxim because they have intuited that the maxim states not a rote

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49. See Christopher M. Newman, *Transformation in Property and Copyright*, 56 VILL. L. REV. 251 (2011); Thomas W. Merrill, *Accession and Original Ownership*, 1 J. LEG. ANAL. 459 (2010); Henry E. Smith, *Intellectual Property as Property: Delineating Entitlements in Information*, 116 YALE L.J. 1742, 1751–82 (2007).

50. The example comes from Locke, who regards the cow and the produce as accessories of the field when fenced and farmed. LOCKE, TWO TREATISES, *supra* note 33, bk. II, § 38, at 295.

51. See R.A. BROWN, THE LAW OF PERSONAL PROPERTY §§ 2.4, 16.1–2, at 17, 514–22 (1975); Claeys, *Productive Use and Labour Theory*, *supra* note 11, at 47–53; Newman, *supra* note 49, at 271.

52. Robert E. Hardwicke, *The Rule of Capture and Its Implications as Applied to Oil and Gas*, 13 TEX. L. REV. 391, 399 (1935).

rule but a legal conclusion. If accession policies prescribe that a resource be deemed an accessory to super- or subjacent land, the maxim applies; if not, judges cite some other maxim or mid-level property classification. And since judges have managed to be practical and attentive to context in encroachment disputes and disputes about oil and gas, inquiring readers should want to know whether they reasoned any differently in overflight disputes. The next two Parts take up that inquiry.

### III. OVERFLIGHT DISPUTES IN LABOR-BASED COMMON LAW

This Part focuses on common law trespass litigation, interpreting closely two of the better-reasoned opinions considering the *ad coelum* maxim. One opinion comes from *Hinman v. Pacific Air Transport*,<sup>53</sup> handed down in 1936 by Judge Haney for the U.S. Court of Appeals for the Ninth Circuit. The other opinion comes from *Swetland v. Curtiss Airports Corp.*,<sup>54</sup> handed down in 1930 by Judge Hahn for the U.S. District Court for the Northern District of Ohio. I believe that most<sup>55</sup> of the other aerial trespass opinions covered in *Who Owns the Sky?* (including a circuit court opinion affirming Judge Hahn's opinion in pertinent part) confirm the portrait that emerges from *Hinman* and *Swetland*, and I will quote passages from these opinions in footnotes to corroborate my belief. I focus on *Hinman* and *Swetland* because they are, and have received respect for being, well-reasoned. Banner is more complementary of Hahn's opinion in *Swetland* than he is of any opinion besides Justice Douglas's opinion in *Causby*.<sup>56</sup> More than three decades after *Hinman* and *Causby* were handed down, these two cases received pride of place for establishing the "fundamental principle" that "a property owner owns only as much air space above his property as he can practicably use."<sup>57</sup>

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53. 84 F.2d 755 (9th Cir. 1936).

54. 41 F.2d 929 (N.D. Ohio 1930), *modified on other grounds*, 55 F.2d 201 (6th Cir. 1932).

55. The one possible outlier is *Commonwealth v. Nevin*, 2 Pa. D. & C. 241 (1922). The case arose out of a criminal prosecution for trespass. The court found the defendant not guilty primarily by holding that the overflying defendant could not have had effective notice that the complaining landowner had withheld consent for entry. The court also asserted (without elaboration) that entry on land under the relevant statute "indicates an encroachment on or interference with the owner's occupation of his soil; but is not synonymous with a flight over it." *Id.* at 242.

56. See BANNER, *supra* note 2, at 176 ("Hahn . . . produced a learned and thorough opinion incorporating much of what had been written about aerial trespasses over the preceding three decades.")

57. *Geller v. Brownstone Condominium Ass'n*, 402 N.E.2d 807, 809 (Ill. 1980).

### A. *The General Scope of the Ad Coelum Maxim*

*Hinman* and *Swetland* both confirm several observations made thus far. First, in *Swetland* Judge Hahn flatly rejected the suggestion that more property is better: “Property in land must be considered for many purposes not as an absolute, unrestricted dominion, but as an aggregation of qualified privileges, the limits of which are prescribed by the equality of rights and the correlation of rights and obligations necessary for the highest enjoyment of land by the entire community of proprietors.”<sup>58</sup>

*Swetland* and *Hinman* also confirm Part I’s main lesson: Among sensible judges, the *ad coelum* maxim was understood as just a maxim.<sup>59</sup> According to Judge Haney, the *ad coelum* “formula was never taken literally, but was a figurative phrase to express the full and complete ownership of land and the right to whatever superjacent airspace was necessary or convenient to the enjoyment of the land. . . . A literal construction of this formula will bring about an absurdity.”<sup>60</sup> According to Judge Hahn, “Maxims are but attempted general statements of rules of law. The judicial process is the continuous effort on the part of the courts to state accurately these general rules, with their proper and necessary limitations and exceptions.”<sup>61</sup>

### B. *Overflight Columns and Accession*

Since neither judge treated the *ad coelum* maxim as the only applicable or the obviously best rule of decision for the overflight problem, both needed to consider three possible legal regimes for air. The

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58. *Swetland*, 41 F.2d at 941 (quoting *Hibbard v. Halliday*, 158 P. 1158, 1159 (1916) (quoting *Thompson v. Androscoggin River Imp. Co.*, 54 N.H. 545, 551–52 (1874))).

59. Carroll describes the maxim as having been cited “countless times in the courts of virtually every state in a wide variety of contexts.” *Supra* note 1, at 918. The account provided here, however, suggests that, at least in some practically significant resource disputes, courts applied the maxim only after ascertaining that the resource covered by the maxim deserved to be treated as an accessory to surface land under criteria typically associated with accession law and policy.

60. *Hinman*, 84 F.2d at 757.

61. *Swetland*, 41 F.2d at 936. *Accord* *Thrasher v. City of Atlanta*, 173 S.E. 817, 825 (Ga. 1934) (describing the *ad coelum* maxim as “a generalization from old cases involving the title to space within the range of actual occupation”); *Johnson v. Curtiss Northwest Airplane Co.* (Minn. Dist. Ct. 1923), reprinted in *Current Topics and Notes*, *supra* note 29, at 908 (describing the maxim as “a generality”).

air could be a public commons, it could be propertized in columns deemed to be accessories to subjacent land, or it could be a stand-alone resource, capable of being appropriated and owned independently from any other resource. Both judges quickly and rightly ruled out the option for standalone private property. Judge Hahn picked up the requirement that productive labor needed to “put a distinction” between private possessions and “common”<sup>62</sup>: “[T]he very essence and origin of the legal right of property is dominion over it. Property . . . must be capable by its nature of exclusive possession.”<sup>63</sup> By that criterion, air is an extremely poor fit for privatization. Like Blackstone, Judge Haney appreciated that air has characteristics “like the sea[; it] is by its nature incapable of private ownership, except in so far as one may actually use it.”<sup>64</sup>

As Haney’s argument suggests, he regarded air as presumptively a better fit for treatment as a commons than as an accessory to subjacent land. To reverse that presumption, a policymaker would need to make the inquiries identified in Part II: whether onlookers commonly perceive superjacent air and subjacent land as one entity or as separate ones, and whether the air and land are practically more likely to be used productively as a single entity or as separate ones.

The first consideration cuts slightly in favor of the commons approach at low altitudes and decisively so at high altitudes. The air and ground can be used beneficially in complement to one another; human perception is pliable enough to process both as a single entity. That is why the *ad coelum* maxim has force at low altitudes. Perceptions are not pliable, however, for air at high altitudes:

It . . . would lead to endless confusion, if the law should uphold attempts of landowners to take out, or assert claims to definite, unused spaces in the air in order to protect some contemplated future use of it. . . . If such a rule were conceivable, how will courts protect the various landowners in their varying claims of portions of the sky?<sup>65</sup>

The other consideration, the best possible uses of land and air, reinforces the same approach. “Title to the airspace unconnected

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62. See *supra* note 41 and accompanying text.

63. *Hinman*, 84 F.2d at 758.

64. *Id.*

65. *Id.*

with the *use* of land is inconceivable[,]" Judge Haney insisted, "a thing not known to law."<sup>66</sup> Haney also repeated and emphasized a concession made by the land-owning appellants/plaintiffs in *Hinman*, "that the space claimed must have *some use*, either present or contemplated, and *connected with the enjoyment of the land itself*."<sup>67</sup> That concession led to a rough guide to the doctrinal issue: The air could be parceled out into columns below the altitude beneath which (again) "effective possession" was possible, but not above that altitude.<sup>68</sup>

*C. Before Air Travel: The Dominance of Private Property and Accession*

Obviously, this general standard (the scope of possible effective possession over subjacent land) does not by itself supply a determinate height or rule with which to settle overflight disputes. But no one should expect otherwise. As presented in the last Part, labor theory presents a practical theory of rights.<sup>69</sup> Many different possible air-column ceiling levels could implement the prescriptions developed in the last part as speed limits do safe-driving norms. Similarly (and relevant here), the appropriate property regime should change as the most likely common beneficial uses of land and air change. So let me contrast how air deserved to be treated (in this section) before and (the next section) after the advent of air travel. Before 1900, there were not many likely uses of high-altitude air, either for public or private uses. Although people could build tall structures, it was not yet feasible (let alone cost-effective) to build skyscrapers. Conversely, although people could fly kites and send pigeons, there were not yet

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66. *Id.* at 757 (emphasis added).

67. *Id.* (emphases added). *Accord* *Johnson v. Curtiss Northwest Airplane Co.* (Minn. Dist. Ct. 1923), reprinted in *Current Topics and Notes*, *supra* note 29, at 910 (preferring to treat "the upper air as a natural heritage common to all of the people," because the upper air's "reasonable use ought not to be hampered by an ancient artificial maxim").

68. *Swetland*, 41 F.2d at 937 (quoting FRANCIS M. BURDICK, *THE LAW OF TORTS: A CONCISE TREATISE ON CIVIL LIABILITY FOR ACTIONABLE WRONGS TO PERSON AND PROPERTY* 406 (4th ed. 1926)). *Accord* *Swetland v. Curtiss Airports Corp.*, 55 F.2d 201, 203 (6th Cir. 1932) (declaring that a landowner "has a dominant right of occupancy for purposes incident to his use and enjoyment of the surface, and there may be such a continuous and permanent use of the lower stratum which he may reasonably expect to use or occupy himself as to impose a servitude upon his use and enjoyment of the surface").

69. *See supra* notes 35–41 and accompanying text.

cost-effective methods for exploiting air as a common resource for mass travel or commerce.

Even with those limitations, however, it still made sense for legal decision-makers to assume that the *ad coelum* maxim applied upward without limit. Immediately above the surface, the maxim secures to an owner control over his surface and his likely uses, free from overhanging structures, swinging construction equipment, and many other possible use-disrupting intrusions. Longer range, the maxim also clarifies for innumerable third parties—among others, prospective buyers, prospective lenders, and prospective neighbors contemplating prospective pollution—who owns land. In a world without air travel, the same principles apply to high-altitude air columns. Under the *ad coelum* maxim, each owner may “use” the air immediately above her own lot as a receptacle for noise, smoke, and other byproducts of active land uses. The *ad coelum* maxim allots the right to emit pollution in rough but fair proportion to the land an owner owns. Separately, the *ad coelum* maxim entitles each owner to a share of sunlight and sky proportionate to the land he owns. No owner may claim views or light across others’ property. Such claims would give would-be passive land users rights to restrain land-use choices by their more active neighbors.<sup>70</sup> By contrast, when the *ad coelum* maxim bars overhanging structures, it protects each owner’s access to light and the sky.

#### *D. After Air Travel: Air as a Semicommons*

All the reasons for using the *ad coelum* maxim discussed in the last section continue to apply after the onset of air travel.<sup>71</sup> Above the level of effective possible possession, however, it becomes more important to assert air’s status as a commons, to facilitate its use in air travel. That new imperative justified converting air into a semicommons.<sup>72</sup> Other resources have such dual status—especially water

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70. See, e.g., *Fontainebleau Hotel Corp. v. Forty-Five Twenty-Five, Inc.*, 114 So. 2d 357 (Fla. Dist. Ct. App. 1959).

71. See *Swetland*, 41 F.2d at 941.

72. See Henry E. Smith, *Semicommon Property Rights and Scattering in the Open Fields*, 29 J. LEGAL STUD. 131 (2000). I thank Jim Krier for suggesting the semicommons classification.

in navigable riverbeds, a parallel noted by Judge Hahn in *Swetland*<sup>73</sup>—and it was reasonable to treat air similarly.

The legal semicommons, however, created one new question: how to treat airplanes taking off and landing in the airspace below the ceiling for possible effective possession. Ordinarily, trespass to land is a rights-based tort. When a legitimate land use frequently and incidentally generates unintentional trespasses, however, tort law may encourage the land use by excusing harmless trespasses. Pre-1900 common law excused hunting crossings on these grounds,<sup>74</sup> and many states enacted statutes or adopted common law rules excusing cattle trespasses on similar grounds.<sup>75</sup>

The *Hinman* court and other courts instituted a similar harm element for plane takeoffs and landings, and it was reasonable for them to do so.<sup>76</sup> By changing trespass from being a rights-based tort, Judges Haney and Hahn eliminated the possibility that landowners would try to get take-offs and landings enjoined routinely. That change was an indispensable precondition to having air travel. At the same time, the policies that entitle landowners to “own” air columns to the extent necessary to use and enjoy their lots also entitle those owners to be secure from significant disruptions to their intended uses or plans for enjoying the land. All the property and liberty rights bound

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73. The conclusions explained in this paragraph cut both ways. Because high altitude air is a commons, airlines may not acquire prescriptive easements in the high airways, either. See *Hinman*, 84 F.2d at 759.

74. See *McConico v. Singleton*, 9 S.C.L. (2 Mill) 244 (1818). Other, more recent authorities to the same effect are collected in THOMAS W. MERRILL & HENRY E. SMITH, PROPERTY: PRINCIPLES AND POLICIES 404–05 (2d ed. 2012).

75. See *Lazarus v. Phelps*, 152 U.S. 81, 86 (1894); *Camp v. Flaherty*, 25 Iowa 520, 520–21 (1870); RESTATEMENT (SECOND) OF TORTS § 504 (1979); Claeys, *Jefferson Meets Coase*, *supra* note 21, at 1423–24.

76. See *Hinman*, 84 F.2d at 758. Accord *Swetland v. Curtiss Airports Corp.*, 55 F.2d 201, 203–04 (6th Cir. 1932) (protecting the plaintiff-landowners from “depriv[ation of] the use and enjoyment of their property” according to traditional standards of nuisance); *Johnson v. Curtiss Northwest Airplane Co.* (Minn. Dist. Ct. 1923), *reprinted in Current Topics and Notes, supra* note 29, at 911 (confirming the plaintiff’s right to recover against possible future nuisances or actual trespasses at lower altitudes). In the district court proceedings in *Swetland*, Judge Hahn proceeded similarly but more on the facts than by legal conclusion. Because the plaintiffs sued in equity after the airport was built but before it was fully operational, Hahn held he was not justified in awarding injunctive relief until it was clear whether the defendants would “operate their airport with the most modern appliances and with the least possible annoyance and injury to plaintiffs.” *Swetland*, 41 F.2d at 933.

up with air travel justified limiting trespass from being a pure rights-based tort, but landowners' rights to control the use and enjoyment of their land justified their having legal causes of action for actual property damage or pollution.

#### IV. OVERFLIGHTS IN LABOR-BASED CONSTITUTIONAL LAW

As *Causby* confirms, in some trespass suits, governments or plane companies defended *prima facie* claims of trespass on the ground that those claims were preempted by government aviation regulations preempting state trespass laws. If the regulations preempted the common law, plaintiff-owners responded, they counted as acts of inverse condemnation. This Part examines how courts considered those constitutional inverse-condemnation arguments.<sup>77</sup>

##### A. *No Property, No Taking*

There was an easy way to reject these inverse-condemnation arguments as they applied to aviation regulations for high altitudes: to deny that landowners had any "property" at all in high-altitude airspace. In current law, even when authorities provide strong protections against regulatory takings, they refrain from applying those protections to laws that specify background restrictions already inherent in owners' titles.<sup>78</sup> Judge Hahn relied on a similar argument in *Swetland*. Since landowners had never held property in high-altitude space, Hahn concluded, neither aviation regulations nor the relevant common law took landowner property unconstitutionally as long as it did not interfere with "a landowner's right of effective possession" for the airspace closer to the ground.<sup>79</sup>

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77. Readers may wonder whether the inverse-condemnation principles I assume and apply here were solidly grounded in the texts of the federal Constitution or applicable state constitutions. I avoid that issue here. For some of the textualist objections why constitutional property rights limitations might not cover inverse condemnations, see Eric R. Claeys, *Takings: An Appreciative Retrospective*, 15 WM. & MARY BILL RTS. J. 439, 443–46 (2006).

78. See, e.g., *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1028–30 (1992).

79. *Swetland*, 41 F.2d at 938 ("There are no precedents or decisions which establish rules of property as to [high-altitude] air space [and] there is much doubt whether a strict and careful translation of the [*ad coelum*] maxim would leave it so broad in its signification as to include the higher altitudes of space."). Accord *Gay v. Taylor*, 19 Pa. D. & C. 31, 36 (1932) (when a state aeronautics commission instituted flight take-off and landing paths, it did "not take

This argument was surely right and decisive in relation to challenges about ownership of high-altitude overspace. It was not dispositive, however, in relation to the airspace within the scope of landowners' possible effective possession. *Causby* itself confirms as much, for even though the case repudiated the *ad coelum* maxim it still held that the eminent domain claimants suffered a taking when airplanes took off and landed within "the immediate reaches above [their] land."<sup>80</sup> So let us consider how courts relied on the labor-based principles elaborated in Part II in the course of considering constitutional challenges to aviation regulations.

### *B. The Relation Between Eminent Domain and Police Regulation*

In that spirit, let us assume that the common law clearly assigned private ownership of air columns, both low and high altitude, to the owners of the land subjacent to the columns. Let us further assume that state and/or federal aviation regulations abrogated such common law rights when they authorized airplanes to take off, fly, and glide in landowners' air columns. On these assumptions, the challenged aviation regulations<sup>81</sup> took private property—presumptively. That presumption did not automatically make the regulations constitutional takings. But it did force the governments or private parties defending the regulation to show why the aviation rules were *bona fide* regulations, or justly compensated takings—and not un- or under-compensated takings.

When informed by labor-based natural rights principles, the relevant constitutional provisions imposed three basic limitations on aviation regulations.<sup>82</sup> First, if a government action was in substance an exercise of the power of eminent domain, it was constitutional only if just compensation was paid, and if the taking was for

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away from plaintiffs any property rights that they theretofore had"). *Cf. Thrasher v. City of Atlanta*, 173 S.E. 817, 825 (Ga. 1934) (suggesting that an inverse-condemnation challenge was disposed of largely by a state statute limiting the *ad coelum* doctrine, such that an owner's "title will include only such portions of the upper space as may be seized and appropriated by the owner of the soil").

80. *United States v. Causby*, 328 U.S. 256, 266 (1946).

81. Or judicial decisions declaring the common law to have changed, to avoid conflict between that common law and the challenged regulations. I refrain from discussing this possibility in text only for ease of exposition.

82. See Claeys, *Public-Use Limitations*, *supra* note 22; Claeys, *Takings, Regulations*, *supra* note 11.

a public use in a narrow sense. (This possibility will be considered in Part IV.D, below.) The other two limitations related to the police power. If a government action counted as a constitutional exercise of the police power, that finding supplied a constitutional justification for the action separate from the power of eminent domain; any action justifiable as a police regulation did not need to satisfy the public use or just compensation requirements of eminent domain. So second, a government action counted as police regulation, justifying what might otherwise count as an act of eminent domain, if it prevented harm. Harm-prevention regulations delineated the bounds between property uses that were legitimate and those that wrongfully threatened the lives, liberties, or properties of other citizens, or threatened interests of the public at large.<sup>83</sup> Finally, a government action also counted as a justifiable police regulation if it reordered existing property rights to the mutual benefit of all interested owners.<sup>84</sup> Such actions were often described as “secur[ing] an average reciprocity of advantage” to the interested owners,<sup>85</sup> and I will refer to them here as “reciprocity-of-advantage regulations.”

### *C. Aviation Regulations as Reciprocity-of-Advantage Regulations*

To clarify how reciprocity-of-advantage principles apply to the overflight transition, I will study the 1930 case *Smith v. New England Aircraft Co.*<sup>86</sup> as closely as I did *Hinman* and the common law portion of the district court opinion in *Swetland* in the last Part.<sup>87</sup> In *Smith*, the Supreme Judicial Court of Massachusetts considered a constitutional challenge to regulations made by the Massachusetts state legislature and by the U.S. Secretary of Commerce (acting under authority conferred by the federal Air Commerce Act of 1926). Taken together, these regulations: barred airplanes from flying over thickly settled areas; required airplanes to fly above legally set minimum

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83. See Claey's, *Public-Use Limitations*, *supra* note 22, at 888–91, 914–19; Claey's, *Takings, Regulations*, *supra* note 11, at 1568–72, 1576–87.

84. See Claey's, *Public-Use Limitations*, *supra* note 22, at 889–92, 919–28.

85. See *Pa. Coal Co. v. Mahon*, 260 U.S. 393, 415 (1922).

86. 170 N.E. 385 (Mass. 1930).

87. In *Who Owns the Sky?*, BANNER, *supra* note 2, treats at substantial length four cases considering eminent domain or inverse-condemnation challenges to overflight regulations: *Swetland*, *Smith*, *Causby*, and *Thrasher v. City of Atlanta*, 173 S.E. 817 (Ga. 1934). *Thrasher* reinforces the main lessons from *Swetland* and *Smith* and will be covered in footnotes; the other three cases are treated in the text.

altitudes except when taking off or landing; set such altitudes at 1000 feet for settled areas and 500 feet for unsettled areas; and declared the airspace above these minimums to be “navigable airspace . . . subject to a public right of freedom of interstate and foreign air navigation . . . .”<sup>88</sup> Chief Justice Rugg considered whether these regulations secured a reciprocity of advantage.

Rugg began by taking judicial notice that “[a]ircraft and navigation of the air have become of great importance to,” among other goods, “commerce as a means of transportation of persons and commodities.”<sup>89</sup> That finding supplied the basis for an average reciprocity of advantage. Even assuming that the regulations limited landowners’ property rights, it still enlarged those owners’ liberties and property rights in their capacities as prospective travelers and consumers. If landowners all held unqualified property rights in their respective columns, they could frustrate air travel and shipment considerably by suing to have overflights enjoined. By holding out, however, landowners would make air travel and shipment less common and more expensive. They would make prohibitively expensive the free exercise of their liberties to travel by airplane, or they might frustrate all the normative interests they could further with cheaper access to a wider range of commercial goods.

Before concluding that the aviation regulations did satisfy reciprocity-of-advantage standards, however, Chief Justice Rugg needed to be practically certain that the advantages landowners gained as prospective travelers and consumers more than compensated for the property rights they lost in their capacities as landowners. Here, Rugg distinguished, correctly, between high- and low-altitude airspace. As for the former, “[i]t would be vain to treat property in airspace upon the same footing as property which can be seized, touched, occupied, handled, cultivated, built upon and utilized in its every feature.”<sup>90</sup> Rugg was practically certain that, for high-altitude overflights, landowners were getting and not losing an average reciprocity of advantage:

The light of the sun has not been obscured and the land has not been shadowed. No airplane of through travel has been established over their land. Nothing has been thrown or fallen from

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88. *Smith*, 170 N.E. at 389 (citing Mass. St. 1928, c. 388, § 10; 44 U.S. Stat. 568).

89. *Id.* at 388.

90. *Id.* at 390.

the aircraft upon the underlying ground. There have been no noxious gases or fumes. There has been no other interference with any valuable use of which the land of the plaintiff[] [landowner] is capable.<sup>91</sup>

By contrast, Rugg expressed serious (and justified) concern about landowners near take-off and landing paths. Ultimately, Rugg decided the relevant questions not on constitutional grounds but on statutory grounds; he concluded that the regulations in question did not authorize low-altitude take-offs or landings.<sup>92</sup> Before doing so, however, Rugg hinted strongly that the reciprocity-of-advantage calculus did not justify those take-offs and landings. As had Haney and Hahn, Rugg used the scope of “possible effective possession” to delineate the “scope of possible trespass” or takings,<sup>93</sup> and he worried that 100-foot overflights more closely resembled trespasses by roofs, wire, overflying bullets, and overhanging structures.<sup>94</sup> “Aerial navigation, important as it may be,” Rugg properly concluded, “has no inherent superiority over the landowner where their rights and claims are in actual conflict.”<sup>95</sup>

Because Rugg rested his decision on statutory grounds, however, he did not suggest what Massachusetts would have needed to do to rectify the constitutional violations at which he hinted for low-altitude overflights. Oversimplifying somewhat, Massachusetts should have been required to pay Smith and other affected owners damages for property damages or interferences with the use of their lots. As Part II.D explained, trespass law switches from a rights-based to a harm-based model when land abuts public commons. The policy reasons that justify the switch at common law also supply an average reciprocity of advantage in constitutional law (at least, as long as landowners are compensated for actual property damage or use disruptions they suffer).

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91. *Id.* at 391.

92. *See id.* at 391–92, 393.

93. *Id.* (quoting FREDERICK POLLOCK, THE LAW OF TORTS: A TREATISE ON THE PRINCIPLES OF OBLIGATIONS ARISING FROM CIVIL WRONGS IN THE COMMON LAW: TO WHICH IS ADDED THE DRAFT OF A CODE OF CIVIL WRONGS PREPARED FOR THE GOVERNMENT OF INDIA 362 (13th ed. 1929)).

94. *Id.* *Accord* Thrasher v. City of Atlanta, 173 S.E. 817 (Ga. 1934) (assuming that owners of land could “complain of any use” of high-altitude space “tending to diminish the free enjoyment of the soil beneath”).

95. *Smith*, 170 N.E. at 392.

*D. Aviation Regulations and Eminent Domain*

Labor-based constitutional standards used harm-prevention regulation, reciprocity-of-advantage regulation, and eminent domain each to approximate a different aspect of the public good.<sup>96</sup> Harm-prevention regulations and reciprocity-of-advantage regulations both promote the public good understood as the aggregation of the citizenry's free, and equal, moral rights.<sup>97</sup> Harm-prevention regulations focus more on protecting those rights, and reciprocity-of-advantage regulations more on realigning the legal specifications of those rights to accord more closely with the moral rights, but both aim at the concurrent enjoyment by citizens of their moral rights. However, the public good also encompasses the government's owning the resources it needs to secure the citizenry's moral rights in situations in which the government's control and direction of the use of property is practically likely to secure and enlarge the same rights. Sometimes, the government manages the property in trust for the citizens (military bases, or common-carrier utilities); on other occasions, the government gives citizens direct access to a new commons (a new navigation servitude). Since aviation travel and commerce fit this latter paradigm, it is no surprise that some courts used eminent domain legal principles to review the propriety of new aviation regulations. That is what happened in *Causby*.

If aviation regulations are treated as an eminent domain problem,<sup>98</sup> the regulations must satisfy two constitutional limitations. First, the takings must be for a public use. That limitation is easy to satisfy, under even the narrowest reasonable understanding of the public use doctrine.<sup>99</sup> Whenever the government takes property to create or enlarge a commons, the public "uses" the commons. Because the air commons is open to anyone with an aircraft fit for flight, that commons is for public use.

The other limitation is that any owner who suffers a taking must receive just compensation. This inquiry tracks the high-altitude/low-altitude distinction as the reciprocity-of-advantage analysis did in

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96. See Claey's, *Public-Use Limitations*, *supra* note 22, at 886–901, 909–12.

97. See, e.g., LOCKE, TWO TREATISES, *supra* note 33, bk. II, § 124, at 350–51 (defining "chief end . . . of Mens . . . putting themselves under Government [as] the Preservation of their Property").

98. And, if we continue to assume that landowners really did have "property" in high-altitude airspace subject to eminent domain protections.

99. See Claey's, *Public-Use Limitations*, *supra* note 22, at 901–05.

the last section. In eminent domain terms, the prospects of air travel and the purchase of air-shipped goods supply landowners with implicit in-kind compensation for the possessory rights or servitudes taken from them to create the air commons.<sup>100</sup> For high-altitude overflights, landowners' interests in the condemned airspace are so trivial that the in-kind compensation amply compensates any technical taking. By contrast, when owners complain of lower disruptions in takeoffs and landings, as *Causby* suggested, "the path of glide for airplanes might reduce a valuable factory site to grazing land, an orchard to a vegetable patch, a residential section to a wheat field. . . . [T]he use of the airspace immediately above the land would limit the utility of the land and cause a diminution of its value" sufficient to require just compensation.<sup>101</sup>

Now, in *Causby*, Justice Douglas did not follow this analysis totally consistently. He made a slight formalistic error, because he defined the taking as the penetration by airplanes into the landowners' boundaries, not as the actual damage or use interferences the owners suffered to their land.<sup>102</sup> In context, however, that is a fairly minor criticism.

### *E. The Moral Basis for Rearranging Moral Property Rights*

The analysis presented in this Part may seem strange to some readers. Reciprocity-of-advantage regulation and eminent domain both use legal coercion to restructure moral rights. Readers may assume that any moral theory of rights cannot justify such coercive restructuring.

Although I cannot deal with this reaction exhaustively, I can address three perceptions that contribute to it. First, the reaction may be informed by a belief that a property right is a "moral" right only if "it cannot be taken against the owner's wishes. I could not call my house my property if the law allowed someone else to wrest ownership from me against my will."<sup>103</sup> (For ease of exposition, I refer to

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100. See Richard A. Epstein, *Intel v. Hamidi: The Role of Self-Help in Cyberspace?*, 1 J.L. ECON. & POL'Y 147, 154–55 (2005). On implicit in-kind compensation generally, see RICHARD A. EPSTEIN, *TAKINGS: PRIVATE PROPERTY AND THE POWER OF EMINENT DOMAIN* 195–282 (1985).

101. *United States v. Causby*, 328 U.S. 256, 262 (1946).

102. See EPSTEIN, *supra* note 100, at 49–50.

103. Jeffrey Evans Stake, *The Uneasy Case for Adverse Possession*, 89 GEO. L.J. 2419, 2420 (2000–2001).

this characteristic here as “absoluteness.”) Yet a theory of morality may propound a coherent and robust theory of moral rights without claiming that those rights are absolute rights. As Part II explained, labor theory may be conceived of so that it grounds property rights not in a will-based account of rights but rather an interest-based account. Thus, Locke grounds law in “*the direction of a free and intelligent Agent to his proper Interest,*” and he specifies that law “prescribes no farther than is for the general Good of those under that Law.”<sup>104</sup> He hints at an interest-based foundation for property when he justifies it by its tendency to secure to all citizens equal domains of opportunity to “make use of those things, that were necessary or useful [each] to his [own] Being.”<sup>105</sup> Pre-1920, it was practically certain that these use interests were best served by enforcing the *ad coelum* maxim without qualification. After the advent of the airplane, these interests were better served by treating the high-altitude airspace as a semicommons.

If labor theory makes moral rights so pliable and context-dependent, however, readers may wonder whether the rights it justifies are too weak to be protected against confiscatory government action. I believe it is, for two main reasons. First, although labor-based property rights are not absolute in the sense just described, as I have explained elsewhere, they are absolute (or, more precisely, “deontological”) in another sense<sup>106</sup>: individual rights are lexically prior to the community’s good. The requirements for reciprocity-of-advantage regulations embody this requirement. Even if a policy enlarges the rights of most or all citizens, it is not legitimate unless it holds harmless individuals whose rights it eliminates or reconfigures.<sup>107</sup>

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104. LOCKE, TWO TREATISES, *supra* note 33, bk. II, § 57, at 305 (emphasis added).

105. *Id.*, bk. I, § 86, at 205.

106. See Claeys, *Productive Use and Labour Theory*, *supra* note 11, at 24–25. I attribute this formal and political understanding of “deontology” to John Rawls. Rawls defined “deontological” to refer to a theory of justice that makes the Right lexically prior to the Good; the converse of a “deontological” theory is a “teleological” theory, which makes the Good prior to the Right. See JOHN RAWLS, A THEORY OF JUSTICE 30–32 (1971). I do not mean to suggest that Locke’s theory of justice resembles Rawls’s in most respects, only that it is deontological in Rawls’s formal definition of that term.

107. This deontology criterion clarifies considerably, for example, what the judge meant in *Gay v. Taylor* when he insisted that the new and burgeoning aviation “industry are no more privileged to infringe on the rights of others than anyone else and they must be held to the same rules of conduct in their operations as individuals engaged in different and less glamorous pursuits”. 19 Pa. D. & C. 31, 35 (1932).

Separately, labor-based property theory also treats the problem of commensurability with extreme sensitivity. Because rights as justified in Part II are grounded in flourishing-based normative interests, in principle it is possible for a government regulator to settle rights conflicts by asking which of two rights-claimants is exercising his rights more consistently with human flourishing rightly understood.<sup>108</sup> In practice, however, labor-based rights are structured so as to discourage such judgments. In practice, many judgments commingle moral issues with the capacities, needs, or desires of different actors. In his epistemological writings, Locke specifies, “[P]leasant Tastes,” “Happiness,” and other sources of value all “depend not on the things themselves” that generate value for people “but [on] their agreeableness to this or that particular Palate, wherein there is great variety.”<sup>109</sup> Labor-based rights are structured embodying a presumption that the same rights will be valued differently by people with different palates. That creates a strong working presumption that rights claims are *not* commensurable. This presumption can get overridden. Yet equity illustrates nicely how much it takes to override the presumption of incommensurability when it treats substantial encroachments as enjoined and refrains from making injunctive relief available only for *de minimis* encroachments. The aviation commons case study illustrates the same difference, in how the cases distinguish between high- and low-altitude boundary invasions.<sup>110</sup>

Thomas Merrill and Henry Smith have lodged one last objection to the reciprocity of advantage and implicit in-kind compensation justifications developed here: “[W]hen airplane travel first developed and challenges were brought based on trespass, no one could

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108. See Eric R. Claeys, *Virtue and Rights in American Property Law*, 94 CORNELL L. REV. 889, 934–36 (2009) (criticizing on this basis Gregory S. Alexander, *The Social-Obligation Norm in American Property Law*, 94 CORNELL L. REV. 745 (2009), and Eduardo M. Peñalver, *Land Virtues*, 94 CORNELL L. REV. 821 (2009)).

109. JOHN LOCKE, AN ESSAY CONCERNING HUMAN UNDERSTANDING § IV.iii.19, at 550 (Peter Nidditch ed., 1979) [hereinafter LOCKE, HUMAN UNDERSTANDING].

110. To be sure, in other fields of property law, owners may be forced to suffer coerced rearrangements of their property rights even when they are actually occupying and using the property affected. Yet such rearrangements are justified when they are unavoidable—i.e., when the property lends itself to overlapping public and private uses. The *Smith* court cited the paradigm case for such rearrangements—mill-dam acts. See *Smith v. New England Aircraft Corp.*, 170 N.E. 385, 390 (Mass. 1930) (citing, *inter alia*, *Lowell v. Boston*, 111 Mass. 454, 454–67 (1873)). That limitation helps justify landowners being forced to accept injurious or noxious low-altitude overflights, but it does not undermine the basic understanding of rights and regulations discussed in this Part.

be sure air travel would work out to the benefit of all.”<sup>111</sup> Merrill and Smith’s question raises an overarching issue: How much purchase does a moral theory of property rights have if it cannot clearly “sort[] out the bona fides of a proposed public good”?<sup>112</sup> This objection assumes premises rejected by natural law- and rights-based political moralities in the general family under study here. In these moralities, there is no reason to favor property over the absence of property, or regulation over underregulation. In principle, error costs can run in both directions. And when a practical theory of morality prescribes what should be done, it must take its bearings in relation to what can be done . . . and what can be *known* about what can be done. Locke, for example, takes pains to stress that human life proceeds in a “State of *Mediocrity*.” When men make moral prescriptions in conditions of epistemological mediocrity, the standards of certainty they can realistically expect are the standards of probability associated with “Judgment and Opinion,” not the “Knowledge and Certainty” associated with theoretical mathematics or physics.<sup>113</sup>

Many sobering implications follow in practice. For one thing, there will never be bright-line distinctions between public-interested and factious regulations. As *Federalist No. 10* argues, distinctions between the two can be settled only by public officials with virtues typical of “enlightened statesmen.”<sup>114</sup> For another, in practice, it is inevitable that public officials will need to make judgments relying on incomplete information. Chief Justice Rugg assumed as much in *Smith*: “The experience of mankind, although not necessarily a limitation upon rights, is the basis upon which airspace must be regarded. Legislation with respect to it may rest upon that experience.”<sup>115</sup> Could Rugg have been 100% sure that aviation would succeed—or that aviation regulations were not backdoor wealth transfers from landowners to airlines and air shippers? No, and no. But it would have been impractical for Rugg to withhold judicial approval from any regulation that was not 100% certain to succeed in promoting

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111. MERRILL & SMITH, *supra* note 74, at 15.

112. Daniel D. Polsby, *What If This Is as Good as It Gets?*, 2 GREEN BAG 2D 115, 115–16 (1998) (book review).

113. LOCKE, HUMAN UNDERSTANDING, *supra* note 109, § IV.xii.10, at 645; *see* Claeys, *Productive Use and Labour Theory*, *supra* note 11, at 57–58.

114. *See* The Federalist No. 10, at 42, 43–45 (James Madison) (George W. Carey & James McClellan eds., 2001).

115. *Smith*, 170 N.E. at 390.

citizens' concurrent uses of land and air. And it would have been extreme or self-indulgent for him to declare unconstitutional any restriction of property on the bare ground that it might have had wealth-transferring effects.

#### V. THE WAGES OF THE AD COELUM FABLE

These priors about error costs and incomplete information highlight why the *ad coelum* fable is so problematic when used in contemporary discussions about property or IP policy. In property doctrine and policy, false positives (Type I errors) occur most often when proprietary control denies to non-owners the access they need to vindicate their legitimate interests in accessing and using resources they don't own. False negatives (Type II errors) occur when property law does not give owners the exclusive control they deserve. In false negative cases, the lack of exclusive control prevents property owners from securing their legitimate use interests.<sup>116</sup> As Parts III and IV just traced, in both trespass and eminent domain–related constitutional law, property policy was open to both types of errors in aerial-trespass disputes. The *ad coelum* fable makes property seem far more susceptible to Type I errors than to Type II errors.

In the *ad coelum* fable, the American legal system “eliminated—er, adjusted—some sticks in the bundle of rights we call ‘private property’ to accommodate a potentially valuable new technology. No compensation was due from the government or from fledgling commercial air carriers because nothing was ‘taken’ from private land-owners.”<sup>117</sup> Yet the cases tell a much more interesting story. As Part II showed, in the labor-based natural rights approach at work in the cases, “private property” consists not just of any bundle of rights, or of the biggest bundle of rights, but rather of the bundle of rights most likely to secure to owners, neighbors, and other stakeholders their just interests in using the resource in question for different productive individual goals.<sup>118</sup> As Part III showed, in application of that general approach, legal property in airspace was

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116. Or, conversely, when non-owners get more access to owned resources than they need to secure their legitimate use interests.

117. HELLER, *supra* note 3, at 29.

118. See also Eric R. Claeys, *Bundle-of-Sticks Notions in Legal and Economic Scholarship*, 8 ECON JOURNAL WATCH 205 (2011).

understood to be subject to an inherent limitation: such property was justified only to the extent it seemed practically likely to secure concurrent opportunities for productive use to landowners and non-owners with stakes in the air. It is thus misleading to suggest that judges “eliminated” property in air columns, or to suggest there was anything improper in their “adjusting” black-letter property better to accord with and embody the moral ends legal property was expected to advance.

Then, as Part IV showed, in cases reviewing constitutional challenges to overflight transitions, judges most certainly did not construe the relevant constitutional doctrines in whatever manner most directly subsidized and encouraged air travel. James DeLong has it right: *Causby* “stands for close to the opposite of the principle” for which it is cited in the *ad coelum* fable.<sup>119</sup> *Causby*’s and *Smith*’s analyses of the relevant constitutional limitations instead apply a set of adequacy criteria according to which a public-law transformation of property rights is illegitimate unless it pays serious “regard to the impact on existing rights.”<sup>120</sup>

The *ad coelum* fable accentuates the costs of Type I errors and eliminates the costs of Type II errors. In relation to airspace, there were no real downsides to creating a commons at high altitudes and qualifying trespassory rights at lower altitudes—but there might be real downsides in other regulatory disputes. If a contemporary work uses the overflight transition as a leading illustration, inquiring readers had better wonder whether that illustration was selected because the work accentuates Type I errors as the *ad coelum* fable does.

## VI. GRIDLOCK AND REDEVELOPMENT BY EMINENT DOMAIN

### A. *The Stakes Between Property Rules and Liability Rules*

In the rest of this Article, let me illustrate with two examples from property and IP scholarship. Heller’s book *Gridlock* illustrates one tendency: to portray “liability rule” property-regulatory regimes more

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119. James DeLong, *Google Print and the Airspace Analogy: Lessig’s Counterfactual History* (Nov. 8, 2005), available at [http://web.archive.org/web/20060202225103/http://weblog.ipcentral.info/archives/2005/11/google\\_print\\_th.html](http://web.archive.org/web/20060202225103/http://weblog.ipcentral.info/archives/2005/11/google_print_th.html).

120. *Id.*

sympathetically than “property rule” regimes. Many different property policy disputes focus on the precise circumstances in which non-owners<sup>121</sup> may initiate proceedings forcing owners to alienate some of their property rights. In the common law’s terms, the disputants disagree on how broad and encompassing proprietary rights of disposition should be. At one hypothetical extreme, owners could be endowed with absolute rights of disposition. Doctrinally, the most direct way to implement such rights is to entitle proprietors, as a matter of right, to automatic equitable relief preventing any unconscionable takings or uses of their things.<sup>122</sup> In legal/economic analyses of property, the legal rules that declare such broad rights of disposition are called “property rules.”<sup>123</sup>

At the other hypothetical extreme, owners could be limited to relatively narrow rights of disposition. Doctrinally, whenever a property right was taken, courts could routinely limit the proprietor’s recovery to market value permanent damages. In legal/economic analysis, such an entitlement is called a “liability rule.”<sup>124</sup> Although others and I have reservations about the terms “property rule” and “liability rule,”<sup>125</sup> I use them and cost-benefit factors commonly associated with them here because Heller assumes and applies those terms and factors in *Gridlock*.

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121. Or co-owners, in cases involving stakeholders with partial ownership interests. Such cases may include tenants in common, partners, or present possessors facing off against future interest holders. I pass over these possibilities in text for ease of exposition.

122. See, e.g., sources cited *supra* note 43.

123. Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1092 (1972). “Property rules” may be understood to include not only a presumption in favor of equitable relief for ongoing takings but also presumptions in favor of restitutionary damages and punitive damages and criminal liability for deliberate takings. I focus in the text on equitable relief for ease of exposition.

124. *Id.*

125. In short: Social practice and legal doctrine are much more qualified and context-specific than legal/economic analysis about what it means for a wrongdoer to pay damages as compensation for his wrong. In law and social practice, only in a few extreme cases (e.g., the ouster by one tenant in common of other cotenants) does the law effectively permit and sanction the activity in question by letting the seeming wrongdoer pay for the privilege of conducting the activity. See Claeys, *Exclusion and Exclusivity*, *supra* note 48, at 36–43; Jules L. Coleman & Jody Kraus, *Rethinking the Legal Theory of Rights*, 95 YALE L.J. 1335, 1352–65 (1986). Otherwise, a damages-only judgment does not convert the wrong into a permissible activity, and legal/economic analyses of remedies “completely misrepresent the actual normative guidance of the law” when they suggest that damages-only judgments do effectively legitimize the penalized activity. J.E. PENNER, *THE IDEA OF PROPERTY IN LAW* 66 (1996).

The trade-offs between property and liability rules highlight a limited but still-important issue about the scope of private property rights. When litigants argue over property and liability rules, all disputants concede (at least at a high level of generality) that owners deserve rights of control and use traditionally regarded as incident to ownership. The choice between property and liability rules focuses on how far owners' rights of disposition should sweep. When rights of disposition are construed extremely narrowly, the constructions create Type II error costs. In rights-based terms, narrow disposition threatens the values that justify the autonomy associated with ownership.<sup>126</sup> In utilitarian terms, the damages-only approach injects into the law "an additional stage of state intervention: not only are entitlements protected, but their transfer or destruction is allowed on the basis of a value determined by some organ of the state rather than by the parties themselves."<sup>127</sup> On the other hand, if property rights generate too many hold-out problems (the Type I error costs identified in the last part), such state intervention may be cost-justified and necessary. Hold-outs can (in economic terms) extract rent and diminish social welfare or (in rights-based terms) impair the abilities of non-owners to exercise legitimate moral rights to access, use, or enjoy resources.

### *B. Overstating the Advantages of Liability Rules*

Virtually all recurring resource disputes are regulated by property rules in some cases and liability rules in others. Even in encroachment disputes, where property rules are strongly preferred, property and remedy doctrines make liability rules available for good faith *de minimis* encroachments.<sup>128</sup> There is no one-size-fits-all formula predicting when property rules or liability rules will be preferable; the trick is to determine which of the relevant factors matter most in a particular resource dispute. On one hand, when a legal regime makes it easy for non-owners to proceed under liability rules, non-owners may expropriate subjective value held by owners over and above

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126. Coleman & Kraus, *supra* note 125, at 1338–39.

127. Calabresi & Melamed, *supra* note 123, at 1092.

128. See Richard A. Epstein, *A Clear View of The Cathedral: The Dominance of Property Rules*, 106 YALE L.J. 2091, 2096–2101 (1997) [hereinafter Epstein, *Clear View*].

market value.<sup>129</sup> In addition, liability-rule proceedings create administrative costs, especially the costs of trying and adjudicating proceedings to value the property being taken. On the other hand, market bargains generate transaction costs,<sup>130</sup> and they may also encourage market participants to hold out or free-ride.<sup>131</sup>

The factors just recounted are the most concrete factors, applicable to the facts of individual disputes. Other relevant factors focus more on the rule-level consequences different legal regimes have on party behavior. On one hand, the more generously property law offers opportunities for non-owners to initiate liability-rule proceedings, the more it discourages non-owners from bargaining with owners, and the more it encourages non-owners and owners both to lobby and litigate. These incentives generate social costs associated with what have been called (respectively) “market bypass” and “secondary rent seeking.”<sup>132</sup> Of course, by the same token, if property law institutes property rules more often than it should, it encourages owners to engage in their own secondary rent-seeking by holding out.

All of the preceding factors were stated formally. It is impossible to predict in the abstract, in the absence of empirical information and details helping focus normative trade-offs, which factor or factors will outweigh others. Given that abstraction, it is dangerous for a utilitarian analysis of property to treat a few case studies as poster cases illustrating general trends about the trade-offs between property and liability rules. Yet that is exactly how the *ad coelum* fable is used in *Gridlock*.

### C. Overstating the Scope of Gridlock

*Gridlock* portrays property as a blockade right. “Sometimes we create too many separate owners of a single resource,” it argues.

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129. See Calabresi & Melamed, *supra* note 123, at 1108. In the text I assume that the liability-rule valuation proceeding aims to compensate the owner with market value; if the proceeding guarantees owners with value higher than market value the expropriated difference is correspondingly smaller.

130. See *id.* at 1106.

131. See *id.* at 1106–07. Calabresi & Melamed also gave considerable attention to whether one party was better positioned than other parties to minimize social costs, or (in the alternative) whether one party was better positioned than others to bargain around erroneous assignments of liability. See *id.* at 1096–97. These factors have not proven durable in analyses of property remedy disputes, probably because they are too party- and case-specific.

132. See Thomas W. Merrill, *The Economics of Public Use*, 72 CORNELL L. REV. 61, 85–89 (1986).

“Each one can block the others’ use. If cooperation fails, nobody can use the resource.”<sup>133</sup> “[W]e must train ourselves to spot a gridlock economy,” *Gridlock* concludes, “and then develop simple ways to assemble fragmented property,” “through individual, joint, [or] state effort.”<sup>134</sup> *Gridlock* treatment of “[T]he Lighthouse Beam”—i.e., overflight gridlock—seems to confirm the book’s basic thesis.<sup>135</sup>

Since the lighthouse beam study seems to focus too much on Type I property error costs, inquiring readers should wonder whether *Gridlock*’s other case studies understate the Type II error costs that may arise in property regulation. I think several of Heller’s case examples do understate these error costs;<sup>136</sup> let me focus on one example, which Heller calls “block parties.”<sup>137</sup> A block party refers to the jockeying that starts when a developer sees economic potential in assembling several small lots of land (most likely, in an urban area) into a larger lot. The developer may try to bargain with the owners of the small lots—but “[n]egotiations frequently collapse when owners discover that an assembly is in process.”<sup>138</sup> The developer may also lobby state and local officials to “blight” the lots and transfer them to him through eminent domain.<sup>139</sup> As Heller acknowledges, however, even if “[e]minent domain . . . overcome[s] the minority tyranny of holdouts . . . it routinely leads to lengthy political fights, corruption, and unfair redistributions of property.”<sup>140</sup>

Although Heller does propose a distinct solution for the problems created by block parties,<sup>141</sup> he advances *Gridlock*’s main thesis and claimed contribution simply by arguing that block parties are problems. Land assemblies certainly seem problematic if all land rights are, like the rights to overflight columns, inflexibly *ad coelum*.

I doubt there is such a problem. Heller asserts: “Land is much easier to break up than to put back together—land transactions

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133. HELLER, *supra* note 3, at 15.

134. *Id.* at 21.

135. *Id.* at 27–30.

136. See Richard A. Epstein, *Heller’s Gridlock Economy in Perspective: Why There Is Too Little, Not Too Much Private Property*, 53 ARIZ. L. REV. 51, 57 (2011) (criticizing Heller’s treatment of the subprime mortgage crisis); *id.* at 57–62 (radio spectrum); *id.* at 74–82 (the patent thicket).

137. See HELLER, *supra* note 3, at 109.

138. *Id.* at 113.

139. *Id.* at 110–11.

140. *Id.* at 114.

141. See *id.* at 118–21.

work like a one-way ratchet.”<sup>142</sup> Heller provides no empirical support for this assertion. Perhaps the assertion is supposed to be intuitively persuasive. Yet it is just as intuitively plausible that developers can find large lots of lands adequate for their plans: in vacant areas, or in neighborhoods in which all residents are willing to sell. Case studies also show that large prospective developers, such as universities and theme parks, have successfully used secret purchasers to circumvent (so-called) block-party gridlock.<sup>143</sup>

Since Heller’s intuition and the contrary intuition are both at least plausible, it might help to conduct a consequentialist comparison: on one hand, of the pros and cons of leaving land assembly to markets and, on the other hand, the corresponding pros and cons for using eminent domain or some other coercive mechanism. Heller supplies figures illustrative of such a cost-benefit analysis. Heller describes the case of New York City and State’s blighting of a block in Times Square to make space for a new *New York Times* corporate headquarters. Heller uses data from the Times Square project to illustrate the costs and benefits of block parties generally. Yet reasonable minds may interpret the relevant costs and benefits very differently. When the relevant data seems susceptible to different interpretations, Heller consistently interprets the data consistent with the *ad coelum* fable.<sup>144</sup>

As Heller reports it, City authorities condemned the blighted land for about \$85 million, “[b]ut the real market value of the assembled land could have been up to three times higher, as much as \$250 million,” for a net increase of “[u]p to \$165 million in real estate assembly value.”<sup>145</sup> Assume both figures are accurate.<sup>146</sup> A complete

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142. *Id.* at 111.

143. See Daniel B. Kelly, *The “Public Use” Requirement in Eminent Domain Law: A Rationale Based on Secret Purchases and Private Influence*, 92 CORNELL L. REV. 1, 22–24 (2006).

144. In the rest of this section, I restate criticisms developed in Claeys, *Exclusion and Exclusivity*, *supra* note 48, at 43–48. Because I understand better now than four years ago where Heller got his data and how he interpreted it, in text I modify slightly my specific reasons for doubting that Heller’s data support his main arguments.

145. See HELLER, *supra* note 3, at 110–11.

146. Heller probably derived the \$250 million estimate from comparable-sales estimates conducted by a landlord ousted from one of the blighted lots. See *id.* at 110 (quoting office building owner Sydney Orbach); Paul Moses, *The Paper of Wreckage: The ‘Times’ Bulldozes Its Way to a Sweetheart Land Deal You Will Pay For*, THE VILLAGE VOICE, June 18, 2002, available at <http://www.villagevoice.com/2002-06-18/news/the-paper-of-wreckage/full/> (reporting on a comparable-sales estimate by Orbach), cited in HELLER, *supra* note 3, at 234 n.7. The

cost-benefit analysis would need to discount the \$165 million putative net gain for the losses in subjective value suffered by all the ousted landlords and tenants on the condemned block. Such losses supply one of the reasons why encroachment doctrine favors property rules,<sup>147</sup> and Heller himself acknowledges that “anytime you say your property is not for sale, you are valuing it above fair market value.”<sup>148</sup> Yet he concedes that “these values . . . are hard to measure,”<sup>149</sup> and he does not revise his net assembly-value figure to discount for them.

A complete cost-benefit analysis would also discount for the social costs of market bypass and secondary rent-seeking. Encroachment doctrine limits the *de minimis* exception only to cases in which the mistaken encroachment is built in good faith to minimize the “danger of multiple sequential transformations of property rights,”<sup>150</sup> and Heller himself acknowledges, “Why bother with voluntary market transactions when you can get the state to take the land you want?”<sup>151</sup> According to the news story on which Heller relied, the *Times* received preferential treatment because its partner-developer was close with New York Governor George Pataki; the *Times* and that developer received tax credits in the deal worth (according to one estimate) up to \$79 million.<sup>152</sup> In Heller’s portrait of the Times Square project, however, the putative \$165 net gain seems a much stronger reason for blighting the block than the demoralization and secondary rent-seeking costs seem grounds for leaving well enough alone.

## VII. COPYRIGHT AND GOOGLE BOOKS

The *ad coelum* fable is used even more enthusiastically in IP scholarship and policy debates. As Heller uses the fable to legitimize forced liability-rule transfers of disposition rights associated with

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landlord’s figure should be discounted for the possibility that he had an axe to grind with the *Times* and state and local authorities. Heller’s use of it should also be discounted, because it would confirm his thesis if land in Times Square was extremely fragmented and had huge real estate assembly potential.

147. See Epstein, *Clear View*, *supra* note 128, at 2098.

148. HELLER, *supra* note 3, at 114.

149. *Id.* at 114–15.

150. Epstein, *Clear View*, *supra* note 128, at 2100.

151. HELLER, *supra* note 3, at 110–11.

152. See Moses, *supra* note 146.

property, Larry Lessig has used it to justify significant expansions of the IP commons—specifically, the public domain available on the Internet.

### A. *Free Culture*

This tendency is obvious in *Free Culture*, the work in which Lessig popularized the *ad coelum* fable.<sup>153</sup> *Free Culture* begins with the hopeful prospect that “the Internet has unleashed an extraordinary possibility for many to participate in the process of building and cultivating a culture that reaches far beyond local boundaries.”<sup>154</sup> The book worries that this culture-creating process may be derailed: The Internet “threatens established content industries,” and such industries may manipulate the “idea of intellectual property to disable critical thought by policy makers and citizens” about how to facilitate culture creation.<sup>155</sup> *Free Culture* starts with the *ad coelum* fable, and it uses the fable’s overbroad portrait of overflight columns to illustrate the perils of overbroad IP.<sup>156</sup>

By now, the problems with Lessig’s analogy should be apparent. Although proprietary rights of exclusive control may confer a legal monopoly over a resource, such rights are socially beneficial and not harmful if the monopoly is structured and qualified to secure to all potential claimants on that resource their due interests in accessing, using, and enjoying it.<sup>157</sup> As Parts III and IV showed, when air travel became commercially feasible, concepts of “use” that had previously justified private ownership of air were supple enough to justify a commons for high-altitude air. Similarly, copyright law need not be scaled back or jettisoned because existing laws seem to frustrate new information, technology, or uses of either. Copyright law and policy may and probably do internalize norms that recognize and accommodate the due interests all IP producers and consumers have in the intellectual content of works protected by copyright.

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153. See LESSIG, *supra* note 8, at 1–13.

154. *Id.* at 9.

155. *Id.* at 9, 12.

156. See, e.g., *id.* at 3–7 (recounting how RCA, the dominant company in AM radio, used patent law and federal communications regulatory law to smother FM radio).

157. See Edmund W. Kitch, *Elementary and Persistent Errors in the Economic Analysis of Intellectual Property*, 53 VAND. L. REV. 1727, 1729–38 (2000).

I do not mean to suggest here that all features of contemporary copyright doctrine are drafted or administered now in manners that reconcile property and just public policies sensibly. Indeed, if lawmakers and judges were to apply to copyright principles of labor and use like those applied to overflights, they would reinforce some of Lessig's major criticisms of copyright law as currently written. For example, under a labor- and use-based approach to copyright, it is ordinarily indefensible for Congress to extend retroactively the terms for existing copyrighted works, as it did in the Sonny Bono Copyright Term Extension Act.<sup>158</sup> Labor principles justify the copyright system in part by how well it secures to content consumers their moral interests in using or enjoying intellectual content. Specified properly, copyright accommodates those interests by encouraging the creation of more authored works for consumers to use and enjoy. It is impossible for that justification to cover retroactive extensions of copyright terms. Copyright holders get longer periods of exclusive control, but content consumers suffer interferences with use and enjoyment without any gaining reciprocating advantage in return.

By invoking the *ad coelum* maxim as his lead example, however, Lessig suggests that copyright detracts from the goals most people expect IP law to further more often than it promotes and embodies those goals. I believe that copyright can be understood to internalize those goals. Even when copyright doctrines fall short of reconciling these goals well, copyright's normative content supplies a good internal guide for recalibrating bad doctrines.

### *B. The Google Books Project*

Let me illustrate using the dispute over Google Books.<sup>159</sup> Starting in 2004, Google sought to make digital copies of close to twenty million books, load them all into a digital library, and make the contents

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158. See 17 U.S.C. § 302(a) (2012); *Eldred v. Ashcroft*, 537 U.S. 186 (2003) (rejecting a constitutional federalism challenge to § 302(a)); Lessig, *supra* note 7, at 213–46. Such extensions might be justified in exceptional cases. In particular, term extensions might be appropriate if Congress abrogated the exclusive rights associated with copyright to satisfy the needs of users and extended terms as a compensatory gesture. Term extensions then might secure an average reciprocity of advantage or implicit in-kind compensation as explained in Part IV.

159. See Lessig, *supra* note 7. See Richard A. Epstein, *Networks and Copyrights: A False Analogy*, PROGRESS SNAPSHOT (Nov. 21, 2005), <http://www.pff.org/issues-pubs/ps/2005/ps1.21networkepstein.html> [hereinafter Epstein, *Networks*].

of that library available on the Internet. Google copied the entire contents of every book it digitized. Although copyrights had expired for many of the books, many millions more remained under copyright. Google intended to vary how much content viewers could access depending on whether the book in question was still under copyright. Viewers could read uncopyrighted works in their entirety. For works still under copyright, however, viewers could view the publication information and a few lines of text around the specific text caught by their search terms.<sup>160</sup>

Google tried to accommodate the likely claims of copyright holders in at least two main ways. Even before there was any litigation, Google offered copyright holders opportunities to opt out. If a work has not yet been digitized, the copyright holder may contact Google and request that the work not be included in the library; if it has, the holder may request that the work be removed from the library, or that it be available for some searches but excluded from others.<sup>161</sup> Notwithstanding that opt-out, however, a class of authors and publishers sued Google in 2005, alleging that the Google Books project infringes class members' copyrights. Google denied liability for infringement and pleaded fair use as an independent justification for its copying.<sup>162</sup> In 2011, a district court judge denied the parties' motion to approve a proposed class settlement.<sup>163</sup> As of the writing of this Article, publisher-plaintiffs have settled privately with Google,<sup>164</sup> the district court certified a class for the Authors Guild and the lawyers representing the class of authors, and that certification order is being appealed.<sup>165</sup>

Legally, the core of the class plaintiffs' argument is that Google infringed on their copyrights by digitizing their works; each digitization, after all, copies a work of authorship in its entirety. Normatively, the core of the class plaintiffs' case is that they deserve property in

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160. See *Authors Guild v. Google, Inc.*, 770 F. Supp. 2d 666, 670–71 (S.D.N.Y. 1991); Lawrence Lessig, *For the Love of Culture*, NEW REPUBLIC (Jan. 26, 2010), <http://www.newrepublic.com/article/the-love-culture>.

161. See, e.g., Matthew Sag, *The Google Books Settlement and the Fair Use Counterfactual*, 55 N.Y.L. SCH. L. REV. 19, 29 (2010/2011).

162. *Authors Guild*, 770 F. Supp. 2d at 670–71.

163. See *id.* at 679–83, 686.

164. See Andi Sporin, *Publishers and Google Reach Settlement*, ASS'N OF AM. PUBLISHERS (Oct. 4, 2012), <http://www.publishers.org/press/85/>.

165. See *Authors Guild, Inc. v. Google, Inc.*, No. 12-2402, 2012 BL 212662 (2d Cir. Aug. 14, 2012) (granting Google leave to appeal the district court's order certifying the plaintiffs' class).

the exclusive control over and disposition of rights to copy their books. The class plaintiffs are entitled to bargain over the conditions under which they will participate in the Google Books project, they argue, on the same terms that they are generally entitled to follow when they license the use of their copyrighted works. By contrast, legally, the core of Google's case is that, because it is committed to limit search access to copyrighted works, its digitization project is covered by copyright's fair use limitation.<sup>166</sup> Normatively, if the fair-use limitation immunizes digitization from infringement liability, such a ruling will encourage digitization and the expansion of the public domain.

### *C. The Ad Coelum Fable in the Google Books Litigation*

I do not mean here to offer a definitive account how the Google Books dispute should be resolved. Among other things, I hope to abstract here from procedural issues arising out of the proposed settlement and the class litigation; I hope to focus instead on the merits of copyright holders' suits for infringement. Even here, I do not mean to suggest that the overflight transition teaches or requires any single outcome in the merits of the infringement litigation stoking the Google Books dispute. My points are as follows: There are good arguments on both sides of the infringement issue; those arguments can be grounded in concepts of use internal to copyright; a sensitive retelling of the overflight transition clarifies both the merits and the internal "use" interests on both sides; but the *ad coelum* fable portrays what is a close case as a lopsided one.

Let me start with the case for infringement and against fair use. The overflight cases recounted in Parts III and IV all focused considerably on possible effective possession. "Possible effective possession" described the sphere of land and space over which landowners needed broad control and dominion in order to use and enjoy their lots. In copyright, however, the analogue to possible effective possession consists of exclusive control over copying of the protected work of authorship. This control guarantees that the author may make the work the basis for exchange of value.<sup>167</sup> The possibility of exchange encourages the author to create the work and to disseminate it to people who may be interested in enjoying it for themselves. As long

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166. See 17 U.S.C. § 107 (2012).

167. See Newman, *supra* note 49, at 289, 297.

as a work remains under copyright, it is always at least possible that the author (or her assignee) may derive expected benefits from the copyrights by licensing the copyrighted works on advantageous terms. That possibility justifies reading Section 106 literally: copyright holders have “the exclusive rights . . . to reproduce the copyrighted work in copies.”<sup>168</sup>

Now for the case against infringement and for fair use. The overflight analogy seems salient because copying technology has changed significantly from when Section 106's reproduction rights were originally drafted.<sup>169</sup> If exclusive control over copying is an indirect means to secure copyright holders' interests in making commercial use of their works of authorship, the control should be limited to exclude acts of copying that seem too attenuated from the underlying interest in commercial use. Routine digital copying seems relatively attenuated from that interest. “Whereas it made sense to assume that each printed copy of a book was intended (and likely) to satisfy demand for the work on the part of at least one reader, a single beneficial use of a work may now involve the making of numerous copies.”<sup>170</sup> That technological gap justifies excusing digitized copying—even commercial copying—when copies are “more incidental and less exploitative in nature than more traditional types of commercial use.”<sup>171</sup>

In addition, the Google Books project may satisfy reciprocity-of-advantage and other similar adequacy criteria courts applied when they tried aerial-trespass cases. Google Books gave all copyright holders a right to opt out and instruct it not to digitize their copyrighted works. In doing so, Google Books paid at least some respect to the exclusive control to which Section 106 entitles copyright holders. To be sure, an opt-out regime does threaten or undermine owner control. Yet Google's opt-out regime respects and perhaps indirectly enlarges the use interests of copyright holders—much as air travel and commerce did for landowners. When a copyrighted

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168. 17 U.S.C. § 106(1) (2012). *See, e.g.*, *Computer Assocs. Int'l, Inc. v. Altai*, 982 F.2d 693, 701–02 (2d Cir. 1992) (assuming that a defendant was liable for copyright infringement where it copied more than 30% of a copyrighted software program).

169. *See* Matthew Sag, *Copyright and Copy-Reliant Technology*, 103 NW. U. L. REV. 1607 (2009).

170. Newman, *supra* note 49, at 303.

171. *See, e.g.*, *Kelly v. Arriba Soft Corp.* 336 F.3d 811, 818 (9th Cir. 2003) (declaring that thumbnail copies in a search engine constitute fair uses).

work is 50 or more years old, it may be reasonable to presume that digitization will do more to widen the audience for the work than exclusive rights of control and commercialization would.<sup>172</sup> The same presumption might make sense for works of authorship that are orphaned (i.e., a reasonably diligent search could not identify the copyright owner or owners because of passage of time or fragmentation of ownership).<sup>173</sup> One statutory factor makes relevant to fair use analysis “the effect of the use upon the potential market for or value of the copyrighted work.”<sup>174</sup> For old and/or orphaned works, Google Books could arguably supply a reciprocity of advantage, by expanding these works’ ranges of contemporary uses.

Back to the case for infringement and against fair use. In the cases covered in Parts III and IV, it is telling that courts erred on the side of protecting landowners beneath the ceiling for possible effective possession. Although this tendency is not flatly required by labor theory or other theories that can justify property, it makes considerable sense as a means of implementing such theories—and it is surprisingly resilient in doctrine and practice. This tendency implements at least two property-related policies. By conserving to owners control over activities within their scopes of possible effective possession, property helps keep rights simple and clear.<sup>175</sup> An exception for Google Books digitization would blur property rights. Since Google Books plans to make commercial use of the information in its databases, any holding excusing its digitization would create blurry lines between excusable and unjustifiable commercial uses.<sup>176</sup> In addition, quite often in property law, if an owner is getting some benefit from the exercise of basic possession over a resource—or even if she merely *could* get some benefit from the resource—the law tends to avoid letting non-owners claim a right to put the resource to a use that is allegedly more valuable than the owner’s. In all situations not

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172. See Epstein, *Networks*, *supra* note 159.

173. See, e.g., Alessandra Glorioso, Note, *Google Books: An Orphan Works Solution*, 38 HOFSTRA L. REV. 971 (2010).

174. 17 U.S.C. § 107(4) (2012).

175. In labor-theoretic terms, this tendency marks property claims clearly. See *supra* notes 38 & 41 and accompanying text. In economic terms, the tendency minimizes information costs that arise when third parties must process relatively fine-grained property rights. See Smith, *supra* note 49, at 1777–82.

176. Cf. 17 U.S.C. § 107(1) (2012) (requiring consideration of whether the purpose and character of an otherwise-infringing use is “of a commercial nature”).

covered by fair use or other limitations, a copyright empowers the rights-holder to decide how best to commercialize the copyrighted work. Every unconsented copy justified by fair use or another limitation dilutes the owner's opportunities to commercialize and to set the terms for commercialization. Now, as the overflight transition shows, in some extreme situations legal decision-makers may become practically certain that legal rights of exclusive control cease to protect and instead interfere with owners' underlying interests in using and getting value from their owned resources. But if courts did not reach that point of certainty in overflight cases until landowners ceased to have any prospect of effective occupation of airspace, perhaps legal decision-makers today should give every practicable benefit of the doubt to copyright holders.

More subtly, when the overflight transition is understood sensitively, it changes how a legal decision-maker might frame the relevant policy issues. Let us review two possible justifications for Google's fair use argument,<sup>177</sup> and then reconsider those justifications using the adequacy criteria explained in Part IV. One justification is the "spread of knowledge," the "opportunity" the Google database offers "to revive our cultural past, and to make it accessible."<sup>178</sup> The other is wealth creation: if copyright "law requires Google (or anyone else) to ask permission before they make knowledge available like this, then Google Print can't exist."<sup>179</sup> Both arguments seem to suggest that fair use doctrine may and should be construed in a manner likely to promote such utilitarian social goods as wealth or a vibrant domain of common knowledge.

The eminent domain and police power principles recounted in Part IV describe the public good differently. Under those principles, society's "utility" (rightly understood) consists in a state of affairs in which all citizens are allowed freely to exercise their rights. Thus, government may commandeer private property to enlarge its power

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177. Another justification besides those considered in the text is that the Google Books project is an assembly. As Doug Lichtman has explained, however, the "individual permissions" of different copyright holders "do not substantially interact" in such a manner that all the permissions stand or fall together. Doug Lichtman, *Google Book Search in the Gridlock Economy*, 53 ARIZ. L. REV. 131, 143 (2011). The digital repository may be more valuable the more books are stored in it, but it still has substantial value even if it has turns out to store only 5 or even 1 million of the books originally slated for digitization.

178. Lessig, *supra* note 7.

179. *Id.*

to provide public services, but it must hold the owners harmless by paying just compensation in eminent domain. Government may also reorder existing legal rights when doing so secures the interests of affected owners along with everyone else, but that showing must be proven. Either way, no one is “permitted to simply decree that something is now a commons, without regard to the impact on existing rights.”<sup>180</sup>

Under that understanding of the common good, a lot more needs to be shown before it can be said that the cultural commons or wealth creation should justify the Google Books project. In some respects, reciprocity-of-advantage principles help justify the digitization project, especially for old and/or orphaned works. In other respects, the Google Books project seems more problematic. If Google Books is justified in terms of wealth creation, it is troubling that Google seeks to create wealth in a manner that circumvents the ordinary mechanism for wealth creation (i.e., commercialization respecting the rights of IP holders). Indeed, as the district court noted in rejecting the 2011 proposed class settlement, at least some of Google’s competitors are trying to compile their own digital databases while respecting copyrights more than Google has to date.<sup>181</sup> Google is presuming that copyright holders will find inclusion in Google Books so advantageous that they will waive their rights to bargain over the terms on which they would otherwise have licensed Google to digitize their works. Even though Google gives these holders a right to opt out, it is still unusual for one party to presume that a stranger will waive its right to direct the use and terms of commercial distribution of a work under IP.

Similar problems apply to the creative-culture justification. That argument begs the question. In the short term, if Google may digitize works without infringement liability, it will make a wider range of works accessible. Yet if Google’s conduct is retroactively approved, it may deter other future publishers or library-builders<sup>182</sup> from negotiating individually and advantageously with copyright holders as

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180. DeLong, *supra* note 119.

181. See *Authors Guild v. Google, Inc.*, 770 F. Supp.2d 666, 679 (S.D.N.Y. 2011) (noting that Google’s “competitors [have been] scanning copyrighted books,” and quoting the counsel of a Google competitor as describing “Google [as taking] a shortcut by copying anything and everything regardless of copyright status”).

182. See Randal C. Picker, *Private Digital Libraries and Orphan Works*, 27 BERKELEY TECH. L.J. 1259 (2012).

at least some of Google's competitors are now. That deterrence effect might discourage more authors from creating new works in the long term than Google Books would make available in the short term.

#### CONCLUSION

In many contemporary retellings, pre-1920 property law had little or no internal policy content, the *ad coelum* maxim applied far more broadly than it needed, and the common law was thus lacking in resources to adjust for air travel when the airplane was invented. In reality, pre-1920 common law was justified on rights-based foundations that gave property law adequate normative content. Under those rights-based norms, it was quite sensible to construe the *ad coelum* maxim broadly before the advent of air travel and more narrowly afterward.

I think the legal system's adjustment of the *ad coelum* maxim's scope teaches a useful lesson about the focus and flexibility of natural rights-based theories of property. Yet this case study remains relevant to contemporary policy debates about property and IP. When told simplistically, as the *ad coelum* fable, the overflight case study suggests that property regimes often need to be revised significantly to keep up with technological progress. When their reasoning is understood in proper context, however, the best-reasoned cases laid down strict adequacy criteria for laws transforming private property rights. By those adequacy criteria, liability rule and commons-based property regimes are problematic more often than one would learn from authorities that like to retell the *ad coelum* fable.

I do not mean to suggest that liability rule or commons-based regimes are fundamentally misguided. My point is simpler: Every time the *ad coelum* fable is used to legitimate a new property regime, there is a strong likelihood that the fable is being used to overstate the advantages of liability rule or commons-based solutions, and to obscure or downplay the trade-offs those solutions entail. I hope that my retelling of the fable puts the advantages of each approach in proper perspective, and I hope I have highlighted the trade-offs.