The Price of Novelty and the Novelty of Price

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Nicholson Price II, *The Costs of Novelty*, __ **Colum. L. Rev.** __ (forthcoming 2020), available at SSRN.

Patents exist to promote the progress of innovation, but a wealth of recent scholarship has demonstrated the ways in which patents influence the pace and direction of innovation in potentially problematic ways. The prospect of patent protection may cause innovators to focus on particular kinds of solutions to problems over others (i.e., those that can be patented), and it can cause researchers to focus on solving certain kinds of problems over others (e.g., those that offer the greatest opportunities for financial returns). In his new essay, Nicholson Price II describes another way in which patent law doctrines encourage certain kinds of innovations—"differentiating" innovations—over others—"deepening" or "exploring" innovations.

Borrowing insights from research on cumulative innovation and product differentiation, Price develops a taxonomy of different innovation strategies that researchers might adopt. They might focus on developing richer knowledge about existing technologies. Price calls this "deepening" innovation. Or, researchers might seek to take a large step beyond the existing field of knowledge. This is "exploring" innovation. Finally, researchers might opt for a middle strategy that does not produce substantial differences from existing approaches. These "differentiating" innovations do not take the great leaps that exploring innovations do, and nor are they intended to enrich our knowledge of existing solutions.

As Price explains, however, none of these strategies is necessarily better from the perspective of social welfare. Sometimes exploring innovation will prove more valuable, but in other cases deepening innovation can offer more utility, for example by developing richer knowledge about available technologies and their uses. But, he argues, patent law exhibits a strong preference for differentiating and exploring innovations over deepening innovations. Most obviously, the novelty and obviousness doctrines demand differentiation from the prior art in order to obtain patent protection. While some opportunities exist for patenting new uses of existing technologies, the incentive for this sort of R&D is much weaker than it is for differentiating innovations. Similarly, developing variations from prior art shields firms from the threat of infringement for their efforts.

Yet while patent law encourages variation, Price argues, it does not systematically favor exploring innovations over more modest differentiating ones. Patent law doctrine, including the mostly toothless utility requirement, does not specifically encourage large creative leaps forward (although they may receive broader scope). Instead, patent law relies on the noisy and biased signals of market participants to reward inventions. Patents provide value only to the extent that consumers purchase the products that innovators create. And very often, innovators can reap substantial returns by simply mimicking others' products or tweaking their own. To demonstrate these effects, Price explores how patent law and the market affect the incentives of pharmaceutical and biotech firms, often resulting in "me too" drugs and "evergreen" patent portfolios that generate little social welfare improvement.

Price's main points in the Essay are descriptive, rather than normative. He wants to show us that patent law's novelty and obviousness doctrines have significant innovation costs, especially in their current formulations. Of course, Price acknowledges, differentiation has significant benefits. Having multiple options increases consumer choice, which is especially valuable if consumers have heterogeneous needs. And having multiple drugs treat the same condition can create some downward pressure on prices, although the evidence for this is decidedly mixed. But differentiation's costs are also severe. Price focuses on three principal costs:

1. The costs of inventing around upstream products are high.

2. When products diverge from each other, they are less interoperable. This is costly for consumers who face higher switching costs (e.g. between different medical devices) and for innovators who are trying to work across incompatible products.
3. Differentiating innovation reduces society's depth of knowledge about existing products, in favor of shallow knowledge about a broader range of products.

Price helpfully illustrates each of these three costs with examples from pharmaceutical and biotech innovation that appear to be decidedly suboptimal. He also adds a lot of nuance derived from his extensive knowledge of FDA regulation and insurance reimbursement.

The essay finishes with some ideas for how, if policymakers decide that innovation incentives are improperly skewed, they might intervene either in patent law (by increasing the obviousness threshold) or via the regulatory system (by giving FDA the power to limit approval for drugs that do not demonstrate meaningful improvements over the status quo). There might also be opportunities for insurance companies and government payers to play a role in directing innovation towards more socially beneficial outcomes.

While I understand Price's choice to frame this essay modestly and descriptively, I believe that the available evidence points towards clear innovation failures in the pharmaceutical context. Recent empirical research indicates that as many as half of FDA approved drugs are no better than previous treatments, and as many of a quarter of them are actually worse.[1] Moreover, while I'm nervous about giving the FDA more power to engage in ex ante cost-effectiveness analysis as some European agencies do, I think there may be opportunities for patent law to affect firms' incentives with ex post adjustments to patent duration and strength. In a new paper, Jonathan Masur and I lay out a few of these options. Neel Sukhatme and Gregg Bloche have recently explored similar ideas. Ultimately, however, Price's essay is another characteristically thoughtful contribution to a hugely important field.

1. *See* David Abrams and Bhaven Sampat, What's the Value of Patent Citations? Evidence from Pharmaceuticals (2017).

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