INTRODUCTION

# PROPERTY LONGA, VITA BREVIS

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## I. FROM DEAD HAND CONTROL TO ORPHAN WORKS

It is my pleasure to begin this Symposium on intellectual property and intergenerational justice with my congratulations to the organizers and to the *Wisconsin Law Review* for choosing such an important, timely, and fascinating topic. I take my assignment here to be to introduce the kinds of difficulties posed by our prevalent ways of looking at justice when we attempt to apply these theories intergenerationally to intellectual property regimes.

My title alludes to the saying, *Ars longa*, *Vita brevis* ("Art is long, Life is short"). Property too can be long in relation to human lifetimes. Humans perish, property rights live on. The fee simple absolute theoretically continues forever. It is not surprising that property rights have always given rise to issues of intergenerational justice. In the past such issues have often been dubbed "dead hand control." Estates that allowed for continuing control over the future of resources by those belonging to past generations—such as the fee tail and the fee simple

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defeasible[1]—caused problems for future generations of people who were not free to use those resources for the needs of their present time.[2] These forms of estates caused problems even in determining who held rights in the resources when the reversionary interests became splintered over time.[3] The legal system eventually either abolished such forms of property holding and control, as with the fee tail, or took steps to minimize the difficulties with them, as with defeasible fees.[4]

If we fast forward to the current problems with control over intellectual property by owners of the past, we can see that the same kind of problems have arisen anew, this time in intellectual property systems rather than real property systems. Intergenerational difficulties with intellectual property recapitulate intergenerational difficulties with property of the past—and also add some new difficulties.

Not all intellectual property rights go on (theoretically) forever, but some do, and others go on for a long time. The legal system has developed certain ways of dealing with how long these property rights last because of their restraints on later access to the propertized resource (information, knowledge, creative work). Debates are ongoing about whether these limitations need rethinking.

Trademark and trade secret, at least theoretically, are not time limited. They can go on forever. (Perhaps the formula for Coca-Cola is a case in point.) The legal system limits trademark and trade secret in

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1. An estate in fee tail could descend only to the descendants of the original grantee. As a result, the estate would terminate if the line of descendants ever died out. JESSE DUKEMINIER ET AL., PROPERTY 198–99 (7th ed. 2010). The traditional words of conveyance were "to *A* and the heirs of his body." *Id.* at 198. Defeasible fees simple, on the other hand, expire upon the triggering of a specified limitation or condition. *Id.* at 222–25. Example words of conveyance might be "to *A* and his heirs, so long as the property is used primarily for farming." Those who will take the estate if the condition is ever fulfilled hold a possibility of reverter. By the time a possibility of reverter becomes possessory, it may be held by a great many heirs and transferees.

2. *See* Margaret Jane Radin, *Time, Possession, and Alienation*, 64 WASH. U. L.Q. 739, 750-51 (1986), *reprinted in* MARGARET JANE RADIN, REINTERPRETING PROPERTY 105, 113 (1993).

3. *See, e.g.*, *Proprietors of the Church in Brattle Square v. Grant*, 69 Mass. (3 Gray) 142, 145–46 (1855) (addressing the question of who owned the possibility of reverter of an estate in fee simple determinable after the defeasible fee terminated because the land was no longer used for church purposes).

4. All states in the United States have more or less abolished the fee tail. Only four states—Delaware, Maine, Massachusetts, and Rhode Island—continue to recognize it as it existed at common law. But, even there, the fee tail can be converted into a fee simple by deed. DUKEMINIER ET AL., *supra* note 1, at 200. England went further and abolished almost all of the traditional estates with the Law of Property Act, 1925, 15 & 16 Geo. 5, c. 20, § 1(1) (U.K.). In the United States, defeasible fees have been retained, but most states enacted Marketable Title Acts, which cause these future interests to expire unless holders of these interests re-register them at specified intervals. DUKEMINIER ET AL., *supra* note 1, at 702.

other ways. A trademark can become too popular, too much a household word. When a mark becomes generic it is no longer owned. For example, both the verb "to google" and the verb "to xerox" put their owners' trademarks in jeopardy. Trade secrets tend to leak out, and once they are disclosed they are no longer owned.[5] Copyright, with a term (for human creators) of seventy years after the end of the author's life, expires long after the author is dead, and perhaps long after the author's children are dead too. Patents do not seem prima facie intergenerational because patents expire twenty years after the filing of the patent application with the Patent and Trademark Office. There are, however, various ways patent holders, especially in the biotech and pharma industries, can tweak the system and get more time out of it.[6] And when we consider generations of innovation rather than generations of lives—which I will mention shortly—computer-implemented patents can be troublesome because the period of twenty years is usually much longer than the period of usefulness of any given technological paradigm.

Intergenerational issues arise with copyright as they did with estates in land in the past. Just one of the difficulties is the problem of "orphan works"—works that are still covered by copyright but whose owners (heirs or transferees of the author) cannot be found, making it impossible for follow-on creators to obtain permission to use the works in creating new works. A work-around for this problem, analogous to the Marketable Title Acts[7] that helped free land titles from "dead hand control," would be to require a periodic maintenance or renewal fee or some other kind of re-registration which identifies the copyright holder and affirms her desire to keep the copyright valid.[8] That proposal meets obstacles, both legal and political.[9]

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5. *E.g.*, *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470 (1974) (using this leakiness tendency as a reason why state trade secret law should not be preempted by federal patent law).

6. The holder of a drug patent, for example, could get another patent on a time-release version, or on a combination with another drug, or on a method of administering the drug. These strategies are known as "evergreening."

7. See the discussion of Marketable Title Acts, *supra* note 4.

8. Lawrence Lessig, *Protecting Mickey Mouse at Art's Expense*, N.Y. TIMES, Jan. 18, 2003, at A17.

9. These include the Berne Convention for the Protection of Literary and Artistic Works, Sept. 9, 1886, 1161 U.N.T.S. 3 (prohibiting registration hurdles) and also allegations of "taking." Similar "taking" allegations were overcome in the case of Marketable Title Acts.

## II. GENERATIONS IN INNOVATION

Intellectual property (IP) rights—most of them—are related to creation and innovation.[10] When considering intergenerational justice in the context of IP rights, therefore, we should consider two meanings of generations: generations relating to innovation, and generations relating to lives. The idea of generations in the sense of innovation refers to levels of technological improvement or creative additions to knowledge, and in particular to changes that we might call growth spurts or even paradigm shifts. The digital revolution can represent a new generation in this sense, even though it took place during our lifetimes. The same is true for the revolutionary breakthroughs in bioinformatics. Intergenerational justice is relevant to this sense of generations, because of the problems posed by how to treat follow-on innovation in an IP system. A recurrent question is: to what extent must the scope of IP rights granted now leave room for follow-on innovators later? A narrower scope of rights now might incentivize greater follow-on innovation later; and a narrower scope of rights now might leave room for the serendipity of discoveries by future users. But the narrower scope of rights might fail to provide sufficient incentives for innovation either for innovators of today or for those who will come later.[11] Innovation is an ongoing process, a system of flow, and at any given point we might characterize innovation as both original and follow-on. This makes it difficult even to draw any distinctions between incentivizing effects of propertization now versus propertization later.

## III. GENERATIONS IN LIVES

At the most abstract level, the conventional sense of intergenerational justice—relating to the lives of humans—has two aspects, forward-looking and backward-looking. The backward-looking aspect considers relations with, and perhaps obligations toward, humans of the past. Should IP rights take into account any obligations that are owed to people of the past (those who are now no longer alive)? The issue of what we might owe to traditional cultures and indigenous people and their heritage is at least in part an issue of intergenerational justice in this backward-looking aspect.

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10. Perhaps this is not always true of trade secret, and maybe only in an attenuated sense for trademark.

11. There are strong proponents on both sides of such issues, using empirical reasoning to come to opposite conclusions. *Compare* ERIC VON HIPPEL, THE SOURCES OF INNOVATION 43–56 (1988), *and* Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839 (1990), *with* Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265 (1977).

The forward-looking aspect of intergenerational justice as it relates to IP asks how IP regimes should take into account obligations owed to people of the future. In a broader sense, we could consider obligations owed to all living beings or to entities that are not people: the environment generally, preservation of species, etc. Here we would place the issue of what kind of cultural and physical world we are leaving to future people, and what kinds of well-being will be either fostered or foreclosed for the world of the future by our actions (and inactions) of today. Global public health and climate change, as they are intertwined with information propertization, loom large from this perspective.

## IV. INTERGENERATIONAL ISSUES FOR THEORIES OF JUSTICE

### *A. Three Clusters of Theories About Justice*

As can be seen from the fine bibliography prepared for this symposium, by now there is a substantial literature on intergenerational justice identifying and discussing serious philosophical hurdles or conundrums in trying to apply our prevalent theories about justice to issues of intergenerational rights and obligations.[12] In what follows, I have not taken it upon myself to try to lay out a comprehensive overview of the philosophical issues we face in trying to conceptualize and implement intergenerational justice—because of lack of learning as well as lack of time. Nevertheless, I hope to fulfill my assignment here by introducing the general range of issues posed by our prevalent ways of theorizing about justice when we attempt to apply these theories to intergenerational issues.

We have inherited two traditional clusters of theorizing about justice. Rights theories belong to one dominant conventional paradigm for how we think about justice, and welfare theories belong to the other. Rights theories are most often related to the core value of freedom (autonomy) of individuals.[13] Welfare theories are related to the aggregate welfare or well-being of a group of beings, obtained by summing up the welfare of the individuals in the group; such theories

12. *See, e.g.*, INTERGENERATIONAL JUSTICE 1-2 (Axel Gosseries & Lukas H. Meyer eds., 2009). Unfortunately, this volume does not include a treatment of utilitarianism, which in the U.S. is the primary philosophical basis of analysis and justification of IP rights. *Id.* at 6.

13. The main source of autonomy theory is Immanuel Kant, writing in the latter part of the eighteenth century. The unit of individual autonomy is the person; Kant made a sharp distinction between persons, to whom autonomy is ascribed, and other beings and objects.

are related to philosophical utilitarianism.[14] (Welfare theories are what most of us in the law world describe as "law-and-economics" theories.)

In addition to the two dominant clusters—rights theories and welfare theories—communitarian theories do exist. It is easier under communitarian theory than it is under either a rights or a welfare theory to consider a community as having a past and a future and to consider people of the present to have obligations in both directions—to the members of the community who are now dead (or to the community as a whole as it existed in the past) and to the members of the community who will come to be in the future (or to the community as a whole as it will exist in the future.)[15] Communitarian theory, however, is not the underlying theory applied to IP rights as we know them and is not likely to be any time soon. Visionary intellectuals can certainly reason about the superiority of considering some questions (such as, perhaps, obligations to traditional cultures and indigenous peoples) in light of communitarian theory, but the positive law of intellectual property is deeply anchored in the individualistic modes of reasoning that are characteristic of rights-based theories and aggregation-based theories.

### *B. Problems for Rights Theories*

The rights theories and welfare theories that are familiar to us are formulated to focus on individuals rather than on a community. Moreover, they are formulated to focus on individuals who are alive today. They are the rights holders in a rights theory or the individuals who have preferences to be satisfied in a welfare theory. It is this focus on individuals who are alive today that poses the overarching general problem for theorizing intergenerational justice in IP rights. (Or, for that matter, in any kind of rights that we are interested in, such as rights to a livable environment or to a minimal standard of living.)

One philosophical problem that stems from the focus of traditional rights-based theories of justice on individuals alive today has already been given a name: the non-identity problem. Since we do not know which persons will exist in the future, the coming into existence of any future person is contingent. But according to some of our prevalent theories of rights, such a contingent, non-existent person cannot be considered a person in the sense of being a rights-bearing entity.

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14. The main source of welfare theory is the utilitarianism of Jeremy Bentham, writing in the first part of the nineteenth century. Bentham advocated the greatest happiness of the greatest number. Bentham included all sentient beings and not just humans in his calculus.

15. *See, e.g.*, Janna Thompson, *Identity and Obligation in a Transgenerational Polity*, *in* INTERGENERATIONAL JUSTICE, *supra* note 12, at 25–26.

Nevertheless, at the opposite end of the spectrum of points of view among rights theorists about contingent future people, there are some Kantians who would hold that the obligations to others generated by Kantian ethics do apply to all future people and not just to the people alive today.[16]

Many rights theories are contractarian; that is to say, they are based on a hypothetical contract among people who are imagined to be setting up standards of justice.[17] When the image of people entering into a contract is at the root of a theory of justice, it is very awkward to deal with the nonexistence of dead people or future people, owing to their inability to engage in contractual quid pro quos. So, although contractarian theories are widely espoused, it is difficult to get such a theory off the ground when it comes to the question of intergenerational justice.

### *C. Problems for Aggregative (Welfare) Theories*

The other prevalent cluster of theories of justice, the cluster of maximizing and aggregative theories—which I am gathering together under the rubric of welfare theories, and which in our neck of the woods is known as "law-and-economics"—has serious problems of its own, also stemming primarily from its individualist focus. It is difficult to imagine how to deal with trying to maximize welfare for someone who is already dead or someone who is not yet (and may never be) born, much less trying to sum the welfare of people who are already dead or people who are not yet (and may never be) born. We know that some people will be born, but we do not know which ones and what preferences they might have if born. So, as long as we are focused on the welfare of individuals, how could we even begin the task of summing the welfare of future people? Much less trade it off against the aggregate welfare of those alive today?

In the United States, as I mentioned, theories justifying propertization of information and knowledge rely heavily on law-and-

16. Kantian ethics takes as a point of departure for analysis how a person should act. The categorical imperative (what philosophers call the "CI procedure") says that in order to act on some maxim of my own, it must be acceptable for that maxim to be a moral law for all. *See, e.g.*, BARBARA HERMAN, THE PRACTICE OF MORAL JUDGMENT 74–78 (1993). Some Kantians would include in this calculation moral obligations toward and owed by everyone in the future.

17. John Rawls's *A Theory of Justice* is the most famous example. JOHN RAWLS, A THEORY OF JUSTICE (rev. ed. 1991); *see also Contractarianism*, STANFORD ENCYCLOPEDIA OF PHILOSOPHY, http://plato.stanford.edu/entries/contractarianism (last updated Apr. 4, 2007).

economics reasoning.[18] U.S. theorizing about IP rights tends to consider what regimes would be welfare maximizing to enact, and whether any given regime of IP rights is (or is likely to be) welfare maximizing. The U.S. focus on welfare-based analysis and justification is unfortunate for us, because theories of justice that depend upon maximizing aggregate welfare (or preference satisfaction, or whatever the maximand is) are especially difficult to apply intergenerationally.

### 1. CONSEQUENTIALISM AND INCENTIVES

In practice, at least in designing or justifying legal systems such as IP, we normally use a species of rule-utilitarianism. That means we ask decision-makers to make rules to govern how we treat all actions by predicting what will turn out best (in the sense of aggregating the largest sum of social welfare). This is turn results in the characteristic focus of rule-utilitarian welfare reasoning on incentive structures. As in the arguments of which kinds of IP rights will best incentivize innovation, the idea is to make and enforce rules that will create and maintain incentives on actors to behave in such a way that aggregate social welfare will be maximized.

This procedure is called consequentialist—and I often call it "resting justification on prediction"—because it makes us predict how things are going to turn out for individuals (what will their welfare states be?) and what their aggregated sum of welfare is going to be (what will the total welfare summed over the group be?). This procedure by its nature involves us not only in predictions, but in predictive comparisons. Not only must we try to predict a certain social state of affairs that will obtain in the future if we implement a certain rule system, but we must also predict alternative social states of affairs that would obtain in the future if we were to implement other rule systems, and then we must theoretically compare all of these future states so as to pick the one in which social welfare is maximized. That

18. In Europe, by contrast, IP theories rely primarily on rights-based theory, the rights of the author or creator. In light of the Copyright Clause of the U.S. Constitution which enables enactment of IP rights for authors and inventors based on "Progress of Science and useful Arts," U.S. CONST. art. I, § 8, cl. 8, U.S. intellectual property theory tends to treat the idea of "Progress" as based on maximization of social welfare. This is mysterious to those in the European tradition who base analysis on author's rights. *See, e.g.*, Abraham Drassinower, *A Rights-Based View of the Idea/Expression Dichotomy in Copyright Law*, 16 CAN. J.L. & JURISPRUDENCE 3 (2003).

is how, in theory, we are to select which system of rules to implement today.[19]

### 2. COST-BENEFIT ANALYSIS

Cost-benefit analysis is the procedure used in welfare-maximization theories. In order to arrive at the sum total of welfare accruing to society from implementation of any particular rule system, its costs must be subtracted from its benefits.[20] When we interpret IP rules as being aimed at maximizing creation, innovation, and knowledge production, we assume that human welfare and innovation are positively related. Merely to develop and implement a rule system that incentivizes the most innovation, however, would not necessarily by itself maximize social welfare, because in order to arrive at the most social welfare, comparatively speaking, we must subtract from the aggregate benefits of each possible system the aggregate costs of getting there—that is, the costs of implementing and maintaining the chosen rule system.

How would we count the cost of an IP rule system? Theoretically the costs would include: (1) high prices and distribution restriction due to the cost of the monopoly granted to the IP owner;[21] (2) the costs of enforcement and policing the system by means of agencies such as the PTO, the activities of courts, and the precautions taken by private actors; and (3) the costs of future innovation because of current rights that operate as a drag on follow-on innovation. The more property rights we grant to information owners (ex ante) in the expectation of incentivizing them to create, the higher the costs of monopoly, the costs of enforcement, and the costs of future innovation (ex post). These cost factors should be considered not only in evaluating possible rule systems in order to compare them, but in evaluating the efficiency of the system we have in place. At some point it is likely that these costs will outweigh whatever innovation could be incentivized by granting

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19. For scholarship that is thoughtful in trying to proceed in this way, see SUZANNE SCOTCHMER, INNOVATION AND INCENTIVES (2004). Often, unfortunately, scholars may try to predict welfare results of a particular system (such as our current system) without trying to see how it would compare with alternative systems. *See* NEIL K. KOMESAR, IMPERFECT ALTERNATIVES: CHOOSING INSTITUTIONS IN LAW, ECONOMICS, AND PUBLIC POLICY (1994) (drawing attention to this problem).

20. This calculus is rendered questionable if things that are valued cannot be rendered "commensurable" in such a way that welfare can be summed. *See, e.g.*, INCOMMENSURABILITY, INCOMPARABILITY, AND PRACTICAL REASON (Ruth Chang ed., 1997); *see also* MARGARET JANE RADIN, CONTESTED COMMODITIES (1996).

21. This includes, for example, unavailability of medical treatments to those who need them in developing countries.

more or stronger rights, and that is the point at which further increases in IP protection become unjustified under a welfare theory.

### 3. FOLLOW-ON INNOVATION

As I mentioned earlier, the question of follow-on innovation is very important in considering the justification (*vel non*) of IP rule systems, whether we are considering generations of technological development or actual generations of human lives. Follow-on innovators reuse and re-purpose knowledge, works, objects and processes that are already known, and thereby create something new. Almost everything that is written has to use old things in some way, and almost everything that is invented has to use old things in some way. Copyright and patent have ways of trying to distinguish between things that anyone can use from the past and things that are foreclosed. When copyright or any IP system forecloses any avenues of creation for future creators, it is a cost to the system that must be subtracted from its benefits (though the calculus is complex because IP rights of today might both incentivize and also deter innovators of the future). In this sense, a form of intergenerational justice issue is already contained within the economic justification of IP rights, because of the consequentialist procedure which leads to the goal of structuring incentives to produce, and also because of the aggregative procedure in particular, which means that follow-on innovation cannot be omitted from the equation given the constant flow of information development and use.

## V. THE MISSING GENERAL EQUATION

I have been talking in the abstract about a general equation for producing optimal IP rights under a welfare theory. The general equation would ask us to keep increasing propertization until the point where its benefits in incentivization would be outweighed by its costs in losses due to monopolization, policing the system, and deterrence of follow-on production.

The general equation for optimal IP rights is not one economists feel capable of producing at any level other than useless abstraction. Such an equation seems to demand something approaching a general equilibrium analysis: taking into account all the costs and benefits of the entire range of knowledge production, creation and innovation, and the entire group of people who might be innovators now and in the future as the world flows on. This hypothetical, broad analysis means that the level of IP rights would have to be traded off, ultimately, against innovation in everything else people care about and want to achieve,

such as elimination of infectious diseases or preservation of our planet from destruction.

Economists do try to come up with theories about how to structure innovation for follow-on innovation in particular. But these theories do not come to consensus.[22] The economics of IP, at a high level of generality, is too hard to figure out. It is worse if we consider consequences such as the effect patent law has on public health or on deforestation. If we were to try explicitly to include in such an analysis unknown future people of unknown numbers and with unknown situations,[23] and if we were to try to include a procedure for trading off the aggregate welfare of those unknown numbers with unknown situations against the aggregate welfare of today, this analysis seems beyond the power of economists (or anyone else). That would be general equilibrium analysis on stilts.

So, what is to be done? We don't know, which means the best place to start is by gathering together a group of people capable of thinking about these issues and see what ensues. This is what Deven Desai and Shubha Ghosh—and the *Wisconsin Law Review*—have done for us. I conclude this introduction with thanks and eager anticipation.

22. *See supra* note 11.

23. Those who argue that IP systems should be structured so as to leave room for the serendipity of user-innovation in the future are in effect arguing that unknown situations of the future should have the result that more minimalist rights should accrue to the inventors of the present. VON HIPPEL, *supra* note 11.