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See Also

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Response

Systems of Human and Intellectual Capital

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I. Introduction

Only Orly Lobel's *The New Cognitive Property: Human Capital Law and the Reach of Intellectual Property* makes two significant contributions, each of which individually would have made her project important. First, Lobel outlines the contours of the “new” field of human capital law, a field that cuts across a wide array of different bodies of law: employment law, contract law, corporate law and related areas of business, entertainment, sports, and high technology law; copyright, patent, trade secrecy, trademark, and related areas of intellectual property law; antitrust and potentially other forms of regulation.¹ Human capital law is not defined by the apparent intersections among legal doctrines or by its potential for fruitful interdisciplinary explorations, but instead by its *subject matter*. It is, one might say, a horizontal layer that cuts across a number of the different vertical silos, important not only in its own right because of the content of that layer (human capital) but also for the influence it has on the various vertical silos. As Lobel ably demonstrates, it is important to see human capital law as a coherent category because the collective effects across the various legal regimes cannot be appreciated within any particular legal category.

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1. See Orly Lobel, *The New Cognitive Property: Human Capital Law and the Reach of Intellectual Property*, 93 TEXAS L. REV. 789, 790 (2015).

Professor Lobel's second contribution relates to her warning "against the devastating effects of the growing enclosure of cognitive capacities in contemporary markets."² Given the predilections of legal scholarship, we suspect that most would view this as the more important of the two contributions. We share that sentiment, but probably for different reasons. While we appreciate the warning and are largely persuaded by Professor Lobel's characterization of both the growing enclosure and its potential consequences, we think her criticism remains tentative and rests on an uncertain normative foundation. Professor Lobel appears to ground her analysis in conventional law and economics, given her references to efficiency and welfare.³ But there are undercurrents of alternatives, such as Amartya Sen's capabilities approach, in both the article and Lobel's recent book.⁴ We think these different normative frameworks might matter significantly, in evaluating whether the developments she describes should be of concern and also in terms of how we might design institutional responses. That is to say that, for us, Lobel's project is most interesting because of its capacity to frame a comparative institutional analysis.

From this starting point we make two modest suggestions for researchers. First, we suggest that those building on Lobel's work consider more contextual description and evaluation of human and intellectual capital production systems. Doing so would avoid overly abstract, macro-level analysis that is often divorced from reality and from the critical nuances that shape actors' individual and collective motivations and behavior. It would also avoid excessive reliance on overly specific, micro-level analysis, which can be anecdotal. Second, we emphasize the importance of establishing normative baselines prior to evaluating or prescribing reform.

In Part II of this reply essay, we highlight why the sort of cross-cutting yet resource-specific approach Lobel uses matters. Human capital is different from intellectual capital in a number of important ways that shape legal and other governance institutions and our evaluations of such institutions. By identifying the existing, blurred boundaries and defining the contours of the field, Professor Lobel has revealed new terrain to be explored,⁵ again both for its own sake (that is, because of the importance of better understanding how we govern human capital) and for what it tells us about the various areas of law influenced directly or indirectly by governance of human capital (for example, the continued expansion of intellectual property law).

2. *Id.* at 790.

3. *See id.* at 859 (identifying the constitutional beneficiaries of intellectual property rights and discussing the public welfare implications); *id.* at 849 (describing the inefficiencies created by the new cognitive property in the context of Silicon Valley "job hopping").

4. *See, e.g.,* Lobel, *supra* note 1, at 846; ORLY LOBEL, TALENT WANTS TO BE FREE: WHY WE SHOULD LEARN TO LOVE LEAKS, RAIDS, AND FREE RIDING 235 (2013) (discussing the limits on one's capability to create ideas when there is increased control over human capital).

5. This is, of course, quite rare for legal scholarship and is thus exciting.

We then complicate the descriptive picture Professor Lobel paints by suggesting that a more contextual depiction of systems of intellectual and human capital production may be necessary in order to fully appreciate the relationships between human and intellectual capital and associated governance institutions. We use the university science and technology system as an illustrative example. We do so because it is a system one of us has previously explored in a way that relates quite well to Professor Lobel's project. But we emphasize that university science is just an example—one could focus on any number of other examples in the industrial, government, and nonprofit sectors, where the normative objectives of production systems, and the corresponding governance institutions, vary considerably.⁶

We discuss the normative baseline issue in Part III, and we briefly explore some ideas for establishing a normative baseline from which to evaluate and consider reforming human capital law. This is a tentative suggestion, meant to support and even provoke continued exploration in future work. Specifically, we suggest that Professor Lobel's normative ambiguity is no different than the normative ambiguity endemic to the field of intellectual capital law (or intellectual property law, if you prefer). To make progress in either field, we need to figure out what we are aiming for—to establish with much greater specificity the *ends* we seek to achieve through intellectual and human capital laws. Rehearsing buzzwords like “innovation” or mantras like “Progress in Science and the Useful Arts” is neither meaningful nor helpful.⁷ The same can be said for simply deferring to “markets” (e.g., letting willingness to pay be determinative) or “politics” (e.g., letting Congress decide). For both human and intellectual capital, we need a more systematic approach to the normative analysis. We briefly argue in favor of using the capabilities approach but leave a complete analysis for future work.

II. Describing and Evaluating Human and Intellectual Capital Systems

Professor Lobel has made a strong case that human capital law is a cognizable field of law that deserves more rigorous study. It is too easily

6. In the terms we have previously used, university science is probably a “meso, sector-specific context,” within which to study the effect of various institutional designs. See Brett M. Frischmann & Mark P. McKenna, *Comparative Analysis of (Innovation) Failures and Institutions in Context* 9–13 (Sept. 1, 2014) (unpublished manuscript) (on file with authors) (distinguishing between “micro, small-scale” contexts; “meso, sector-specific” contexts; and “macro” contexts for comparative institutional analysis).

7. *Id.* at 6.

It is tempting to ignore these potential differences and simply assume that the Progress clause refers to one or another of these objectives, or simply to brush the issue under the rug by hiding the ambiguity in a general claim that IP should promote ‘innovation,’ as if ‘innovation’ were one thing, and in fact claims that certain legal systems better ‘promote innovation’ are quite common despite all the evidence that has accumulated about the differential effects of various policies across industries.

Id.

ignored or regarded as a mere adjunct to, or subset of, other “host” fields, particularly intellectual property or employment law.⁸ Yet the consequences of such inattention can be devastating. First, human capital law itself may be ill-formed and not well-tailored to the development and deployment of human capital in society. This alone can have significant consequences for the economy and social welfare. Professor Lobel begins to explore these consequences in sections II and III of her article, and she usefully opens the field for much more research in this area.

That additional research needs to be done. For while there is a significant body of research on the economic and social value of human capital and development,⁹ the lurking normative, empirical, and institutional design questions remain un(der)-examined. And the time is ripe. The past decade of economic turmoil, coupled with rapid technological development in various fields (from automation to information and communications technologies), has brought human capital development and deployment to the forefront of economic policy around the world.

Second, failing to appreciate human capital law as its own field with its own nuances (in terms of demands, politics, institutional design, technicalities, and so on) may lead to distortions in the “host” fields. Professor Lobel documents this phenomenon at length with respect to intellectual property in Part I of her article. Specifically, she describes how human capital controls distort intellectual property law in three interrelated dimensions: subject-matter, duration, and the scope of exclusive rights.¹⁰ Not coincidentally, the distortions are all expansionary.

Given the recognized importance of human capital, why would human capital law be ignored or conflated with other related fields? This is a question with which Professor Lobel does not fully engage, but it is worth asking. It is possible that the failure to recognize human capital law as a cognate field is strategic, in the sense that political and economic actors take advantage of the current situation.¹¹ It may be due to a lag between legal and economic research—it may take years (even decades) to translate or incorporate theoretical and empirical research in economics on human capital. Failure to

8. Though tempting, we do not frame the question of whether human capital law ought to be recognized as a distinct field in terms of the “law of the horse” debate that has long vexed internet law. See Frank H. Easterbrook, *Cyberspace and the Law of the Horse*, U. CHI. LEGAL F. 207, 207–08 (1996); Lawrence Lessig, *The Law of the Horse: What Cyberlaw Might Teach*, 113 HARV. L. REV. 501, 501 n.1 (1999).

9. See, e.g., WORLD ECON. FORUM, THE HUMAN CAPITAL REPORT (2013) [hereinafter WORLD ECON. FORUM], available at http://www3.weforum.org/docs/WEF_HumanCapitalReport_2013.pdf, archived at <http://perma.cc/B3JN-G5QE>; UNITED NATIONS DEV. PROGRAMME, HUMAN DEVELOPMENT REPORT 2014 SUSTAINING HUMAN PROGRESS: REDUCING VULNERABILITIES AND BUILDING RESILIENCE (2014), available at <http://hdr.undp.org/sites/default/files/hdr14-report-en-1.pdf>, archived at <http://perma.cc/BYA4-6BM4>.

10. Lobel, *supra* note 1, at 792–93.

11. This is seen in Lobel’s description of human capital controls being used to expand intellectual property controls. See Lobel, *supra* note 1, at 791–92.

regard human capital law as its own field may be a result of reductionism in the face of the complexity of human capital as a resource or resource system. And it may simply be an artifact of legal formalism. We think it's likely some combination of these and other reasons.

Professor Lobel highlights how the state of affairs for human capital law is not so different, or far behind, the state of affairs for intellectual capital law. As she notes:

[L]egal scholarship on human capital remains surprisingly thin. The traditional and underdeveloped analysis of human capital law views controls over human capital as necessary to generate investment and growth. At the same time, a growing body of empirical evidence indicates that excessive human capital controls have detrimental effects. Law's role in safeguarding and promoting human capital as a shared resource is little understood. A closer study of human capital law regimes suggests that the most successful regional economies have relied on legal regimes that nurture a cognitive commons, protect mobility, and encourage the densification of knowledge networks.¹²

Something very similar could be said for intellectual capital, the detrimental effects of excessive intellectual capital controls, and the barely understood role of law in safeguarding and promoting intellectual capital as a shared resource.¹³ Yet while the fields of human and intellectual capital are undoubtedly interdependent in practice and in Professor Lobel's article, there are important differences between the underlying *resources* governed by human capital law and intellectual capital law.

Let us begin with what these resources have in common—*capital*.¹⁴ Both human and intellectual capital resources are durable inputs that generate value when used productively.¹⁵ These resources satisfy demand derived from the goods produced, and thus we can say the resources are means rather than ends.¹⁶ Economists refer to capital goods as “factors of production” that are not used up, exhausted, or otherwise transformed and incorporated fully into the final output on consumption, unlike raw materials (e.g., coal) or intermediate goods (e.g., a screw).¹⁷ With such durability comes reusability,

12. *Id.* at 792.

13. On how and why intellectual property law is as much about safeguarding and promoting knowledge commons as intellectual property rights, see generally BRETT M. FRISCHMANN, INFRASTRUCTURE: THE SOCIAL VALUE OF SHARED RESOURCES 253–314 (2012) [hereinafter INFRASTRUCTURE]; GOVERNING KNOWLEDGE COMMONS (Frischmann, Madison, & Strandburg eds., 2014); Brett M. Frischmann & Mark A. Lemley, *Spillovers*, 107 COLUM. L. REV. 257 (2007).

14. This paragraph is adapted from INFRASTRUCTURE, *supra* note 13, at 24–57.

15. *Id.* at 33.

16. *Id.* at 33–34.

17. *Id.* at 34.

a virtue that often makes capital investments worthwhile over longer time periods.¹⁸ Think about investment in education, for example.

Intellectual resources are pure public goods (meaning the resources are non-rivalrous in consumption for the entire range of demand), often a form of capital, often the source of various types of externalities, often integral parts of cultural, intellectual, and social progress, and generally constitutive of dynamic and complex resource systems that are not easily reducible to discrete elements or parcels.¹⁹ There is too much in the previous sentence to unpack in this Response. The point is simply to highlight the range of complex characteristics that frustrate simple models and continue to plague descriptive accounts of intellectual capital law.

The point is also that human capital shares most of these characteristics, as the university science and technology system example below illustrates. But human capital is not exactly a pure public good, at least not in the conventional economic sense.

Human capital is rivalrous and excludable: the human capital one has invested in and built up through time, money and effort spent on her education, for example, is possessed by her alone, consumed rivalrously as she chooses to exploit it, and cheaply excluded through her own efforts. One's education affects her behavior in many ways that affect others, which is why human capital is often said to generate (beneficial) externalities. And one's education may provide her with the capability to produce various public and social goods that benefit not only her but others as well. But the skills and knowledge²⁰ one has gained through her education are her own; others may obtain the same skills and knowledge, of course, but only by educating themselves.

The rivalrousness of human capital, however, is limited in certain respects. It is not the skills and knowledge per se that are consumed rivalrously, but rather their inputs—a person's time, effort, and attention. The skills and knowledge can be taught to another person, at a positive cost that may vary considerably based on the skill in question and the person being taught.²¹ No person's use of those skills or knowledge "consumes" them; such use does not deplete or reduce the available skills or knowledge. Moreover, and perhaps more importantly from a human capital perspective, a person possessing a particular skill can reuse the skill because it is not depleted upon

18. See *id.* at 33 n.24 (using a tractor as an example of the durability and renewability of capital goods).

19. *Id.* at 253–314.

20. Referring to Fritz Machlup, Karl Polanyi, and others, Lobel describes skills—the “art of doing”—as a subset of knowledge. Lobel, *supra* note 1, at 835 (citing FRITZ MACHLUP, THE PRODUCTION AND DISTRIBUTION OF KNOWLEDGE IN THE UNITED STATES 379–80 (1962) and MICHAEL POLANYI, PERSONAL KNOWLEDGE: TOWARDS A POST-CRITICAL PHILOSOPHY, 54 (1958)).

21. The capacity to perform the skill, like the capacity to learn, is in itself an important variable to consider. In the context of knowledge or innovation studies, it may be referred to as absorptive capacity. A systems-based approach to investigating, designing, and evaluating human and intellectual capital would need to account for these more basic capabilities.

use; in fact, reuse may improve the durability and quality of the skills—as it is said, “practice makes perfect.” Yet such use and reuse of the skill remains exclusive to the person (or persons) possessing the skill.

It is the durable, nondepletable, and reusable nature of human capital that makes it similar to a public good. A person’s time, effort and attention are rivalrously consumed, but a person’s skills and knowledge are productively used and not consumed.

For most of her article, Professor Lobel talks in terms of inputs and outputs and suggests that demand for control over intellectual capital outputs is what drives human capital law to provide control over the inputs, which can include both human capital and intellectual capital. This is an important source of tension, which Professor Lobel describes well. But while the input/output framing is useful for describing the demand for control,²² it does not completely describe human capital.

Late in her article, Professor Lobel defines human capital as “the stock of knowledge in all its multiple forms that contributes to productive work, including knowledge that is noncodifiable as well as knowledge that expresses itself in skills and know-how, in relationships and networks, in creativity and motivation, and in the ability to disrupt and energize.”²³ This definition reveals how human capital overlaps with intellectual capital and social capital. Yet it is perhaps too focused on knowledge, making human capital appear to be a special subset of intellectual capital.

Another viable definition would connect human capital to labor and a human’s capacity to be meaningfully productive, whether or not such productivity entails the employment of intellectual capital. Thus, a physically strong person, or even just a physically healthy person, might be capable of performing certain tasks as a consequence of her physical capability and some would include that capability as a form of human capital.²⁴ Thus, in addition to education and training, health care is often described as one of the most important investments in human capital.²⁵

A definition of human capital that extends beyond skills and knowledge to include physical capabilities puts some stress on the characterization of

22. We refer to the input-output framing as shorthand to refer to the mechanism by which demand for control over intellectual capital (outputs) leads to demand for controls over human capital (inputs). As the university science and technology system example shows, both types of capital can be both inputs and outputs.

23. Lobel, *supra* note 1, at 834.

24. See, e.g., WORLD ECON. FORUM, *supra* note 9, at 3 (“[I]n recent years, health (including physical capacities, cognitive function and mental health) has come to be seen as a fundamental component of human capital.”).

25. *Id.* (“The Index is thus based on four pillars: three core determinants of human capital (education, health and employment) plus those factors that allow these three core determinants to translate into greater returns.”); GARY S. BECKER, HUMAN CAPITAL: A THEORETICAL AND EMPIRICAL ANALYSIS WITH SPECIAL REFERENCE TO EDUCATION 17 (3d ed. 1994) (“Education and training are the most important investments in human capital.”).

human capital as having public-good features, as the durability of physical capabilities may wax and wane over time. Use and reuse of physical capabilities may improve the durability and quality of the capabilities, or it may cause wear and tear and deterioration over time. We do not take a position on the definitional question, but we raise the issue to highlight how human capital encompasses a broad range of different resources.²⁶

Lobel connects human and intellectual capital through a “novel taxonomy of the multiple facets of knowledge as it inhabits contemporary talent pools.”²⁷ The taxonomy includes five types of knowledge: tacit, relational, networked, motivational, and disruptive knowledge.²⁸ Though these types of knowledge have been discussed extensively elsewhere, Professor Lobel usefully brings them together to highlight their relevance to the emerging field of human capital law and to preface her cautionary message about the Third Enclosure Movement. Though her treatment is brief, it serves her purposes well. Indeed, we were particularly interested in her emphasis on relational knowledge, which includes but does not exist solely within individuals and therefore is not as neatly categorized.

But Lobel’s taxonomy does not describe fully the relationships between human capital and intellectual capital in the complex systems and environments where humans interact with various resources to generate human and intellectual capital, often in recursive, dynamic and highly uncertain processes. We do not mean this as a criticism, as such a description is beyond the scope of her article and would require much more attention to specific systems in context. But we highlight it as a promising direction for future research. One of us previously made a preliminary attempt to explore these relationships in the context of university science and technology systems. Consider a university science and technology system as an example of a complex system with many different capital inputs (human, intellectual, governance, physical, financial) and outputs (intellectual and human capital):

A university science and technology research system is a system of productive resources aggregated within a university setting and used to produce a stream of research-related outputs, as well as other important outputs, e.g., educated citizens. The system is comprised of at least five different sets of related, complementary resources, including

1. *human capital*, including complementary networks of people such as professors, researchers, students, administrators, technicians, and other support staff;

26. For the sake of brevity, we have not discussed social capital, which also was implicated in Professor Lobel’s definition. The relational nature of social capital is, we think, quite important to a broader system-based approach to human capital, as the university science and technology system example suggests.

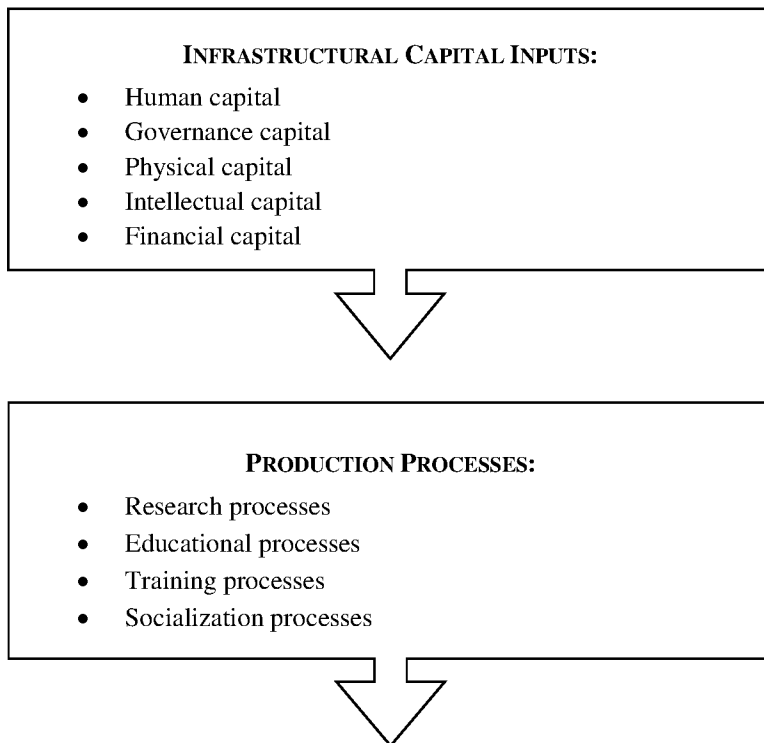
27. Lobel, *supra* note 1, at 834.

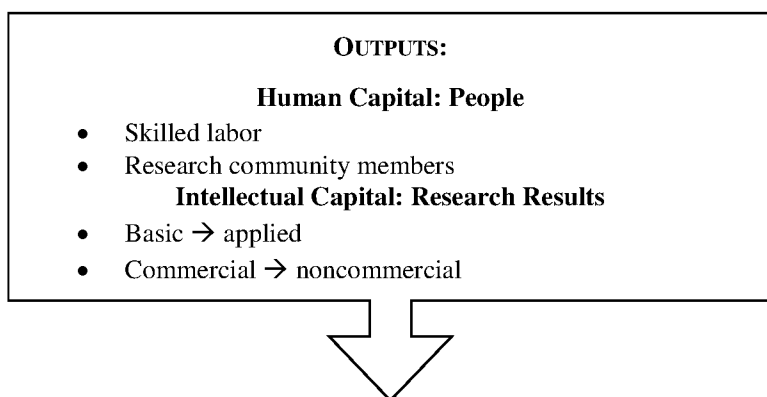
28. *Id.* at 834–38.

2. *governance capital*, such as rules, norms, policies and other collective constraints that guide system participants' behavior;
3. *physical capital*, such as land, facilities, and equipment;
4. intellectual capital, such as knowledge, information, and ideas; and
5. financial capital.

Each of these capital resources is an essential component of the system, although the bundle of such resources and manner in which they are bundled varies considerably across universities. I have referred to the various components of the system as *capital* because, aggregated together within a university, these resources are used (and reused) collectively and continuously as inputs into a variety of production processes, including research, education, training, and socialization, among others.

Figure One: Simple View of University Science and Technology Research System and its Outputs





These production processes yield a wide variety of research-related outputs, which can be grouped into two major categories—intellectual capital and human capital. Intellectual capital outputs are the intangible information goods, essentially the research results, that may or may not be embedded in some artifact (e.g., equipment design), be fixated in some tangible form (e.g., written down), or simply reside in the minds of researchers (e.g., tacit knowledge). Generally, when we refer to “science,” “research,” “invention,” “innovation,” “technology,” and so on, we are talking about various types of intellectual capital that are outputs from some intellectual process. These outputs are public goods with varying potentials to yield positive externalities (or conversely, appropriable benefits) when utilized productively. The types of uses may vary considerably.

Equally if not more important than pure intellectual capital outputs are human capital outputs—people with (1) higher levels of education, knowledge, experience, and research-oriented skills who are (2) prepared for entry into the research community.²⁹ The importance of human capital outputs is well-understood. Many commentators, such as Richard Florida, have emphasized the critical role of U.S. universities in educating and training (graduate) students—in creating “talent” that fuels the knowledge economy. Education, knowledge, experience, and research-oriented skills must be absorbed by students and consequently often are standardized (in contrast with the cutting-

29. It is important to realize that socialization is an important aspect of the university science and technology research system. Students are prepared for entry into the research community, for example, by gaining familiarity with professional norms and ethics and forming relationships with members of the community. Most undergraduate or graduate students have limited real-world experience and very little (if any) experience in dealing with professionals *as a member of the professional community*. In law school, for example, we place a significant emphasis on the fact that students will be entering a profession, that they will be members of the bar, and that a host of ethical and even less formal community norms apply to members. The law school experience, in part, consists of a socialization process that prepares the students for professional membership. A very similar dynamic exists within the university research setting, although it is less explicit and less formal than in the law school setting.

edge nature of the research result outputs). Once absorbed through the processes of research, education, and training, the intellectual capital residing within the university science and technology research system is disseminated and shared. Thus, research-oriented education, knowledge, experience, and skills may be viewed as forms of intellectual capital that are disseminated to students and used productively to augment universities' human capital.

....

Both intellectual and human capital outputs generate value when used productively as inputs. . . . For the most part, then, universities are “vertically integrated” with respect to the production of research systems and research-related outputs; some outputs are consumed internally while others are consumed externally. The manner in which the outputs are used depends, of course, on the nature of the specific outputs.

Viewed as an integrated system of complementary resources that generate value primarily when used to produce various streams of research-related outputs, the university science and technology research system begins to look like other forms of infrastructural capital.

University science and technology research systems are “sharable” in the sense that multiple users may access and use the system resources to engage in productive processes and produce research-related outputs. Some components of the system have infinite capacity (i.e., are purely nonrival in consumption)—such as intellectual and governance capital—while others have finite capacity (i.e., are rival in consumption)—such as physical, financial, and human capital. It is the scarcity of these latter types of capital resources that drives competition for funding, prestige, and resource allocation decisions. . . . [T]o some extent, rivalrousness within the system is what puts pressure on universities to optimize the system for commercial outputs; the appropriable benefits (revenues) generated by such outputs may provide the resources necessary to sustain the system.³⁰

The example illustrates how varied the range of inputs and outputs can be across different contexts. Because different universities have very different objectives (goals, aims, normative values) for their university science and technology systems, their governance regimes also vary considerably. Thus, some universities may seek to specialize and develop institutional governance regimes to encourage the development of certain types of outputs—for example, patentable and commercializable research. Others may take a more general approach and seek to avoid specialization, in which case a different

30. The excerpt is from Brett M. Frischmann, *The Pull of Patents*, 77 *FORDHAM L. REV.* 2143, 2149–54 (2009) (footnotes omitted).

institutional governance regime would be appropriate. Industrial and governmental science and technology systems similarly entail variety in these dimensions and exploring those differences is what we need to do collectively as researchers.

Interestingly, though beyond the scope of this short Response, the role that patents have played in universities provides a case study that fits well with many of Professor Lobel's observations. The introduction of patents within the university science and technology system as a means for controlling intellectual capital outputs (patentable research results) led to some interesting shifts in governance, such as shifts in tenure standards and publication practices. It would be interesting to investigate more systematically university-specific examples of human capital controls, such as publication controls, tenure standards, rules for spin-offs, funding, and restrictive licensing practices, among others.

III. Ambiguity in Professor Lobel's Normative Baseline

As we suggested, for us the most interesting part of Professor Lobel's article is her caution "against the devastating effects of the growing enclosure of cognitive capacities in contemporary markets."³¹

This normative challenge seems to be grounded primarily in conventional law and economics, given her references to efficiency and welfare. But there are also undercurrents of alternatives, such as Amartya Sen's capabilities approach, in Professor Lobel's analysis.³² In the end, we find it difficult to assess in the aggregate the various types of evidence Professor Lobel discusses because the normative objectives against which we might make such an assessment are somewhat ambiguous. To state it simply: *What exactly is she worried about?*

In our view, Professor Lobel's concern can be interpreted in three different, but related, ways. First, her concern might be about human capital law following the path of enclosure that we have witnessed over the last century in the field of intellectual capital law. Professor Lobel implies that the various bodies of law that govern human capital have increasingly aimed to delineate and protect property rights in human capital. Such an enclosure would implicate a host of normative concerns, ranging from an erosion of First Amendment protections for freedom of thought and association to the more conventional economic and distributional concerns.

31. Lobel, *supra* note 1, at 790.

32. Amartya Sen, *Equality of What?*, Lecture Delivered at Stanford University (May 22, 1979), in 1 THE TANNER LECTURES ON HUMAN VALUES 197, 218–19 (Sterling M. McMurrin ed., 1980) (Sen's approach rejects conventional economic measures of wellbeing and instead substitutes "'basic capabilities,'" identifying those as "being able to do certain basic things," and emphasizing that using this approach to assessing wellbeing shifts attention from "goods to what goods do to human beings.").

Second, her concern might be that human capital laws are increasingly being extended to control more than human capital, and specifically to control intellectual capital. That is, human capital laws may be used as tools of intellectual capital enclosure, either as substitutes for or adjuncts to more conventional intellectual property laws. Such developments also would implicate a host of normative concerns, but not necessarily the same ones implicated by enclosure of human capital as such.

Third, and related to the first two interpretations, Professor Lobel's concern might be that human capital laws and intellectual property laws both are being misused, whether intentionally or not, as tools to exercise control over both types of resources with interdependent effects. For example, some firms may intend to use human capital laws to control intellectual capital but end up controlling human capital, and vice versa. Comprehensive use of both human capital and intellectual property laws may have net effects that extend beyond control of the two types of capital resources, for example, where employees themselves appear to be indistinguishable from the owned resources.

These three different interpretations are each valid and important, and indeed Professor Lobel might well have intended to make all three claims. We emphasize the variations in these three different ways of understanding her concern simply to highlight the fact that difficulty in identifying the precise nature of her concern makes it more difficult to design institutional responses. This is perfectly reasonable given the nature of her ambitious article, which not only establishes a new field and calls for its recognition, but also warns of possibly devastating consequences. Nevertheless, the significance of the consequences can only be evaluated within some normative framework, and the normative ambiguity thus weakens her warning.

As we have discussed elsewhere, the failure to establish a normative baseline from which to evaluate the current state of affairs and possible future developments is endemic to intellectual property law scholarship, and dare we say, legal scholarship in general. Scholarship that purports to analyze and evaluate legal decisions, doctrines, institutions or systems requires a normative baseline from which to perform the evaluation. We recognize that many scholars proceed with an implicit normative baseline in mind. We have done so often ourselves. But this engenders ambiguity and weakens analysis and evaluation.

As we have argued elsewhere, appeals to the IP Clause of the U.S. Constitution and the idea that law should promote Progress in Science and the Useful Arts are often unhelpful. Such appeals typically suggest that IP is fundamentally utilitarian and that maximizing social welfare, measured in terms of utility, is the appropriate normative objective. This too is problematic. As we have explained, there is nothing about the text or history

of the IP Clause that requires that IP laws be utilitarian.³³ Perhaps they should be; perhaps that would be a decent normative baseline to use in our evaluation and institutional design. But that baseline is not dictated by the IP Clause.

What ought to be the normative baseline for intellectual or human capital law? We think this is an open question that deserves more attention. Two consequentialist approaches appear to be frontrunners—utilitarianism and human flourishing. A synergy of the two might even be appropriate.³⁴ Both approaches offer reasonable, broad conceptions from which to establish a normative baseline, but each faces considerable challenges. These are challenges that scholars should meet directly rather than assuming them away.³⁵

The Capabilities Approach³⁶ in particular appears to us to be underexplored and underutilized within both the intellectual and human capital fields. This approach rejects conventional economic measures of well-being (utility, happiness, wealth) in favor of an alternative measure (capabilities). Capabilities are opportunities or freedoms to realize actual, “real-life” achievements. Sen and many others employing the Capabilities Approach write about how society is, or would be, better off investing in the capabilities of individuals to be and do what they have reason to value.³⁷ The approach thus seems to resonate quite strongly with human capital and the objective of developing humans’ capacity to be meaningfully productive, a capability that individuals have reason to value. Moreover, the Capabilities Approach already has influenced development economics and human development policy, as reflected in the United Nation’s Human Development Index.³⁸ The HDI provides a useful measurement tool that captures various aspects of human development and capabilities related to education, health, and income.

33. Frischmann & McKenna, *supra* note 6.

34. Cf. Brett M. Frischmann, *Capabilities, Spillovers, and Intellectual Progress: Toward a Human Flourishing Theory for Intellectual Property*, in *VALUE PLURALISM AND IP LAW* (Shyam Balganesch & Haochen Sun eds., forthcoming 2015), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2500196, archived at <http://perma.cc/4RNP-QERW> (considering the possible intersection of utilitarianism and human flourishing theories in IP).

35. Regardless of the normative baseline chosen, however, we suggest that scholars should establish explicit normative baselines prior to evaluation or prescription of reform.

36. See, e.g., AMARTYA SEN, *COMMODITIES AND CAPABILITIES* (1985); AMARTYA SEN, *DEVELOPMENT AS FREEDOM* (1st ed., 1999); SABINA ALKIRE, *VALUING FREEDOMS: SEN’S CAPABILITY APPROACH AND POVERTY REDUCTION* (2002); MARTHA C. NUSSBAUM, *CREATING CAPABILITIES: THE HUMAN DEVELOPMENT APPROACH* (2011); Amartya Sen, *Human Rights and Capabilities*, 6 J. HUM. DEV. 151 (2005).

37. See *supra* note 36.

38. *Human Development Index*, UNITED NATIONS DEV. REP., <http://hdr.undp.org/en/content/human-development-index-hdi>, archived at <http://perma.cc/B5XA-AMJJ> (providing the latest HDI data); *Human Development Report 2014: Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience*, UNITED NATIONS DEV. REP., <http://hdr.undp.org/en/2014-report/download>, archived at <http://perma.cc/A43X-CDNP>. See also NUSSBAUM, *supra* note 36, at 59.

Even short of settling the normative baseline question, we think scholars engaging in comparative institutional analysis could make progress by evaluating different institutional regimes using a scenario analysis, where different scenarios corresponded to different normative baselines.³⁹ Then meta-analyses would tell us something about our institutional design options. As applied to human capital law, we might suggest scenario analyses that expressly considered institutional design for purposes of promoting a variety of different ends implied by Professor Lobel—for promoting certain kinds of innovation, for increasing employment opportunities, for promoting small business development, etc. It may turn out that the same institutional design principles serve many of these goals. But it seems likely (or at least possible) that there will sometimes be conflict between, say, promoting human capabilities and promoting economic efficiency, at least when efficiency is narrowly defined. Scenario analyses allow us to see the points of consistency and of divergence.

IV. Conclusion

Professor Lobel's important article identifies and describes the new field of human capital, and it highlights a number of causes for concern. In our view, its biggest contribution is its opening up of new lines of scholarly inquiry, and particularly setting the stage for comparative institutional analysis. We encourage researchers to build on Lobel's work with context-specific studies that are sensitive to the range of the relationships between human capital and intellectual capital and the complex systems in which they interact. And we hope that researchers put the normative baseline question front and center and evaluate reform proposals against a range of different normative objectives.

39. There is a rich literature on the approach. In his book, *The Economic Dynamics of Law*, David Driesen argues for the use of scenario analysis in various contexts, with particular emphasis on environmental law where scenario analysis would supplement and/or replace cost-benefit analysis. DAVID M. DRIESEN, *THE ECONOMIC DYNAMICS OF LAW* (2012). *See also* Frischmann & McKenna, *supra* note 6.

