

Norms-Based Intellectual Property Systems: The Case of French Chefs

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In this paper we propose that *norms-based* intellectual property (IP) systems exist today and are an important complement to or substitute for law-based IP systems. Norms-based IP systems, as we define them, operate entirely on the basis of implicit social norms that are held in common by members of a given community. Within that community, they offer functionality similar to contemporary law-based IP systems with respect to both the nature of rights protected and the effectiveness of the protection provided.

We document the existence of a norms-based IP system among a sample of accomplished French chefs. These chefs consider recipes they develop to be a very valuable form of IP. At the same time, recipes are *not* a form of innovation that is effectively covered by law-based IP systems. Via grounded research, we identify three strong implicit social norms related to the protection of recipe IP. Via quantitative research, we find that accomplished chefs enforce these norms and apply them in ways that enhance their private economic returns from their recipe-related IP.

In our discussion, we compare the attributes of norms-based and law-based IP systems, arguing that each has different advantages and drawbacks. We also point out that the existence of norms-based IP systems means that many information commons may prove to be criss-crossed by norms-based fences, with community access controlled by community IP owners.

Key words: intellectual property systems; copyrights; patents; social norms; recipes

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1. Introduction and Overview

When one thinks of intellectual property (IP) rights, one tends to think of rights encoded in law like patent grants, copyright, trade secrecy, and trademarks. In these law-based IP systems, detailed bodies of legislation and case law spell out the rights an owner can claim to specific types of IP and the procedures by which these rights can be claimed. The law of contracts then specifies how the rights can be licensed and bought or sold. Claimed violations of IP rights and contracts can be adjudicated and compensation determined via private legal actions in the courts.

In this paper we propose that *norms-based* IP systems also exist and are important in at least some fields. Norms-based IP systems, as we define them, function within a group to provide group members with IP rights based on social norms *only*. Such systems must provide the basic functions of law-based IP systems, but may provide these by different means. Thus, both types of IP systems must grant innovators valuable monopoly rights over their innovations. Both must also enforce these rights, but may use different means to do so. In the case of law-based systems, for example, possible IP violations are adjudicated by courts. Court-mandated sanctions for confirmed violations then may include

financial payments and prohibitions of further violations. In the case of norms-based systems, possible IP violations are assessed by informal community consensus. Sanctions for confirmed violations are applied by community members and may include shaming, loss of status within the community, and reduced future access to valuable community resources such as information.

Our research is related to and draws on work by laws and norms scholars who have explored the roles of laws relative to norms in several arenas (e.g., Ostrom 1990, Ellickson 1991, Rai 1999). We also build on work by Merges (1996b, 2004) related to private IP systems. Our major contribution in this paper is to provide an existence proof for norms-based IP systems—a first documentation of a present-day IP system based solely on norms. We do this by exploring how accomplished French chefs currently protect the new recipes they develop. Accomplished chefs consider their recipes to be a very valuable form of IP. After all, professional reputations and customer patronage at restaurants can be built around successful recipes. At the same time, recipes are *not* a form of innovation that is effectively covered by current law-based IP systems. Recipes are rarely patentable, and combinations of ingredients cannot be copyrighted. Legal protections are potentially

available via trade secrecy laws, but, as we will see, chefs very seldom use them.

In brief overview, we find that an IP system based on implicit social norms and offering functionality quite similar to law-based systems does operate among accomplished French chefs. Via grounded research, we identify three strong implicit social norms held by all chefs we interviewed. First, a chef must not copy another chef's recipe innovation exactly. This norm has a very important role in creating a norms-based analog to important functions of law-based IP systems. The functional effect is analogous to patenting in that the community acknowledges the right of a recipe inventor to exclude others from practicing his invention, even if all the information required to do so is publicly available. The effect is also analogous to copyright in its regulation of the right to copy a particular "form of material expression" of an idea.

A second norm mandates that, if a chef reveals recipe-related secret information to a colleague, that chef must not pass the information on to others without permission. This norm gives a chef a property right similar to that attainable via a contract under trade secrecy law: Protected by this norm, a chef can *selectively* reveal his or her secret information to another without fearing that as a result, the information will become generally known. A third norm is that colleagues must credit developers of significant recipes as the authors of that information. This gives an additional property right to a chef who may choose to selectively or publicly reveal information about his innovation without jeopardizing the valuable related property right of acknowledged authorship.

Via quantitative research, we next show that accomplished chefs are significantly more likely to *deny* requested information to colleagues whom they believe may violate the three social norms just described. This selective denial of information is behavioral evidence that a functioning norms-based IP system exists: It shows that three implicit norms that together offer functionality similar to that of law-based IP systems are being *enforced* in the community we studied. As one accomplished chef said, "If another chef copies a recipe exactly we are very furious; we will not talk to this chef anymore, and we won't communicate information to him in the future." We conclude that information not afforded the protection of IP law may nonetheless be controlled by an effective IP regime based entirely on implicit norms.

Our findings open up the likelihood that norms-based and law-based IP systems are both functioning in the world today. The potential effects of norms-based IP systems will add a new dimension to current scholarly research and debate on the economics of IP systems. At present, much of that debate involves the possibility that extant law-based IP systems may be

constraining rather than supporting innovative progress (e.g., Jaffe and Lerner 2004, Benkler 2006, Bessen and Meurer 2008, Strandburg 2008). Modification or elimination of these systems is sometimes proposed, with the implicit assumption that the law-based IP systems under discussion are the only ones at issue. Our findings indicate that, in at least some fields, the situation is different. Modification or elimination of law-based IP coverage of a field may simply reveal, or even induce communities to newly create, a norms-based IP protection system in that field.

As we learn more about norms-based systems, we will learn how each type can most usefully be understood and applied. We will then be in a position to more deeply explore how mixed norms and law-based systems can best function and serve the intended social and private purposes of creating, defending, and diffusing IP.

In §2, we review related literature. In §3, we discuss the methods used in our case study. In §4, we present our grounded research findings on the recipe hiding, trading, and revealing choices made by French chefs. In §5, we present our quantitative findings, and in §6, we compare the properties of norms-based IP systems with law-based systems. We conclude that norms-based IP systems exist today, can be effective, and should be further explored. In §7, we offer suggestions for further research.

2. Literature Review

In this section we first briefly review matters that provide a context for our study: the nature of social norms, the characteristics of law-based IP systems, and their lack of intersection with recipe protection. Then we review related literature on laws and norms and on private IP systems.

2.1. Social Norms

Social norms are pervasive and powerful structural characteristics of groups that summarize and simplify group influence processes. They are enforced by a group among its members and generally are developed only for behaviors that are viewed as important by most group members (Hackman 1976). Social norms can be advantageous for groups (Axelrod 1986). Social norms have traditionally been viewed by sociologists as rarely written down or explicitly discussed (Feldman 1984, Gibbs 1965). In such cases, evidence that a norm is in place can be seen if any departure of real behavior from the norm is followed by some punishment (Bendor and Swistak 2001, Rimal and Real 2003). Social norms can deal with matters that both do and do not have important *economic* consequences for the group (Elster 1989). For example, workplace norms such as output restrictions directly address the economic concerns of a group. Thus, a "rate buster" who produces significantly more than the average worker in a production group could induce management to lower piece-rate pay for all workers in the

group—a matter with significant economic implications for those workers. In contrast, social norms regulating such matters as mode of dress, manners at the table, and so forth may but need not have important economic significance for group members.

Norms are enforceable when groups control stimuli that are valued (or disvalued) by the target person. The more an individual has a personal need for a social reward controlled by the group, the more he or she conforms. Group members who do not need or care about such social rewards (e.g., very high-status members or very low-status members not committed to remaining in the group) often conform less than other group members (Hackman 1976, p. 1506).

Bendor and Swistak (2001) use evolutionary game theory to test the conditions under which social norms are stable. The stability of a social norm, they find, is maintained when all are treated as supporting the norm unless they actually transgress—the “nice” element of a “nice but retaliatory” strategy. However, all participants must punish one who does transgress *and also punish those who do not join in punishing him*—the “retaliatory” element of the strategy. In other words, if a social norm is violated, the obligation to impose punishment must not be restricted to those who were hurt by the initial transgression; the obligation *must* be extended to third parties if the norm is to remain stable. The “if you are not my friend then you are my foe” element of the nice but retaliatory strategy ensures that it is in the private interest of third parties to participate in punishment of transgressions. Although participation may involve a cost to these parties, they must participate or face the presumably greater cost of being punished, too. The net result—assuming that the transgression is not engaged in by too many simultaneously—is that a norm remains stable.

2.2. Law-Based IP Rights Systems

There are three distinct types of law-based IP rights systems in most countries: the patent grant, the copyright, and the right to protect trade secrets. Each of these systems covers different categories of IP and has different characteristics. In this section we briefly review the subject matter coverage and characteristics of each system. We also note why each has little or no applicability *at present* to the subject of our case study—novel recipes.

The most general form of patent is the utility patent. In the United States, utility patents may be granted for inventions related to composition of matter and/or a method and/or a use. They may not be granted for ideas per se, mathematical formulas, laws of nature, or anything repugnant to morals and public policy. Within subject matter potentially protectable by patent, protection will be granted only when the IP meets additional criteria of usefulness, novelty, and nonobviousness to those skilled in the relevant art. (The tests for whether these

criteria have been met are based on judgment. When a low threshold is used, patents are easier to get, and vice versa (Hall and Harhoff 2004).) Within their sphere and duration of coverage, patent grants give inventors exclusive rights to the invention claimed. No one else may use or make that invention without a license from the patent owner—even if they independently develop it. Unlike novel industrial food recipes for, for example, a high-protein tortilla, novel haute cuisine recipes today seldom fulfill the three criteria necessary for claiming a patent: usefulness, novelty, and nonobviousness. (This may change in the future, if and as haute cuisine chefs move toward recipe innovations involving novel science such as *sous vide*—cooking at low temperatures under vacuum—and molecular gastronomy.)

Copyright is a low-cost and immediate form of legal protection that applies to original writings and images ranging from novels to software code to movies. Authors need not apply for copyright protection; it is automatic under present law. Only the specific expression of an idea is protected, *not*—as in the case of patents—the underlying invention or idea itself. The crucial novel information in a new recipe—the list of ingredients, the proportions used, and the processing methods used—cannot currently be protected by copyright. However, original writings and images related to presenting a recipe in a cookbook or other medium can be copyrighted. (Buccafusco 2007 argues that copyright may be appropriately extended to cover novel dishes, although courts have not yet chosen to do this. It is the dish itself, he argues, rather than the recipe, that can be reasonably seen as a creative and potentially copyrightable work of authorship.)

Trade secrets are applicable to any information not generally known in an industry and of demonstrable economic value to a firm possessing the secret. Trade secret law protects only information that *can* be kept secret by a firm while being commercially exploited. Employees and others can be legally bound by contract to not reveal a firm’s trade secrets. A possessor of a trade secret may take legal steps to prevent its use by others *if* he can show that those others have discovered the secret through unfair and dishonest means, such as theft or breach of a contract promising to keep it secret. However, the holder of a trade secret cannot exclude anyone who independently discovers that secret or who legally acquires it by such means as accidental disclosure or reverse engineering.

In practice, trade secrets have proven to be effective only with regard to product innovations incorporating various technological barriers to analysis and process innovations that can be hidden from public view. Aspects of recipe ingredients and preparation techniques that can be effectively hidden in a restaurant’s kitchen can therefore in principle be protected as trade secrets. For example, a chef may legally require as a condition of

employment that employees sign a labor contract binding them to not disclose recipe-related trade secrets. However, as we will see in grounded research findings presented later, chefs in our sample seldom take the steps required to legally defend the status of their recipe-related IP as trade secrets. This is because, as chef interviewees told us, they think that the benefits of doing so are unlikely to outweigh the costs.

Owners of IP rights under all three of these systems can keep their rights entirely to themselves or license or sell all or aspects of their rights to others. For example, a patent owner can grant another rights to use his patent for any purpose, or only for a specific type of application. Similarly, the holder of a trade secret can make legally binding contracts with others in which all or only aspects of the secret are revealed in exchange for a fee or other consideration along with a commitment to not diffuse the secret further. Violations to such agreements can be brought to a court of law for adjudication.

2.3. Norms-Based IP Systems

Findings of laws and norms studies make it quite plausible that effective IP systems based only on social norms might exist today. These studies explore the role that norms play in a range of fields traditionally assumed by legal scholars to be the exclusive province of law. For example, private methods of contract enforcement independent of law have been explored (e.g., Macaulay 1963, Bernstein 1992, Greif 1993, Zhou and Poppo 2005). Greif (1993) describes how a coalition of Maghribi traders successfully enforced contracts with their agents in distant lands by privately established rules. For example, the community of traders had a norm that none would hire an agent who had fallen short of his obligations to *any* trader. Ostrom (1990) and others have documented the quite elaborate community practices that enable communities to successfully share resources held in common, such as commonly accessible fisheries. Methods by which neighbors settle disputes without recourse to the law have been studied by Ellickson (1991) and others.

Often in these studies, implicit norms are found to play a dominant role. Thus, Ellickson, in exploring how rural neighbors allocated the costs of maintaining the fences that separated their properties and herds of cattle, found that essentially none was aware of Section 841, the California statute that specifies how boundary-fence costs are to be allocated. He therefore sought to identify "... the norms to which [adjacent rural property owners] were dancing."

Although rural residents could quickly resolve simple hypothetical fence-cost disputes posed to them, they never articulated general principles of fence-cost allocation. Their statements and practices revealed, however, that they tend to follow a norm of proportionality. This norm calls for adjoining landowners to share fencing

costs in rough proportion to the average density of livestock present on the respective sides of the boundary line. (Ellickson 1991, p. 71)

A second norm is that ranchers (i.e., large land owners) will never ask for a contribution to fencing costs from owners of ranchettes (i.e., small land owners), even though the law would sanction it (Ellickson 1991, pp. 71–75). In other words, Ellickson found that the boundary-fence maintenance norms actually followed by rural neighbors differed in a number of respects from the law.

Ellickson argues that law is often unimportant relative to norms in shaping many types of social interactions: "I didn't appreciate how unimportant law can be when I embarked upon this project." His book, he says, "seeks to demonstrate that people frequently resolve their disputes in cooperative fashion without paying any attention to the laws that apply to those disputes" (Ellickson 1991, p. vii).

A study by Walsh et al. (2005) supports Ellickson's emphasis within the arena of IP rights. These authors studied the IP-related practices of biomedical researchers in universities and governmental and nonprofit institutions. Most, they found, simply ignore the legal rights of patent-holders whose claims might impede their research. They found that only 5% even bothered to check to determine whether their work might be infringing on existing patents.

Our research thus suggests that "law on the books" need not be the same as "law in action" if the law on the books contravenes a community's norms and interests. ... Our results suggest that [patent] infringement remains of only slight concern [to noncommercial biomedical researchers]. (Walsh et al. 2005, p. 2003)

More general studies of IP-related norms in scientific communities have been conducted by a number of scholars. These norms generally involve *restrictions* on the claiming of IP rights by scientists. Thus, Merton (1973) documented the existence of a "communitarian" norm in such communities, mandating the open sharing of the "intellectual property" of scientific research results and research methods used to obtain them. Others have explored the detailed workings of this norm and how it is limited in some circumstances by implicit or explicit assertion of property rights by scientists and their employers (e.g., Dasgupta and David 1994, Rai 1999, Merges 1996a).

Ellickson and some others argue that norms can sometimes be used in place of law. But Rai (1999, p. 84) argues that this portrait has been overdrawn by early research on the topic. "Subsequent law and norms scholars" she writes, "have argued that law and norms do not generally operate in separate spheres. Rather, they typically operate either to support or subvert each other." For example, she points out, laws prohibiting smoking

in public places can be supported by social norms that condemn such behavior—or can be subverted by social norms that are supportive of smoking in public.

Merges (1996b, 2004) has studied the role of norms in the functioning of innovation institutions. He says,

I see guilds as one example of a larger set of informal institutions that facilitate innovation by virtue of shared norms. Sometimes these norms take the form of reciprocity: an understanding that all members of a circle have the right of access to at least some common techniques and information. . . . At other times, they take the form of limited exclusivity: recognizing the right of individual members of the circle to exclusive use and possession of self-generated information. (Merges 2004, p. 3)

“Guilds,” he says, “may have been the first such institutions, but they were by no means the last” (Merges 2004, p. 4). He then lists a number of additional examples, including “collective invention” (Allen 1983), patent pools, and standard-setting organizations. He also includes “private intellectual property systems”—which he defines (Merges 1996b) as systems involving *no* state-granted IP rights. Examples of these, he mentions, are 1930s fashion guilds, “the contemporary entertainment industry, which relies heavily on industry-wide norms and informal (non state-backed) enforcement mechanisms such as arbitration” (Merges 2004, p. 4). He includes informal know-how trading (von Hippel 1987) because its functioning involves norms of reciprocity. He also includes the open-source software movement because it too “. . . depends in part upon reciprocity and other informal norms, which I would argue makes it a contemporary variant on these institutions” (Merges 2004, p. 4).

All of Merges’ examples have an IP component in which norms play a role. Several are useful examples of mixed law and norms-based systems. But for our purposes of establishing an existence proof for a pure, norms-based IP system as we have defined it, these examples will not do. Recall from our definition that we seek to document the existence of IP systems that are based *entirely* on social norms and that have functionality similar to that offered by law-based systems. Thus, open-source software, one of Merges’ examples, is based on norms only in part: It is also built on software authors’ state-granted copyrights. Similarly, the private IP systems of the fashion guilds may reflect the norms of the community of fashion designers and manufacturers—but enforcement was by contract law based on written agreements. (Fashion designs, like recipes, are not protected by law-based IP rights. In response, there have been several attempts over the years by fashion designers and manufacturers to create private IP systems. See a description of the Fashion Originators’ Guild of America in Merges 1996a, p. 1363.)

With respect to norms-based IP systems that offer functionality similar to law-based systems, Merges’

examples can best be seen as potential *components* of what we are calling norms-based IP systems. Thus, informal know-how trading is a mechanism for exchanging secret information based on reciprocity norms. Although it enables the profitable exchange of trade secrets, it does not offer traders control over information that is publicly known—a form of control that is offered by patents. Similarly, collective invention involves only the norm that invention-related information will be freely revealed so that all—whether inside or outside a given community—can have free access. Although this too can play a role in a norms-based private IP system offering the functionality similar to a law-based system, it is not such a system by itself. Free revealing occurs when all IP rights to specific information are voluntarily forfeited by an information owner and all interested parties are given access to it—the information becomes a public good. For example, placement of nonpatented information in a publicly accessible website or television program would be free revealing under this definition (Harhoff et al. 2003).

3. Case Study Context and Methods

Our case study explores the operation of a social norms-based IP system among accomplished haute cuisine chefs working in France. Specifically, we focus on norms-based IP related to recipes developed by these chefs. We have selected this arena for study because it combines two characteristics useful for our purposes. First, IP in the form of novel recipes has high economic importance to accomplished chefs. Second, as we saw in our literature review, extant law-based IP systems today are not applicable and/or are little used to protect this form of IP. As a result, we expect that chefs will rely largely on a norm-based IP system to protect their recipe-related IP if and as this is feasible for them. In turn this will—we hope—simplify our task of understanding the operation and effects of an IP system of this type.

Our study proceeded in two major phases. First, we conducted grounded field research to identify important social norms dealing with recipe-related IP. Second, we conducted a quantitative, questionnaire-based study to determine whether innovators deployed these norms to gain private economic advantage and whether violators of the norms were in fact sanctioned by accomplished haute cuisine chefs.

Our samples for both studies consisted of the chefs de cuisine in restaurants that had received “stars” and/or “forks” from the Michelin guide as a sign of culinary excellence. The Michelin guide is an independent evaluation agency for restaurants. The award of stars by the guide is a major honor. Forks are also prestigious, but less so than stars. (Forks are given to “good gastronomic restaurants” that also have a good balance between gastronomic level and price of the meal. Awards can range

from 1 to 5 forks.) In the 2005 Michelin guide there are 26 three-star, 70 two-star, and 405 one-star restaurants in France. Michelin stars are given to restaurants and not to chefs de cuisine. However, the award is mainly based on factors related to the performance of the chef de cuisine. Hence, when a chef de cuisine leaves a restaurant, the stars are “suspended” until the next examination by the Michelin experts.

A major criterion for awarding stars or forks to a restaurant is “renewal”—the ability to offer creative and new recipes on a regular basis. By focusing on the chefs de cuisine who have actually created these recipes, we are focusing on those who presumably regard innovation as important to their professional and economic success. Typical comments by awardees and others support this expectation. Thus Thierry Thiercelin said after gaining his first star: “Now there is no room for error anymore; I must be at 100% of my capabilities and able to answer my customers’ expectations for innovative and renewed recipes” (unpublished interview).

Losing or gaining a star has substantial economic consequences. Johnson et al. (2005) report that the loss of a star is catastrophic—causing [restaurant] sales to drop as much as 50% in some cases. Chefs who have been responsible for winning stars for restaurants are often in a position to profit from increased restaurant sales and have other opportunities to benefit financially as well. There is demand for chefs believed able to help an establishment gain a star; in particular, luxury hotels in Paris seek such chefs. Also, enhanced reputation may enable a chef to profit from lines of prepared food bearing his label in food stores, or through consulting to agribusiness firms, consulting to restaurants in foreign countries, participation in TV shows, increases in book sales, etc. An anonymous gastronomy expert summed up the situation nicely for the *Nouvel Observateur* (2005): “Gaining a Michelin star ensures that your banker will be kind to you.”

In our grounded research we interviewed 10 accomplished chefs with places of business near Paris and so could be conveniently visited by the first author of this paper. Requests for a meeting were made to 12 chefs, and 10 responded positively. Seven of these were interviewed face to face, and three were interviewed by email. Seven of the 10 chefs interviewed had Michelin stars. Three had no stars but were listed in the Michelin guide as chefs de cuisine in “good gastronomic restaurants.”

In the quantitative phase of our study, we again focused on obtaining information from very accomplished chefs. We therefore distributed our questionnaire to chefs who had been recognized in the Michelin guide. These included chefs holding stars, “rising stars,” and chefs holding from 2 to 5 forks. (Rising stars are chefs listed in the guide as likely to receive their first star within the next year.) Questionnaires were mailed to all sample members at their places of business, and respon-

dents were asked to return them by mail. No follow-up was done to increase the rate of response: We did not want to annoy the chefs and decided to take nonresponse as a “no.” Of 485 questionnaires sent, 104 were returned, a response rate of 21.4%. Of these, 10 contained essentially no data and so were not included in our analyses. The 94 analyzable questionnaires were reasonably well distributed across the expertise categories in the Michelin guide: 7% came from two-star chefs, 62% from one-star chefs, 3% from rising stars, and 28% from chefs awarded forks.

Those chefs who filled out our questionnaires tended to do so quite completely. However, some questions solicited responses only under some conditions. (For example, “Please only answer the following additional questions about action X if you *did do* action X.”) For this reason, the sample size given in our tables is significantly less than 94 in some analyses.

4. Grounded Research Findings

Chefs interviewed in our grounded research phase told us without exception that the development of novel haute cuisine recipes is a very important activity for them and for similarly accomplished chefs. We also learned that these chefs and their colleagues seldom attempted to gain legal protection for their recipe IP. As was noted in our literature review, recipes seldom rise to the level of novelty required to qualify for a patent grant, and copyright is not applicable to the content of recipes, so it is reasonable that chefs would not attempt to apply these forms of protection. However, aspects of recipes can be kept secret even when a recipe is in use at a restaurant—for example, food preparation techniques not visible to diners and secret ingredients. This recipe-related IP *can* in principle be protected by trade secrecy law. Interviewees stated that accomplished chefs sometimes send a written notice to those hiring a former employee saying that that person is prohibited from revealing trade secrets learned from his former employer. However, we were told that if such a trade secret is revealed by a former employee or by some other means, chefs who suspect their legal rights have been violated will very rarely seek redress through the courts. Probably instances of turning to the courts do exist, but our interviewees could not recall any such case. This is generally regarded as too difficult and too expensive to be worth attempting.

4.1. IP-Related Norms

When we raised the issue of whether or how rights to recipes *could* be protected given the absence of applicable and effective laws, we were given examples and stories of “proper professional behavior” in this regard. Applicable social norms that appear in these stories have not been clearly codified or written down by chefs—they are implicit. However, three major norms consistently emerged in all our interviews. First, *it is not honorable*

for chefs to exactly copy recipes developed by other chefs. Chefs were vehement about how very wrong it was to copy the recipe of a colleague. One interviewee said, “If another chef copies a recipe exactly, we are very furious: We will not talk to this chef anymore, and we won’t communicate information to him in the future.” It is, however, acceptable to develop creative variations on recipes developed by others. How different a new recipe should be to avoid the prohibition against exact copying is not precisely specifiable, but chefs think they know a too-close copy when they see it. This anticopy norm seems to us to offer IP protection similar to that offered by a patent grant or a copyright. As we will see later, accomplished chefs could duplicate many of the valuable recipes developed by colleagues using only public, legally unprotected information—but the norm prevents them from doing this. The anticopy norm benefits innovating chefs whose restaurants might well lose sales and profits if their novel recipes were copied by others.

The second important norm that emerged in our interviews is that *a chef who asks for and is given proprietary information by a colleague will not pass that information on to others without permission*. This norm applies only to information that *can* be kept as a trade secret if not revealed. The requirement to not pass it on is important but is generally not stated when information is transferred in response to a request—it is implicit. As one of our interviewees said, “If I give information to another chef, I trust him to not pass it on. I do not have to say this.” This norm gives holders of proprietary information the freedom to *selectively* reveal aspects of what they know. That is, a chef can choose to reveal information to colleague A and at the same time feel confident that A will not tell others. Freedom to selectively and conditionally reveal information seems to us to offer functionality similar to legal contracting related to trade secrets: One can contract to reveal a trade secret to A with the stipulation that A will not pass that information on to others.

Often, as we will see in our quantitative data, chefs selectively reveal secret information to colleagues with the expectation that they will not pass it on *and* that the information recipients will be more likely to reciprocate by revealing valuable information in return. This is informal information trading, and has been documented by several scholars (von Hippel 1987, Schrader 1991, Kreiner and Schultz 1993, Bouty 2000). Informal information trading has been shown to increase participants’ profits under some conditions. The basic argument is that revealing a unit of secret information to another reduces the monopoly profits that an innovator can obtain from its information—because now a rival is also using it. However, a trade will nonetheless pay whenever that reduction in monopoly profits is more than offset by the increase in profits gained by receiving in reciprocation a new unit of secret information from the trading partner. When this happens, it has been shown that information trading fits the conditions for a prisoner’s dilemma

(von Hippel 1987). Given repeated plays, cooperation will be the most profitable long-term strategy for those engaged in the practice (Axelrod 1984).

The third norm involved the *right to be acknowledged as the author of a recipe one has created*. This applies to a recipe that one may observe at a creator’s restaurant or ask the developer about; it also applies when the innovator publicly reveals his recipe by, for example, publishing it in a cookbook or a magazine or describing it on TV. This norm offers a functionality offered by copyright and by law on the “moral rights” of authors and artists to have the paternity of their work acknowledged (Hansmann and Santilli 1997).

A chef who presents the recipe of another as his own is considered not honorable. For example, consider an excerpt from a letter of reproach written by a famous chef to a former employee who presented one of the chef’s recipes on TV without proper attribution. The chef also distributed his letter to a number of his colleagues, so that the community as a whole would learn of his former employee’s violation of an important norm. A copy, written in French, was given to us by an interviewee, and we translate a portion of it as follows:

Sir: First, I must tell you that seeing on TV a former employee showing things I have taught him is a real pleasure. Unfortunately this pleasure was brief, as your presentation has revealed a rare ingratitude. Never did I hear you say what you owe to the master I have been for you. You should admit that presenting recipes that are mine and that I taught you without referring to my name constitutes an unacceptable indelicacy. . . . I hope that in your future presentations you will repair these errors and shall credit me with what I have taught to you. Only after this honest acknowledgement will I be happy that you receive a share of my notoriety.

The norm requiring acknowledgement of authorship enables chefs to profit more than free riders even when they reveal their innovations to all. Given known authorship, a chef can use free revealing to raise his reputation with the general public and thus, for example, increase his profit from selling cookbooks and/or from increased traffic to his restaurant. Chefs often select their more important and interesting recipes to reveal in this public way, reasoning that their reputations will be more effectively enhanced by revealing major rather than minor innovations.

Chefs interviewed clearly thought that adherence to the norms described above was very important: “[If someone were to violate an important norm], . . . my esteem for the guy becomes very low. I think the chef has no self-esteem, and does not respect the code of honor.” Transgressions of the three norms we identified—and presumably of any additional norms that may also exist in this community—are, we were told, punished by negative gossip within the community, by a related lowering of a violator’s reputation, and by a decreased likelihood that additional requests for information will be

answered by community members. Famous chefs do not necessarily need to take personal action to ensure that transgressions are noticed and appropriately punished by their community. As one interviewee said, “The community knows my style and can recognize when someone is copying me. Therefore, I do not need to intervene in any way.”

Note that our interviews did not necessarily evoke a *complete* set of IP-related norms. We could have missed an important norm simply because our questions did not trigger stories related to it from our interviewees. (By way of analogy, we could learn about the norm “thou shalt not kill” from interviewees without necessarily triggering any discussion of the norm “thou shalt not steal.”) Fortunately, completeness is not necessary to our present purpose. We simply want to understand whether *some* social norms exist that can serve to at least partially protect the IP of recipe developers.

Note also that chefs’ IP-related strategies are complex, and further work will be required to map and understand them fully. For example, an interviewee told us that chefs who publicly reveal a recipe may not necessarily reveal *all* the information required to exactly reproduce it. “Usually, a chef does not disclose everything when publishing a recipe in a cookbook. The published version may exclude important ‘tricks’ (elements of technique), and may even omit some ingredients.” Interviewees also say that some cookbooks they write are intended for an audience of primarily peers rather than for home cooks. One important function of these books is to convey information about priority. If an imitator publishes a recipe that a famous chef developed, that chef may later publish the same recipe in a professional cookbook of his own. In this way he signals to colleagues that he believes that he, rather than the first to publish, has priority.

Chefs often use the various IP strategies available to them in sequence or as required by events to maximize their private returns. Thus, they often choose to keep exclusivity on new recipes served in their restaurants for a period of time before publishing them in a cookbook.

5. Findings from Quantitative Research

In overview, our quantitative research is designed to explore two matters: (1) whether the norms that we identified via grounded research are actually being enforced by chefs, and (2) whether chefs are enforcing the norms in a way likely to increase their private innovation-related profits. Our test of the first matter draws on patterns of selective information revealing in our sample of chefs. We first determine whether some of our respondents’ recipe-related information *is* secret—and is thus potential subject matter to be selectively revealed at the discretion of our respondent chefs. We then test whether chefs selectively *deny* requested information to

colleagues they think are likely violators of the three IP-related norms. If they do this, we have evidence that the norms are being enforced. Our test of the second matter involves determining whether patterns in the selective and free revealing of IP can increase chefs’ innovation-related profits—the goal of law-based IP systems. If both of these elements can be seen, we think it is reasonable to conclude that a functioning norms-based IP system exists in the field of recipes.

5.1. Are Norms Being Enforced by Chefs?

Chefs in our quantitative sample judged that novel recipes were *very* important to their professional success. When asked about the “importance your customers place upon finding original recipes (your own creations) on your menu,” the average importance ranking given by our respondents was 4.52 out of 5 (std dev: 0.72), where 5 was “very important.” Chefs also reported that a significant fraction of the recipes they develop would be difficult for others to reproduce without their help (Table 1). This means that chefs *do* have recipe-related IP that can be kept secret for some period of time unless they choose to reveal it.

IP that can be kept secret by innovators can also be revealed if innovators elect to do so. In the case of accomplished chefs, an opportunity to make such a decision occurs when colleagues working in other restaurants request specific items of recipe-related information. As can be seen in Table 2, this happens often. Of the chefs in our sample, 90% report being asked for such information at least once in the past year, and 28% report being asked at least six times.

Recall from our grounded research discussion that French chef interviewees said that norms violations were punished by negative gossip within the community, by a related lowering of a violator’s reputation, and by a decreased likelihood that additional requests for information will be answered by community members. Via our questionnaire, therefore, we sought to determine whether chefs’ decisions to reveal their information to a specific requester was related to expectations that the requester was a likely norms violator. This approach had the advantage of linking expectations of norms violations to a type of punishment reported by our interviewees, i.e., selective denial of requested information.

Table 1 Many Recipes Are Difficult to Reproduce Without Help from the Innovator

	0	25	50	75	100	Do not know	(n)
Percent of your recipes that another chef would find it difficult to reproduce without your help							
Percent of chefs in total of respondent chefs who ticked the above category	10.5	39.5	29	5.2	0	15.8	94

Table 2 Most Chefs Receive Recipe-Related Information Requests from Colleagues

	Never	1–5 times	6–10 times	More than 10 times	No answer	(n)
How many times did you receive recipe-related information requests from colleagues in the past year?	10.2%	61.4%	14.8%	13.6%	3	94

Our research strategy was to ask each respondent to tell us about *two* cases where he had been asked for recipe-related information. First, we asked a number of questions about the most recent case where a chef had been asked for information and *had* provided it. Second, we asked the same questions about the most recent case where a chef had been asked for information and had *not* provided it. We then analyzed the chefs’ responses to see if there is an association between expected adherence to the three norms described earlier and willingness to provide secret IP.

As can be seen from Table 3 we found that IP holders were significantly more likely to deny secret IP to requesters they thought likely to violate each of the three social norms. We also found that this association was strongest when information of high value was being requested. Note that the decision to withhold proprietary information from a colleague judged likely to not adhere to community IP-related norms may be intended as norms enforcement and/or it may be a private attempt to protect IP likely to be at risk if revealed to that person. Either way, the behavior serves to enforce community norms: Access to requested information is selectively denied by community members to individuals with past or anticipated norms violations.

Note also that there is some possibility that this finding reflects post hoc cognitive dissonance reduction on

the part of the chefs rather than norm-related choice making. That is, when answering our questions, a chef could simply be thinking: “I did refuse to give this person information. I would only have done this if he is a bad person or undeserving in some way—so I will respond to the questionnaire accordingly.” To reduce the risk of this type of occurrence, nothing in our letter of introduction to chefs or in our questionnaire indicated that we were interested in studying social norms. In addition, we scattered our norms-related questions among others, did not identify questions as norm related, and asked the questions in a nonvalue-laden way. We simply asked, for example, how likely the chef thought it was that the specific chef who had requested information from him would exactly copy the recipe he was asking about. Finally, we should point out that we know nothing about the *actual* norms-related behaviors of information seekers because we did not obtain information from information recipients—only providers. However, this does not affect the validity of our finding. The decision to provide or withhold IP is in the hands of the chef holding that IP and is related to his or her *perceptions* of the attributes of the information seeker, not to the actual attributes of that person.

5.2. Are Patterns of Selective Revealing Likely to Increase Innovators’ Private Economic Returns?

Although social norms do not always have to do with the economic advantage of individual group members or the group as a whole, IP law is specifically designed to enhance innovators’ likely private economic returns from innovation, and so to increase their incentives to innovate. In this section we explore whether norms-related patterns in the information revealing and hiding behavior

Table 3 Chefs Are Significantly More Likely to Give Information to Chefs They Think Will Adhere to IP-Related Community Social Norms

I expect that the person who requested recipe-related information from me:	Relationship between information holder’s expectations that information requester will adhere to norms and his decision to provide information ^(a)	(n)
1. Will NOT copy my recipe exactly. ^(c)	$P < 0.0035$	61
2. Will ask my permission before passing on the information I gave him to another. ^(b)	$P < 0.063$	65
3. Will credit me as author. ^(b, d)	$P < 0.014$	72

^(a)Marginal homogeneity test, paired samples, one-tailed.

^(b)5-point Likert scale.

^(c)Respondents chose one option from three descriptions of increasingly exact copying behaviors.

^(d)Recall that our qualitative field research identified a norm requiring acknowledgement of authorship for recipe-related information that was privately or publicly revealed. However, our questionnaire asks information providers only about their expectations that a specific information requestor will adhere to that norm in the case of proprietary information selectively revealed to him as an individual.

Table 4 Chefs Feel Their Decision Whether to Reveal or Refuse to Supply Information Requested by a Colleague Will Affect the Likelihood of Getting Information from That Individual in the Future

Expected change in willingness of requester to provide information in the future	Decision		
	Decrease	No change ^(a)	Increase
Chef provided requested information	4	42	22
Chef refused to provide requested information	23	43	2
Chi-square = 32.472		$p = 0.000$	

^(a)“No change” was in most cases chosen when chef and requester had shared information equally in the past. In such cases there was already a trading relationship between the partners involving reciprocity. Under these conditions, there would be no reason for an information provider to expect that a particular exchange in a series would materially affect a recipient’s willingness to provide information in the future.

of the chefs in our sample are consistent with a goal of increasing innovators’ economic returns from their innovations. If so, we have evidence that a norms-based IP system exists in this community.

We first see that chefs who *selectively* reveal recipe-related information to a colleague appear to be engaging in informal information trading rather than altruism. As Table 4 shows, they expect their decision will affect the likelihood that the information seeker will reciprocate in the future. As was discussed in §4, informal information trading can increase profits for participants, assuming that there is reciprocity and assuming also that information recipients adhere to the norm of not passing on the secret that has been shared with them.

We asked chefs about the value of the information that they would be willing to freely reveal in two contrasting ways: (1) free revealing “to everyone at once” in a public forum and (2) sequential, person-to-person revealing to “any one who asks.” Chefs were more likely to present high-value recipe information in a public forum. In sharp contrast, they were significantly more likely to reveal low-value information privately to anyone who asked (Table 5). This makes sense to us as an econom-

Table 5 Value of Recipe Information Revealed Privately “To Anyone Who Asks” vs. Revealed to All in a Public Forum

Decision to	High-value information ^(a) (%)	Low-value information ^(a) (%)
Reveal in a public forum	78	22
Privately reveal to “anyone who asks”	26	74
Chi-square		$p < 0.000$

^(a)The value of the information is an index: High-value information is information that is related to a recipe that is both a “must” on the chef’s menu and that is “unique among direct competitors” (rated 4 or 5 on a scale of 5 for both items).

Table 6 Motivations for Publicly Revealing Recipes

Motivations	Mean ^(a)	Std dev	% of high agreement ^(b)
Attract more customers in your restaurant	3.86	1.12	80
Increase your reputation	3.91	0.90	80
Increase the reputation of French gastronomy	3.58	0.96	64

^(a)Scale: 1 (totally wrong) to 5 (totally right).

^(b)High agreement means a choice of 4 or 5 on a scale from 1 to 5.

ically reasonable strategy: Increased reputation is likely to result from publicly revealing a recipe only if something valuable and interesting is revealed. In contrast, private but nonselective revealing of information (“to anyone who asks”) may not yield the reciprocity benefits associated with more selective revealing of information.

Finally, we asked chefs *why* they would reveal some of their recipes to the public at large (Table 6). Although we did not offer a complete list of possible motives in our questionnaire, respondents tended to agree with the motives we listed that clearly involved direct personal gain in the form of increased restaurant sales and enhanced personal reputations. In an open response section in the questionnaire, some chefs provided additional motivations for revealing recipes in a public forum; most of these also involved increasing private profits. Chefs wrote that they were motivated to present their IP to the public at large because doing so would enhance their personal reputation, generate publicity for their restaurant, inform potential patrons about what is offered in their restaurant, enable them to claim the “innovation space” before another chef got a related idea, be an enjoyable experience for them, increase likelihood they will receive information requests from chefs they appreciate, or be an opportunity to promote regional products.

In summation, it appears that chefs’ behaviors regarding protecting and revealing recipe-related information are consistent with efforts to increase private benefit from their recipe innovations.

6. Discussion

We have now documented that accomplished French chefs both espouse and enforce IP-related norms. Given these empirical findings, can we conclude that a norms-based IP system worthy of the name *really* exists among these French chefs?

We approach this question by listing the characteristics of the three major law-based IP systems. We also list the analogous characteristics of a norms-based IP system for easy comparison (Table 7). Although norms-based IP systems clearly have characteristics very different from law-based IP systems, both systems enable innovators to establish and enforce rights to some types of IP to their

Table 7 Comparison of Law-Based and Norms-Based IP Systems

	Patents	Copyright	Trade secrecy	Social norms-based IP
Source of authority	Legislation	Legislation	Legislation	Community social norms
Subject matter covered	Inventions as specified in patent law	"Writings" as specified in copyright law	Secrets having business value	Information regarded as proprietary property by a given community
Nature of control	Right to control use of publicly revealed invention	Right to control production of copies of work	Right to prevent use by those who acquire secret improperly	Right to use and call for sanctions against violators of norm-granted property rights
Ownership rights established by	Date of first filing or date of invention	Proof of authorship	Proof that secret is valuable and protected	Community consensus that an individual is the owner of specific information
Conflict resolution method	Court decision (or out-of-court settlement)	Court decision (or out-of-court settlement)	Court decision (or out-of-court settlement)	Community member agreement that norm-sanctioned property rights of A have been violated by B
Ave. time and cost to adjudicate complaint	Several years \$2 million/case paid by litigants ^(a)	Several years \$440 thousand/case paid by litigants ^(a)	Several years \$1 million/case paid by litigants ^(a)	Can be very rapid (days) Cost low and distributed across community
Nature of award to successful complainant	Validation of IP claims; monetary award	Validation of IP claims; monetary award	Validation of IP claims; monetary award	Validation of IP claims
Nature of violators' punishment	Civil law penalty; order to cease violation	Civil law penalty; order to cease violation	Civil law penalty	Loss of status, shaming, denial of future community benefits

^(a)Litigation costs for U.S. cases with from \$1 million to 25 million at risk (middle range of cases reported) as reported by AIPLA (2005) based on a survey of their membership. Bessen and Meurer (2008) report that the *business* costs of a patent suit—lost revenue, management time consumed, etc.—are much higher than the litigation costs documented by AIPLA. They estimate the total costs for a public firm being sued for patent infringement at \$28.7 million in the mean and \$2.9 million in the median (Chapter 6, Table 2).

economic advantage. So we think it reasonable to dignify norms-based IP systems as "real" IP systems worthy of consideration along with their law-based counterparts.

With respect to some system characteristics listed in Table 7, norms-based systems appear to have some major advantages over law-based IP systems. Recall that social norms are developed by communities to deal with matters of importance to that community. As can be seen from Table 7, getting final resolution of a complaint via a law-based system costs on average millions of dollars and can take years—at least in the United States (AIPLA 2005, Bessen and Meurer 2008). Indeed, given these high costs, one may wonder what proportion of IP violations nominally covered by law-based systems are actually being adjudicated on the merits by those systems. Kesan and Ball (2006) find that only 5% of all cases filed are eventually adjudicated on the merits—the rest are settled before adjudication. This low figure, the authors reason, is because it is often cheaper for both sides to settle than it is to complete a very expensive legal contest. The associated loss to social welfare is that the validity of contested—and often very questionable—patent claims is seldom judicially established.

In contrast, a complaint can be brought in a social norms-based system by simply bringing the matter to the attention of influential members of the community.

If these members view the case as having merit, explanations may be requested of the apparent violator of the norm, and/or sanctions can be applied very quickly.

As an example of rapid community norms enforcement among chefs, consider the recent community judgment that Chef Robin (Robin Wickens, owner and chef of the Interlude Restaurant in Melbourne, Australia) had violated an anticopying norm. The discussion took place in an online forum hosted on eGullet.com, a website for chefs and other serious "foodies." The entire episode, from the discovery of the violation to the close of case-specific discussion on the forum, took only five days.

On March, 2006, Forum participant tb86 reported apparent recipe copying by "Chef Robin" (March 14, 2006, 4:02 P.M.). "I am an Australian chef in NY and was looking at the Interlude [a Sydney restaurant] website and realized that a lot of the food has been copied identically from some of the top chefs here." In his message, tb86 provided links to Interlude restaurant food photos, and also those of famous U.S. restaurants showing apparently identical presentations of identical recipes. The Interlude chef, Chef Robin, quickly took down the incriminating photos from his restaurant website. He then replied (March 15, 2006, 4:53 P.M.): "Thought i should post my reply. My trip to America and staging [working as an intern] at Alinea [a famous Chicago restaurant] gave me ideas and i saw new techniques that after cooking for over ten years in some pretty good restaurants i had seen

before. . . . Of course people are going to imitate it and evolve it.”

Many eGullet members quickly posted responses, with the great majority condemning Chef Robin’s behavior in strong terms. Excerpts from three responses convey the flavor: “The ‘evolution’ part might be where you are coming up short” (Willie Lee, March 14, 2006, 7:17 P.M.). “Why don’t you also check out the menus at Cru and Guilt restaurants in NY for some more ‘evolutionary’ ideas for your next menu. . . . Why were the links to the photos removed in the last 24 hours? New York is watching you” (Aussiechef76, March 14, 2006, 9:31 P.M.). “Great. . . . thanks to this my plans for ripping off Sandra Lee’s Ranch Dressing and puke covered Frito Lay chips is never gonna come to fruition” (peteswanson, March 15, 2006, 3:37 P.M.). Things continued in this vein for five days, at which point the site managers closed the discussion. (eGullet forums 2006)

Reports of the controversy quickly spread to other news media. For example:

Among Melbourne diners, the food at Robin Wickens’ two-hatted Fitzroy restaurant, Interlude, has inspired such breathless adjectives as “whimsical,” “daring,” and “arch.” But in recent days, a harsher term has been suggested: “plagiarised.” The storm began 10 days ago on specialist Internet forum eGullet, after it was revealed that among Wickens’ offerings was, in fact, a replica of a dish first “invented” at New York’s famed WD-50. . . . Editorial staff from eGullet have since posted pictures of four other dishes by the 2005 *Age Good Food Guide* young chef of the year [Robin Wickens], which emulate creations by Grant Achatz, of Chicago’s Alinea, including a dessert served in a test tube.

There is no question of legal action against Wickens: recipes, no matter how unique, cannot be protected by copyright, nor have they ever been successfully patented. But chefs and diners have questioned whether Wickens’ conduct in replicating dishes—right down to the plating—is poor form. The question is pertinent in the world of top-end modern restaurants, where creativity, not simply fine flavour and execution, is often demanded.

Writing on the eGullet forum, Alinea co-owner Nick Kokonas said he agreed that there was no intellectual property case here. “In my mind, there is something greater—‘intellectual integrity,’” he wrote. Wickens has sent letters of apology to Achatz and WD-50’s Wylie Dufresne for failing to give credit to them. (Nguyen 2006)

Of course, norms-based IP systems also have major *disadvantages* relative to law-based systems. Communities may punish whistleblowers along with violators; communities have no power to award monetary compensation to an injured party, and so on. Also, recall from our literature review that norms-based IP systems are only effective in controlling behaviors “. . . when groups control stimuli that are valued (or disvalued) by the target person” (Hackman 1976, p. 1506). In contrast, law-based

systems have access to a type of sanction—confiscation of financial resources—that presumably would be of concern to all would-be violators within a particular law’s zone of jurisdiction. This may mean that norms-based IP systems apply to a more limited scope of actors than do law-based systems.

For example, consider the case of high-fashion clothing design. Just as with recipes, law-based IP systems do not protect clothing designs. Cox and Jenkins (2005) note that, unconstrained by law-based IP, mass merchandisers are quick to “knock off” many novel clothing designs created by high-fashion designers. Mass merchandisers presumably do not consider themselves to be part of the high-fashion designer community and so would not be constrained by any IP-related social norms held by that group.

Of course, it is another question whether the limited reach of norms-based IP systems actually reduces innovators’ profits. Thus, when yesterday’s high-fashion items become today’s mass market items, high-end buyers may no longer value the versions they purchased—because they are no longer exclusive (Veblen 1899, Simoni 2003). A likely consequence of rapid copying is therefore an acceleration of the obsolescence cycle in high-fashion clothing designs, as high-end fashion buyers more rapidly move on to the next new thing. Knock-offs, as Raustiala and Sprigman (2006) point out, might therefore increase rather than reduce the profits of innovating high fashion designers.

6.1. How Widespread Are Norms-Based IP Systems?

Our present study is only an existence test for norms-based IP systems. We next need to know whether norms-based IP systems are a niche phenomenon of curiosity value only or whether they are a widely applicable and economically important type of IP system. Although a solid answer clearly must await further research, it is possible to speculate on the generality of the phenomenon based on anecdotal evidence and on existing scholarly understandings of the nature and enforceability of norms.

Anecdotally, there are interesting hints that norms-based IP systems are currently present in at least some fields. First, the eGullet.com online forum discussion mentioned earlier suggests that IP-related norms exist among chefs beyond those specializing in French haute cuisine. Second, grounded research interviews we have conducted in the sports equipment field indicate that IP-related norms may also exist among founders and cofounders of small sports equipment firms. For example, a cofounder of a snowboard firm explained in an interview how he is dealing with a competitor who has made an exact copy of one of his firm’s board designs:

I have contacted him and said we consider this board to be an exact copy of our design. I said that if he tried to

advertise and sell this model, we would put all our weight into destroying his image. A brand heavily depends on image when it comes to selling. On the Internet an image can be destroyed very quickly. This producer has created an Internet site to sell his production, and the slightest rumor of copying or intellectual dishonesty would make consumers who use the Internet go away from him. It is our unique weapon... and we rely on it to protect us.

According to our interviewee, the norm-violating snowboard producer in fact decided not to advertise the copied product after receiving this warning. Note the interesting twist on sanctions in this example: A producer is planning to rally potential *customers* of a rival producer—customers who apparently also have an anti-copying norm—to punish that producer for a norms violation.

Q: Do you mean that consumers would refuse to purchase a copy? A: “The general consumer always prefers price to quality, so if our competitor was selling a cheaper version of our product, it would sell very well to the general consumer. But in our market niche there are just a few producers, and our consumers are very aware of things. The risk of doing a bad move is high. Another sanction available to us is to not cooperate with a badly behaved producer. Most firms [in our niche] do cooperate in various ways (make common orders to suppliers to get discounts on inputs, share technical information) and a copier tends to be excluded from this cooperation.”

Q: If you publicly say that you are copied by another producer, how would the big producers of the sector react? A: “The big brands would not care at all [about the norm violation]—but would instead maybe get interested, and begin to wonder whether something worth copying exists on this side of the market.”

From the viewpoint of theory, recall from our literature review that social norms generally are developed by groups only for behaviors that are viewed as important by most group members. Also recall that norms are enforceable when groups control stimuli that are valued (or disvalued) by a target group member. The more an individual has a personal need for a social reward controlled by the group, the more he or she conforms. Group members who do not much need or care about such social rewards (e.g., very high-status members or very low-status members not committed to remaining in the group) often conform less than other group members (Hackman 1976). If we extend these same criteria to firms and economic incentives, we can speculate that conditions favorable to norm-based IP systems are as follows: (1) The protection of IP is important to a group of individuals or firms; (2) group members consider any extant law-based or other form of IP protection inadequate or unsatisfactory in some way; (3) group members control economic rewards and/or sanctions valued by group members; and (4) actions by *nongroup* members cannot destroy the value of sustaining the norm within the group or destroy the value of rewards and sanctions available to enforce the norm.

The snowboard firm example seems to fit these criteria: Product IP rights are apparently important to this group of small, new firms, and they find IP-related norms worth generating. Further, the group apparently can enforce sanctions within the group. Finally, because these firms collectively serve a niche market, violations of IP norms by the big brands apparently will not destroy either the group’s market niche or the value of the sanctions and rewards the group has available to enforce adherence to its norms within its niche. As our case study findings show, these same conditions also hold for the group of accomplished French chefs we studied: Recipe IP rights are important to members of this group; they find value in norms-based IP protections; and the group controls valuable rewards and sanctions that can be deployed to enforce IP-related norms. Further, recipe copying by nongroup members such as McDonalds will probably not destroy the niche market for the same (but not really a substitute) product innovation served at a high-end French restaurant.

Thus it seems likely that many additional fields will have the conditions just described. After all, many markets have niches served by few or many firms that may well view themselves as members of a group. Also, as the case of Chef Robin illustrates, members of a group that share a norm need not be geographical neighbors in this Internet age.

7. Suggestions for Further Research

If norms-based IP systems are indeed effective and common in today’s economies, clearly a great deal of research is needed to better understand them. In addition to research to determine the ubiquity and economic importance of norms-based IP systems, we think it would be very useful to understand the extent to which the norms that underlie such systems are similar. A quick comparison between what earlier-cited researchers have told us about IP norms in scientific communities versus those we found in the community of accomplished French chefs suggests that further research will discover interesting differences as well as similarities. One example of a likely difference: Recall that the first norm we documented among accomplished chefs de cuisine was dishonor in exactly copying recipes developed by other chefs. It is likely that this norm will *not* be found among scientists. After all, exact replication of experiments (with proper attribution) to check the accuracy of reported findings is a valued activity in science. In contrast, the second and third social norms we identified among chefs do seem similar to information exchange norms reported among scientists (Bouty 2000, Kreiner and Schultz 1993, Merges 1996b).

As a second example of a likely difference in IP-related norms among fields, recall that the third important norm we encountered among our sample of chefs

was the right to be acknowledged as the author of a recipe. This norm was essential to chefs who wanted to profit from *reputation*-related gains by freely revealing their proprietary recipe information on, for example, a television program. However, it is not obvious that this third norm will always be present in norms-based IP systems that include free revealing, because free revealing can produce private gains for one who reveals via mechanisms that are both dependent on and independent of the recipient's knowing the identity of the donor. Gains that depend on knowing the identity of the donor generally relate to reputational gains, for example: "I am more likely to offer X a job because I know he is an innovator" (Lerner and Tirole 2002). Mechanisms for private gains by innovators who freely reveal that are *not* dependent on knowing the identity of the donor include network effects, for example: "If I freely reveal how to build telephones, more telephones will be built and used. The more telephones that are in use, the more benefit I gain from *my* telephone—because I can connect to more people" (Harhoff et al. 2003, von Hippel 2005).

Norms that seem similar on first inspection may in fact differ in important ways. For example, anticopying norms clearly create monopoly power for innovating chefs. As mentioned earlier, this power is similar to that endowed by a patent grant or a copyright: Chefs may be technically able to copy some recipe innovations using only public information—but the anticopying norm prohibits them from doing it. However, closer examination may show the monopoly powers granted by community anticopying norms to be more or less extensive or flexible than those granted by patent. Thus, chefs apparently do not sell the rights to produce exact copies of their recipes to other chefs. Yet this is common practice among owners of patents in other fields. Further investigation is needed to show whether this difference is a matter of what IP-related norms permit—or what chefs choose to do in exploiting their norms-sanctioned rights.

It will also be useful to more deeply explore whether one system tends to dominate the other when both are present. (For example, as noted in our literature review, Ellickson [1991] found that extant laws addressed how border fencing costs should be allocated between neighbors—but he also found that the affected people ignored these laws in favor of a system of norms of their own devising.) Or it may be that norms and law-based IP systems are often complementary. For example, as Sitkin (1995) points out in the context of corporate management, an increased reliance on formal rules and procedures rather than on informal norms can sometimes enhance trust on the part of system users, indicating that these two system types can complement one another.

In sum, in the research reported here, we demonstrate by example that norms-based IP systems exist in the present-day world. We speculate that such systems may be quite common. We propose that it will be useful to

study norms-based IP systems further and to learn how they can most usefully be applied to serve both innovators and society.

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References

- AIPLA. 2005. *Report of the Economic Survey*. American Intellectual Property Association Law Practice Management Committee, Arlington, VA.
- Allen, R. C. 1983. Collective invention. *J. Econom. Behav. Organ.* **4**(1) 1–24.
- Axelrod, R. 1984. *The Evolution of Cooperation*. Basic Books, New York.
- Axelrod, R. 1986. An evolutionary approach to norms. *Amer. Political Sci. Rev.* **80**(4) 1095–1111.
- Bendor, J., P. Swistak. 2001. The evolution of norms. *Amer. J. Sociol.* **106**(6) 1493–1545.
- Benkler, Y. 2006. *The Wealth of Networks*. Yale University Press, New Haven, CT.
- Bernstein, L. 1992. Opting out of the legal system: Extralegal contractual relations in the diamond industry. *J. Legal Stud.* **21** 115–157.
- Bessen, J., M. J. Meurer. 2008. *Patent Failure: How Judges, Bureaucrats, and Lawyers Put Innovators at Risk*. Princeton University Press, Princeton, NJ. Forthcoming.
- Bouty, I. 2000. Interpersonal and interaction influences on informal resource exchanges between R&D researchers across organizational boundaries. *Acad. Management J.* **43**(1) 50–65.
- Buccafusco, C. J. 2007. On the legal consequences of sauces: Should Thomas Keller's recipes be per se copyrightable? *Cardozo Arts Entertainment Law J.* **24**(3) 1121–1156.
- Cox, C., J. Jenkins. 2005. Between the seams, a fertile commons: An overview of the relationship between fashion and intellectual property. Norman Lear Center Publication, Duke University Law School, Durham, NC, 4–20.
- Dasgupta, P., P. A. David. 1994. Toward a new economics of science. *Policy Res.* **23** 487–521.
- eGForums. The eGullet Society for Culinary Arts and Letters. <http://forums.egullet.org/index.php?showtopic=84509&st=0&p=1149705&#entry1149705>.
- Ellickson, R. C. 1991. *Order Without Law: How Neighbors Settle Disputes*. Harvard University Press, Cambridge, MA.
- Elster, J. 1989. Social norms and economic theory. *J. Econom. Perspectives* **3**(4) 99–117.
- Feldman, D. 1984. The development and enforcement of group norms. *Acad. Management Rev.* **9**(1) 47–53.
- Gibbs, J. 1965. Norms: The problem of definition and classification. *Amer. J. Sociol.* **70**(5) 586–594.
- Greif, A. 1993. Contract enforceability and economic institutions in early trade: The Maghribi traders' coalition. *AER* **83**(3) 525–548.
- Hackman, J. R. 1976. Group influences on individuals. M. Dunnette, ed. *Handbook of Industrial and Organizational Psychology*. Rand McNally, Chicago, 1455–1525.

- Hall, B. H., D. Harhoff. 2004. Post grant review systems at the U.S. patent office: Design parameters and expected impact. *Berkeley Law Tech. J.* **19**(1) 1–27.
- Hansmann, H., M. Santilli. 1997. Authors and artists moral rights: A comparative legal and economic analysis. *J. Legal Stud.* **26**(January) 95–143.
- Harhoff, D., J. Henkel, E. von Hippel. 2003. Profiting from voluntary information spillovers: How users benefit by freely revealing their innovations. *Res. Policy* **32**(10) 1753–1769.
- Jaffe, A. B., J. Lerner. 2004. *Innovation and Its Discontents: How Our Broken Patent System Is Endangering Innovation and Progress and What to do About It*. Princeton University Press, Princeton, NJ.
- Johnson, C., B. Surlemont, P. Nicod, F. Revaz. 2005. Behind the stars: A concise typology of Michelin restaurants in Europe. *Cornell Hotel Restaurant Admin. Quart.* **46**(2) 170–187.
- Kesan, J. P., G. G. Ball. 2006. How are patent cases resolved? An empirical examination of the adjudication and settlement of patent disputes. *Washington University, Law Rev.* **84** 237–312.
- Kreiner, K., M. Schultz. 1993. Informal collaboration in R&D. The formation of networks across organizations. *Organ. Stud.* **14**(2) 189–209.
- Lerner, J., J. Tirole. 2002. Some simple economics of open source. *J. Indust. Econom.* **50**(2) 197–234.
- Macaulay, S. 1963. Non-contractual relations in business: A preliminary study. *Amer. Sociol. Rev.* **28**(55).
- Merges, R. 1996a. Contracting into liability rules: Intellectual property rights and collective rights organizations. *California Law Rev.* **84**(October) 1293–1393.
- Merges, R. 1996b. Property rights and the commons: The case of scientific research. *Soc. Philosophy Policy* **13** 145–153.
- Merges, R. 2004. From medieval guilds to open source software: Informal norms, appropriability institutions, and innovation. *Univ. Wisconsin Law School Inst. Legal Stud. Conf. Legal Hist. Intellectual Property* (November 13).
- Merton, R. K. 1973. *The Sociology of Science: Theoretical and Empirical Investigations*. University of Chicago Press, Chicago.
- Nguyen, K. 2006. The good feud guide. *TheAge.com.au* (March 26). <http://www.theage.com.au/articles/2006/03/25/1143084055425.html#>.
- Nouvel Observateur*. 2005. Michelin 2005: 3 étoiles pour Régis Marcon.
- Ostrom, E. 1990. *Governing the Commons*. Cambridge University Press, Cambridge, UK.
- Rai, A. K. 1999. Regulating scientific research: Intellectual property rights and the norms of science. *Northwestern University Law Rev.* **94**(1) 77–152.
- Raustiala, K., C. Sprigman. 2006. The piracy paradox: Innovation and intellectual property in fashion design. *Virginia Law Rev.* **92**(8) 1687–1777.
- Rimal, R., K. Real. 2003. Understanding the influence of perceived norms on behaviors. *Comm. Theory* **13** 184–203.
- Schrader, S. 1991. Informal technology transfer between firms: Cooperation through information trading. *Res. Policy* **20** 153–169.
- Simoni, C. 2003. *Mastering the Dynamics of Apparel Innovation*. Firenze University Press, Firenze, Italy.
- Sitkin, S. B. 1995. On the positive effect of the legalization of trust. R. J. Bies, R. J. Lewicki, B. H. Sheppard, eds. *Research on Negotiation in Organizations*, Vol. 5. JAI Press, Inc., Greenwich, CT, 185–217.
- Strandburg, K. 2008. Users as innovators: Implications for patent doctrine. *Univ. Colorado Law Rev.* Forthcoming.
- Veblen, T. 1899. *The Theory of the Leisure Class*. Republished in Penguin 20th Century Classics, Penguin Books (1994).
- von Hippel, E. 1987. Cooperation between rivals: Informal know-how trading. *Res. Policy* **16** 291–302.
- von Hippel, E. 2005. *Democratizing Innovation*. MIT Press, Cambridge, MA.
- Walsh, J. P., C. Cho, W. M. Cohen. 2005. View from the bench: Patents and materials transfers. *Science* **309**(September 23) 2002–2003.
- Zhou, K. Z., L. Poppo. 2005. Relational contracts in China: Relational governance and contract assurance. Working paper, Virginia Tech.

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