Modernizing
Secured Financing Law For
International Information Financing:
A Conceptual Framework

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I. INTRODUCTION

Commercial asset value in today's global economy often resides primarily in knowledge-based assets rather than in the physical commodities that once dominated the industrial age. Recognized intellectual property interests, including patents, copyrights, trademarks, industrial designs and trade secrets, have joined with modern knowledge constructs, including domain names, databases, personality rights and folklore, to create new sources of wealth we can generically identify as "information." Since no country has a monopoly on the well-springs of human imagination, the international information economy offers opportunities for sustainable development and improved standards of living for all. To realize its full potential, however, it is essential that traditional commercial law and practice come to terms with the very different legal and economic requirements of the information age.

Increasingly, the creation of world-class information requires a coordinated development process and capital base that surpasses in complexity any previous industrial effort. Creating new software programs, finding new wonder drugs, or producing a major motion picture, can cost hundreds of millions of dollars and take thousands of man-years of creative effort. The techniques for bringing new information to the public can be just as complex and as expensive. Effective exploitation requires an intricate array of contractual undertakings, some of them non-overlapping (exclusive licenses) and others overlapping (nonexclusive licenses), elaborated through sophisticated tiers of sublicenses and sub-sublicenses to the final end users. It is through these complex contractual webs – often called the "chain of title" – that creators bring their creations to the public and in turn receive the capital needed to fund new creations. No single country has a sufficient economic base to support all the costs of researching, creating, and marketing many new information constructs. Thus, modern legal rules must support effective information creation and exploitation on a global scale.

The international intellectual property community has been actively working towards modernizing intellectual property law and practices. A cornerstone of their work has been the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS). Under the leadership of the World Intellectual Property Organization (WIPO), they have promulgated the Patent Law Treaty, the WIPO Copyright Treaty and Performers Treaty, and are finalizing the Trademark Law Treaty. Through WIPO they have sought to increase efficiency through the ICAAN system for domain name registrations, the recording rules in the Patent Law Treaty, the Paris Union proposals for recording trademark licenses, and the promulgation of the Treaty on the International Registration of Audiovisual Works. These efforts demonstrate a firm commitment on their part to adopt the most modern legal rules, professional practices, and management systems for the global information economy.

One area that has fallen behind these developments is secured financing law. Secured financing allows a creditor to take a preferential position in identified assets, thus facilitating the lending of needed capital to a debtor. Unfortunately, most secured financing laws were crafted at an earlier time to accommodate the needs of the industrial and manufacturing sectors. Their basic structures and methodologies are not well suited to a modern, global information economy.

Traditional secured financing law revolves around taking security in tangible goods ("inventory") and the contractual payments rights ("accounts receivable") arising from their disposition. Conventional commercial law then creates a rough parity between the inventory and accounts: when goods were sold, title passes to an "ordinary course" buyer free of the lender's security, but the security instead attaches to the buyer's payment account under a "floating lien" or “floating charge” mechanism. In this “asset-based” financing, the lender’s risks are gauged by the likelihood the debtor will repay without default and by the ability to realize a monetary return by foreclosing on the tangible property or the contractual payment rights. Under the floating lien scheme, upon default the lender takes in effect a snapshot of the debtor’s then existing stock of goods and accounts as the source of repayment.

While these concepts still work in a manufactured goods setting, they are inappropriate for the financing needs of the information industries. Information law has different policy goals than goods law, utilizes markedly different legal doctrines for dealing with property ownership and transfer, requires complex tiers of licenses that allow remote parties to maintain control over information even after a transfer, looks to royalty income steams payable over time rather than in single payments, and relies on national laws and registration systems coordinated in international conventions to establish minimum standards and track information ownership. Secured financing is primarily a derivative law in the sense that it deals in assets created and supported by other bodies of law. The global information economy deals in a wider range of information assets, associated payment streams and commercial arrangements than can be easily accommodated in the financing constructs of an earlier time. Thus, a proper approach is to modernize traditional secured financing law for the information age.

It is thus fitting that WIPO should again take the lead by organizing a forum where intellectual property professionals can discuss openly with financing practitioners proposals to update secured transactions laws. It is also encouraging that UNCITRAL, a recognized leader in global commercial law, should agree to participate in such a forum and share in the project of modernization. The Twenty-Second Century Foundation appreciates the opportunity to be a part of such an undertaking and to contribute this paper to the dialog.

II. AN INFORMATION SECURED FINANCING FRAMEWORK

Images of typical transactions often affect how we think about appropriate legal rules. In a time of dynamic change, however, images derived from an older era may serve poorly in the new. Traditional secured financing law often relies on imagery of the financing practices of the factory and the retailer in crafting its rules. This imagery, however, is misleading when applied to the fundamentally different reality of information financing.

A. Information: Asset–Centric Financing

Information financing primarily utilizes "asset-centric" structures in which the organizing variables revolve around specific information assets and their associated payment streams. In information property law, ownership tracks to creativity, so that rights arise in the person who created the invention or work or first used the mark. Information law then gives the creator rights to control further remote uses, so that asset value arises both in the creation itself and in the array of contractual authorizations to use the creation in various manners, times and places ("licenses"). Since rights associate to the intangible information, rather than to tangible items, they are not cut-off by transfers to "ordinary course" buyers. Equally important, many countries establish information based filing system so that third parties can identify who controls the information and has authority to file infringement claims or grant licenses at each point in the chain of title. This results in a "vertical system" focused on the individual information assets - patents, copyrights, trademarks, *etc*. In this structure "upstream" rights have ongoing impact on "downstream" rights to use the information and collect royalties. This structure also supports a context in which the development of individual assets often requires substantial investment in those particular assets, with the result that financiers need to obtain security in the particular information and recoup their investment from the royalty streams arising from *its* exploitation.

We might visualize a typical vertical information financing structure as follows:

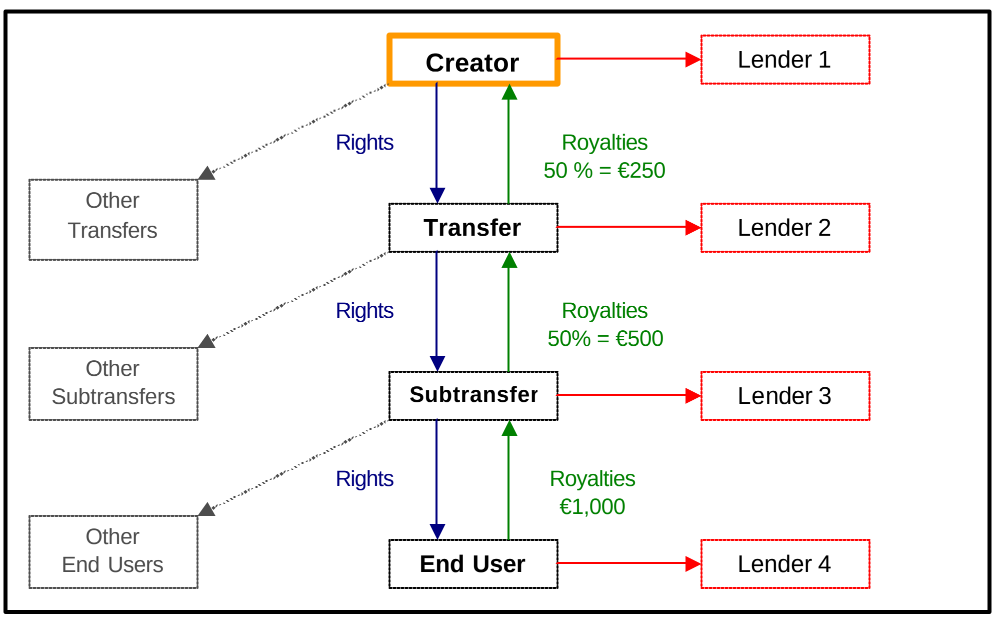

Figure1: Information Financing Model

Figure 1 illustrates a canonical information financing structure. The information asset originates with the "Creator" at the top node and interests fan out in a "tree-like" array of transfers and subtransfers. The ability to make multiple transfers is illustrated by the gray boxes on the left hand side of the tree. The black boxes illustrate a particular "branch" of the tree. The sequence of transfers from Creator to End User is the "chain of title" to that End User. Each step involves a contract in which a transferor grants "rights" in exchange for "royalties." The rights allow use of the information in a particular manner, place and time, as illustrated down arrows. The royalties are payment streams for the rights illustrated by the up arrows. Sometimes, royalties are a fixed amount. More commonly they are based on a share of the income derived by a transferee from its own subtransferees due to the difficulty in predicting market acceptance of information. Thus, in Figure 1, End User pays Subtransferee a fixed royalty of €1,000 for its rights. Subtransferee in turn owes its Transferor a royalty of 50% of its income, and so pays 50% of €1,000 = €500 to Transferor and retains €500 for itself. Transferor in turn owes the Creator 50% of Transferor's licensing income, and so pays 50% of €500 = €250 to Creator and retains €250 for itself. These payments are not limited to a single occurrence, but in practice happen continuously over the life of the authorization (the "license period").

Figure 1 also illustrates that at each stage in the chain of title a party may grant security in its rights and royalty entitlements to a Lender. For example, Creator may grant security to Lender 1 in order to obtain the funds needed to create the information. Lender 1 then looks to the €250 royalty payment from Transferor (along with all other transfers) to repay its loan. Transferor may grant security in its rights to Lender 2 to obtain funds to advertise and sublicense the information, and Lender 2 in turn looks royalty payments from Subtransferee to repay its loan. However, Lender 2 is only fairly able, absent a negotiated contrary result, to collateralize Transferor's €250 *net* share of royalty income, not its €500 gross income. This is because Transferor must pay €250 to Creator (and thus to Lender 1) for continued use of the rights that are generating royalty income in the first place. Otherwise, Creator (or Lender 1) can terminate Transferor's authorization and Lender 2 will lose its collateral. Of course, Transferor may, and in practice often does, change this result by negotiating with Creator to eliminate termination rights or to treat Creator as simply an unsecured general creditor, but that requires a voluntary agreement with Creator. Lender 2, however, benefits from this situation because it knows the same result applies to Lender 3, so that Lender 3 cannot take the entire €1,000 payment from End User for itself, but must, absent a contrary agreement with Transferor, remit at least €500 to Transferor to preserve Subtransferee's rights, thus ensuring Lender 2 that it has a source for repayment of its loan.

This vertical structure creates a cycle in which rights flow "downstream" from creators through intermediate transfers to end users, and waves of cash – royalties – flow back "upstream" from end users through those transfers to creators. It is tempting to think that a transferee "owns" the entire royalty wave passing through its coffers at any point in time, but in actuality the transferee only surfs on top of the wave to the extent of its royalty share. The remaining royalty share must be passed back "upstream" and on eventually to the creator in order to provide the incentives necessary to make new creations needed for the cycle to continue. Information law enables this to happen by giving creators, and their successors, the right to bargain for royalties in exchange for the necessary rights to use the information. A secured financing law which gave a transferee the right to redirect the entire royalty wave to its secured creditor despite contractual terms to the contrary would ultimately deprive creators of the financial nourishment they need to create new information flows in the first place.

B. Industrial Goods: Debtor-Centric Financing

In contrast, many secured financing laws use a "debtor-centric" financing system in which the organizing variables track against the debtor and its shifting stock of goods and accounts. Certainly, this is the approach in the American UCC Article 9, which is often held up as the premier example of this type of secured financing. Article 9 downplays the importance of tracking ownership claims ("title") in individual items of secured collateral. Instead, the security instrument covers broadly defined classes of collateral - goods, inventory, accounts, *etc.* - in transactions that encumber all assets in a class by a single security arrangement that requires minimal monitoring obligations once the initial agreement is struck. UCC Article 2-401 supports this approach by mandating that a seller may not retain any "title" in goods once they are sold, meaning the seller has limited legal means for "downstream" control over any use of goods after sale. Any purported title retention is by law converted to a security interest which must take its place in the priority line-up with all other applicable financings. As a result, the filing system under Article 9 utilizes a simplified "notice" structure where records are tracked to the debtor and classes of collateral in preference to individual assets. This yields a horizontal structure in which the relevant inquiry involves the debtor and resulting information about the debtor's current and future assets encumbered by the financing. The filing system does not track prior ownership claims to any assets because it statutorily eliminates any "chain of title." The system uses "notice filing" because it is more concerned with classes of collateral than discrete, and often changeable, items. This horizontal structure supports "floating liens" that smoothly range across all of a debtor's personal property in identified categories. That framework has become the dominant framework of Article 9 financing with respect to most types of assets.

We can visualize a typical horizontal debtor-centric financing structure as follows:

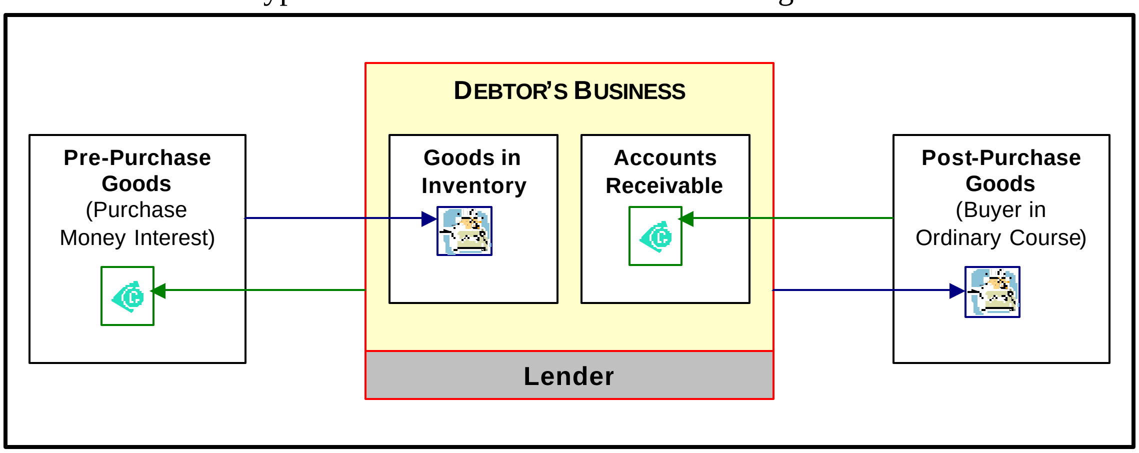

Figure2: Debtor Based Financing

In this example, although individual items of collateral are sometimes important, by and large what matters is the current stock of the debtor's inventory of goods and resulting accounts (or more generally "proceeds") as they change over time. Thus, the Lender takes a "floating" lien or charge that ranges "horizontally" over specific classes of assets, or, as illustrated in Figure 2, all of the debtor's inventory and account assets. An "after-acquired property" clause allows the security interest to attach automatically to new inventory as it comes into the debtor's operation, alleviating the need for filing a new collateral description every time that happens. Covering "proceeds" means a security interest perfected in inventory goods will also be perfected in the accounts realized from their sale. A "future assignment" clause allows a creditor to provide on-going cash flow financing while still retaining its priority position. On default, the creditor forecloses on the debtor's current assets (inventory and accounts) as they then exist. In this structure, the primary focus is the on-going operations of the debtor, not the particular items of changeable collateral, and the security interest is accordingly filed against the debtor.

The floating lien requires mechanisms to deal with collateral before it is owned and after it is sold. UCC Article 9 handles this with two "super priority" rules. On the pre-purchase side, a business may want to buy specific machinery, but a financier may be reluctant to extend credit to do so if it knows its security in *that* machinery will become subordinate to a generic, pre-existing floating lien. To solve this, Article 9 allows a "purchase money security interest" to become superior to a pre-existing floating lien. On the post-sale side, a buyer would not readily purchase goods if the buyer thought a foreclosing creditor of the seller could repossess them. Article 9 therefore recognizes a super priority for a "buyer in the ordinary course" who takes free of a prior security interest, even if the buyer is aware of it.

It is possible to utilize a vertical structure for this type of financing. Indeed, chattel mortgage acts, including those once used in the United States and still used in many countries, often do so. It is useful to compare how they operate in contradistinction to the floating lien model. Consider an automobile dealer with a chattel mortgage covering a fleet of 100 cars. A consumer wants to buy a car. To complete the sale the dealer's lender must make a new filing that releases the car from the chattel mortgage and then adds the buyer's payment account. The buyer's lender must ensure that the dealer's chattel mortgage is released and make a new filing to create a lien on the car and release any lien on the buyer's payment account. A good deal of paperwork is involved. While this paperwork shuffle is tolerable when dealing with high value assets like cars, it becomes increasing burdensome when the collateral shifts to large quantities of small fungible items like toasters or shoes. The floating lien model accommodates lenders by using statutory rules to reduce the paperwork. It provides by law that the ordinary course buyer takes free of the floating lien, thus automatically releasing the seller's lender, but it allows the lien to attach with the same priority position to the resulting account proceeds, thus eliminating that filing requirement. The system works well for fungible commodities sold for single, up-front payments in basic buy/sell transactions. But it does not work everywhere.

C. Contrasting Financing Models

It should be apparent that information financing and industrial goods financing employ conceptually different frameworks to support structurally different types of financing. Stated simply, the information (vertical) system best supports a financing framework focused on specific assets or their development, while the debtor-centric (horizontal) system better supports a financing framework that references the going concern value the debtor's business as a whole. Consider the following illustration:

> **Illustration 1.** ABB Productions desires to create a copyrighted motion picture, *Race Times*, and obtain all relevant rights from all relevant persons that may contribute to the project. ABB has produced two hundred other motion pictures, all subject to various encumbrances. To produce *Race Times*, ABB seeks financing from Financier.

A vertical system gives a clear focus for a financing entity whose credit or equity advances are focused on the particular informational asset. In Illustration 1, this is the Financier. The system expedites Financier's ability to evaluate risk and finance creation costs because the priority rules and filing system tracks ownership interests and competing liens by reference to the particular subject matter, here, *Race Times*. Financier need not examine interests relevant to the two hundred other motions pictures that the debtor, AAB Productions, has created.

In contrast, a debtor-based (horizontal) system better supports general business loans by allowing a lender to encumber various classes of assets with minimal effort, documentation or monitoring. But this only works for assets where the relevant legal priority rules and filing system encompass all relevant claims pertaining to those assets. For assets where pre-existing interests can affect a later transferee or lender, a debtor-based system does not work well in identifying those prior interests. When these types of assets are factored into the debtor's collateral base, as they must be when information is involved, the alleged benefits that flow from ease of encumbrance and notice filing melt away since major assets are subject to an entirely different rationale and tracking system. To see the problem, consider Illustration 2:

> **Illustration 2.** Lender desires to make a loan to Debtor. Debtor has one thousand assets. If Lender can rely on the assumption that, in most cases, possession equates with ownership and that all security interests in any property of the debtor are contained in one debtor-based horizontal system, it can verify the strength of its interest for all assets through a single search and a review of possession of the property. It can encumber all of Debtor's assets in one agreement of general description. However, if some assets are subject to prior ownership claims or other rights established under a subject matter (vertical) system, the Lender must engage in separate asset-by-asset analyses and perhaps separate agreements to encumber or gain priority in each such asset.

Circumstances such as Illustration 2 are often cited as an argument for replacing the vertical systems used for information with the horizontal systems used for traditional chattel financing. The illustration, however, suggests that result only because it assumes an otherwise horizontal arrangement of rights and ignores that, even in a horizontal system, property rights tracked on a vertical basis also impact the creditor. The view may be different if one approaches the problem from the reverse direction, as in Illustration 3.

> **Illustration 3**. Lender desires to make a loan to Debtor. Debtor has one thousand assets, but the loan will be secured by the copyright in one major motion picture. The picture involves contributions by hundreds of individuals and companies, each of which may have potential property rights claims in the motion picture which are themselves subject to lien claims. If Lender can rely on a subject-matter (vertical) system covering ownership and encumbrances, it can verify value and create its lien by using a single system. To the extent that this system might be subordinate to a debtor-based (horizontal) system, however, records pertaining to each of the hundreds of participants as well as the Debtor must be examined and cleared.

As demonstrated by Illustration 3, vertical systems are better suited to information financing where the rights of remote prior parties continue forward in the asset despite transfers of rights or change in possession of copies. All potentially competing ownership claims and lien interests can then be found and resolved in a single search. Horizontal systems are ill-suited to this type of financing since verifying asset value can require separate searches for each of potentially hundreds of prior parties in the chain of title. Since horizontal systems use a generic notice filing that identifies a shifting *class* of assets, it can be difficult to determine whether any particular asset is subject to a prior lien filing. Moreover, since the horizontal system only tracks security interests its records are incomplete as to prior ownership claims, so one must still search elsewhere to find those interests. Most troubling, since the real value of a security interest is that it allows the creditor to take *ownership* of the debtor's interest in the collateral on default, it is essential to craft a priority rule to resolve completing *ownership* claims between a foreclosing secured creditor arising from the horizontal system and a bona fide transferee who relied solely on the vertical ownership system. Since the vertical and horizontal systems use different priority rules – the horizontal system recognizes "super priority" parties that vertical system does not – reconciliation is not evident. In other words, a Lender trying to assess risk and verify asset value for vertical subject matter such as information faces significant barriers to the extent so doing requires resort to horizontal systems. For chattel financing these problems do not arise, because standard commercial law, such as UCC Article 2-401, statutorily removes remote ownership interests and "chain of title" in the goods. But information is the opposite.

In sum, effective information financing requires a single system that can efficiently track and resolve chain of title for all prior ownership and lien claims with reference to a single identifiable and unique information asset. The horizontal "notice" system used for industrial goods financing cannot handle this requirement and, in fact, was never designed to do so. Chattel financing operates in a legal framework that minimizes if not eliminates prior title and ownership claims once goods are sold. But recognition of prior ownership claims even after a transfer is essential for efficient functioning of information markets. This conflict is structural and fundamental. It cannot be resolved by bending, folding or twisting one law to fit another. Since secured transactions law is the derivative law that supports financing of assets whose value is necessarily determined and supported by other law, the proper approach is to develop new paradigms in secured financing law that are optimized for the needs of information financing.

III. INFORMATION ECONOMICS

While doubtless well known, it is nonetheless useful to repeat briefly the different economic foundations of information and industrial economies.

Information is classified as a "public good" meaning that unlike tangible products it is not consumed by use. Without legal protection against "free riders," creators could not survive[1] and viable information markets would not arise. "[C]reators and their potential customers would face a market failure in the absence of a legal rule that requires copyists to seek permission and pay license fees. . . . In a world where lack of legal restraint on copying leads to market failure, authors cannot easily get paid. Yet, in a world that has copying restrictions … markets evolve."[2]

This relationship between creator and copyist represents a classic "prisoner's dilemma." Without intellectual property law, neither creator nor copyist has a rational incentive to create, and both suffer. With it, however, creations can flourish and both parties prosper.[3]

> [A]uthors typically desire wide dissemination of their work, but want the public to pay for the access they receive. To give authors bargaining leverage with which to extract fees, the law gives them the right to exclude that functions in much the same way as do fences, or real property's rights against trespass.

In bargaining for fees, both creators and their users often look to payment of royalties over time. This is because it is notoriously difficult to predict in advance the market value of many new creations. Goods manufacturers develop production and marketing strategies in response to preferences customers already have, such as the need for a new toaster. But for information, production and marketing must often respond to subjective preferences the customer only discovers after accessing the information.[4] This leads to adaptive contracting models in which both parties can change performance obligations and payment streams as they adapt to changing market conditions. Relying solely on up-front payment models ("paid-up licenses") can be inefficient, as licensors tend to overvalue while licensees often undervalue. In free market bargaining the parties often adjust by contract the extent to which the licensor has contractual mechanisms to ensure payment for continued use, such as the right to prevent further transfers or to terminate for non-

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[1] William M. Landes & Richard A. Posner, *An Economic Analysis of Copyright Law*, 18 J. Legal Stud. 325, 326-327 (1989) ("A distinguishing characteristic of intellectual property is its "public good" aspect. . . . In its absence [copyright protection], anyone can buy a copy of the book when it first appears and make and sell copies. The market price of the book will eventually be bid down to the marginal cost of copying, with the unfortunate result that the book will not be produced in the first place, because the author and publisher will not be able to recover their costs of creating the work. The problem is magnified by the fact that the author's cost of creating the work, and many publishing costs (for example, editing costs) are incurred before it is known what the demand for the work will be.")

[2] Wendy J. Gordon, *Asymmetric Market Failure and Prisoner's Dilemma in Intellectual Property*, 17 U. Dayton L. R. 853, 854-855 (1991)

[3] *Id.* at 855 (emphasis in original) (also describing "prisoner's dilemma" situation for information).

[4] Arthur DeVany and W. David Wallis, *Bose-Einstein Dynamics and Adaptive Contracting In The Motion Picture Industry*, 106 THE ECONOMIC JOURNAL 1493 (Issue no. 439, 1996). ("The hard part about understanding the motion picture industry is coming to grips with the way demand and supply operate. Film audiences make hits or flops … not by revealing preferences they already have, but by discovering what they like. When they see a movie they like … they tell their friends about it; reviewers do too. This information is transmitted to other consumers and demand develops dynamically over time as the audience sequentially discovers and reveals demand. Supply must adapt sequentially as well, which means there must be a great deal of flexibility in supply arrangements. Pricing must be equally flexible. The crucial factor is just this: nobody knows what will make a hit or when it will happen. When one starts to roll, everything must be geared to adapt successfully to the opportunities it presents. A hit is generated by an information cascade. If supply can ride the cascade, a superstar might be the result. A flop is an information bandwagon too; in this case, the cascade kills the film. The discovery of preferences, the transmission of information, and state-contingent adaptation are the key issues around which the motion picture market is organized. The organization is supported by adaptive contracts.")

payment. These mechanisms are then be factored into the risk/reward mix used to determine the royalty payments.

Perceptive scholars recognize that these unique features of information law demand a different approach to secured financing law:[5]

> Our normative theory of security interests is grounded on the normative theories that justify the institution of private property. The right to own private property is the bedrock of capitalism and an essential component of a market economy. . . . A central feature of the economic account of property is transferability – free alienability – of property rights, without which resources could not find their way to users who value them more. . . .
>
> Nonetheless, some restrictions on alienability actually may promote efficiency. In her study of alienability, Susan Rose-Ackerman explained that "the familiar problems of externality control[,] . . . imperfect information, 'prisoner's dilemmas,' free rider problems, and the cost of administering alternative policies" may each justify appropriate restraints on alienation.

As public goods, information assets face significant prisoner's dilemma and free rider problems that do not arise for consumable commodities. Thus, when considering how best to facilitate secured financing of information assets, it is essential to keep in mind that policy choices which support efficiency in information markets are not appropriately grounded in imagery of "free alienability" derived from industrial wares. To the contrary, as we will see, enforceable contractual restrictions on alienability often promote efficiency and enhance asset value for information.

[5] Steven L. Harris & Charles W. Mooney, Jr., *A Property-Based Theory of Security Interests: Taking Debtor's Choices Seriously*, 80 Va. L. Rev. 2021, 2047-2049 (1994).

IV. USING INFORMATION AS COLLATERAL

An important area of information financing is providing capital to create the information in the first place. This type of lending is often known as "project financing." The lender looks for security in the information asset itself and in royalties earned from its eventual licensing to retire the debt. The financing brings to the fore information rules that deal with creation and initial ownership of information assets.

The rules for information ownership are not always intuitive to a person unfamiliar with the policies that dominate these areas of law, but the policies are nonetheless essential to reward creative parties. Property rights in goods are grounded in traditional personal property law, a field that has been staggeringly stagnant for generations. Property rights in information assets, on the other hand, are grounded in a diverse and rapidly changing array of intellectual property and related laws. We will not address all the different vesting rules here, but instead focus on basic principles that should infuse information secured financing law.

A. Initial Ownership Issues

Traditional goods based legal rules often use possession and payment as the key factors for determining ownership. When goods are placed in circulation, traditional personal property law contains rules to support the notion that current possession equates to ownership or at least the right to pass good title. A sale transfers title to the goods to the buyer by law. The buyer needs to take possession, however, since a later "good faith purchaser" of goods can often succeed against a prior buyer who failed to do so. A "buyer in the ordinary course" from a party entrusted with possession can take good title to the goods even in cases where the sale was unauthorized. These background rules of personal property law facilitate the use of floating liens on collateral that consists of inventory in the debtor's possession as it changes over time. They allow a lender conducting due diligence on the borrower's collateral base to rely on inventory counts and paid purchase orders as strong evidence of collateral ownership and value.

Information ownership rules, however, differ substantially from those for goods. Most basically, information laws do not equate possession with ownership. Instead, especially for patents and copyrights, they focus on the creative person responsible for the invention or work, so that mere possession of a copy, or even funding creation, does not necessarily equate to ownership (except in certain employment or "for hire" cases). Obtaining information ownership often requires contracts with creative individuals or their authorized successors. While these contractual relationships can be complex, they nonetheless serve significant policy goals that give information assets personal meaning and economic value.

Initial vesting: Consider a typical case where a company commissions creation of software.

> **Illustration 4.** Company retains Joe, a third party software developer, to create an inventory control program. The contract does not specify who owns the program. Company pays the entire development cost and has possession of the only copies of the software. Lender makes a loan to Company, including as collateral the copyright in the software program.

In this setting, if goods were involved, the Company would own them when delivered. The Lender in the hypothetical might assume the Company who paid for development and has the only copies also owns the copyright to the software, but under most national copyright laws, the reverse rule governs. Unless the developer (the creative party) contractually transferred its ownership to Company, the developer owns the copyright. Company may have a limited license to use the software, but nothing more. It cannot grant an interest in the copyright to the Lender, and no recording or priority rule protects the Lender from the developer's predominant property right. The software developer's failure to register its interest does not alter his ownership rights.

Multiple Ownership Issues: Information interests are also characterized more frequently than goods by multiple parties with joint ownership interests. This comes up frequently in patent law under concepts of co-inventors and in copyright law in the form of various co-authors. Multiple ownership claims can also come up in an even less obvious way:

> **Illustration 5.** Scientist, working with other employees of A Co. develops a new method of processing nuclear waste. The process is not patented, but is a trade secret used by A Co. for competitive advantage. Unknown to it, however, B Co. discovers the same process. Later, Scientist leaves A Co. and creates C Co. based in part on the process she developed. Assume A Co. did *not* preclude Scientist from subsequent use of the process she developed. What are a lender's rights in the trade secret in a loan to A Co., B. Co. or C Co.?

Most forms of intellectual property can be co-owned. Some informational property can be owned separately by parties entirely unaware of each other. In such cases, a security interest in intellectual property dealing with one owner does not necessarily bind the others or their transferees. In Illustration 5, for example, all three parties may independently own the trade secret. A lien on A Co.'s ownership has no impact on the interest of B Co. or C Co.

Territorial Issues: Although many information laws are harmonized on an international level, under the territorial principle they still operate at the national level. It is thus possible for comparable information to have different owners in separate countries. Consider:

> **Illustration 6.** Acme Co. is the owner of the trademark SCORPION under which it sells famous hunting knives in the United Kingdom. Brace Ltda., a Brazilian company, also sells hunting knives under the SCORPION mark in Brazil. Each company has taken steps to duly register its mark in its respective country.

A lender who takes security in the trademark rights of Acme Co. of course has no interest in any trademark rights of Brace Co., although the marks themselves are comparable. The same applies even if the lender's security interest in Acme Co. covers "all rights worldwide."

Territorial Co-Ownership Issues: Territorial and co-ownership issues can also arise in a single information asset, as shown by this illustration.

> **Illustration 7.** Mountie, a Canadian producer, Gallica, a French producer, and Teutonia, a German producer, all desire to co-produce a motion picture, *Tri-Lateral*, under existing co-production treaties. Each co-producer will own the copyright in their respective countries, and they all co-own the copyright elsewhere. Lender desires to loan them production funds taking as security the copyright worldwide in the motion picture and its elements.

Such co-development arrangements are common throughout the information industries. Under a debtor-centric notice-filing system, the Lender must typically establish priority of its lien by filing where the debtor is "located." Where that is in Illustration 7 is not obvious. There are different individual debtors in some countries, and in other countries there are three debtors. Filing systems for tangible commodities often provide a fall-back rule that at least allows filing where the goods are located. Such reasoning fails for intangible assets which have no physical situs anywhere but have a legal situs in each protecting country. Using the national intellectual property filing systems in each protecting country would seem a more appropriate choice.

Improvement Issues: Many information assets also incorporate features from pre-existing creations, such as improvement patents or derivative works. In that case, one must also consider rights that flow from the initial creation. Consider the following:

> **Illustration 8.** B Co. a software developer, obtains funds from Lender to create new software. B Co. retains ownership of its "old" code, but grants Lender a security interest in its "new" code developed after funding. B Co. mixes old and new code in the source code for is new functioning program, but one cannot readily separate them. B Co. becomes insolvent and Lender seeks to recover its "asset" from the bankruptcy estate. How?

Yes, this happens.[6] Even if Lender can separate old from new code, since both are required to operate the new software, Lender must obtain authorization from the copyright owner of the old code or its collateral has limited value. Examples like this are sometimes used to argue for laws requiring a transfer to a creditor to "free-up" assets for financing. But this misses the point. It was Lender's job to conduct proper due diligence to assure itself of a valuable asset to finance in this first place. This can be seen by looking at the example from the opposite direction.

> **Illustration 9.** As in the prior illustration, assume B Co. had granted Financier a security interest in the old code. By itself, the old code runs a program that can still be marketed, albeit not as well as if combined with the new code. Nonetheless, Financier also desires to extract the old code program from the bankrupt and exploit it to recoup its loan.

A rule of secured financing law that transfers old code to Lender to make its asset valuable would impair asset value of a competing claimant, Financier. Moreover, Financier would also be able to rely on such a rule to obtain a transfer from Lender, potentially impairing Lender's collateral. Lender's better approach was to rely on information law to establish asset ownership.

Future Assignments: A typical goods based floating lien often encumbers "after acquired" property of the debtor. In information law, it is possible to make "future assignments" of creations not yet in existence, but with appropriate limits on their scope. For example:

> **Illustration 10.** Jake, a starving artist, assigns Snidely "ownership of every painting I make for the rest of my life" in exchange for enough money for one hot meal. Twenty years later, Jake paints an acknowledged masterpiece, and Snidely claims ownership of the copyright.

Doubtless in every national system Snidely's claim would be invalidated. Many national laws contain rules to prevent such overreaching. German law prohibits assignment of unknown future works. French law contains statutory rules for certain contracts with authors. California limits employment contracts in the music business to 7 years and requires minimum yearly payments. All of these rules limit the ability of creators likewise to encumber future creations.

No Ownership: Ownership rules of informational property law are simply unlike those for tangible property. One last illustration underscores the point.

> **Illustration 11.** Acme obtains a license from Baker to use a patented process in Acme's manufacturing system. Unknown to Acme, the patent is owned by Charlie, and Baker is not authorized to license it. Lender makes a loan to Acme secured by all of Acme's assets.

In this case, the license has no value, and Lender's security interest on the license has no value either. A rule of secured transaction law that somehow validated the license from Baker to Acme to facilitate financing would in fact endorse piracy, and quickly destroy the value of the

[6] See *In re Bedford Computer Corp.*, 62 B.R. 555 (Bankr.D.N.H. 1986).

patent for Charlie. If Lender wanted to include the patent in its collateral base when making the loan, Lender needed to clear title vertically for the patent. Merely searching the personal property notice filings against Acme would not suffice.

B. Registration Issues

Registration systems apply to many types of information. Letters patent, for example, are issued by national governments, so all patents begin as "registered." Most countries maintain systems for registering trademarks. Under the Berne Convention, registration is not a condition of copyright protection, but many countries maintain voluntary systems to identify copyrighted works. Countries with registration systems usually allow recording of ownership transfers and lien claims. Since these systems index filings against the specific information creation, the initial registration serves as a "birth certificate" or starting point for a chain of title, making it convenient to search all recordings indexed back to the initial registration and its identified owner.

Sometimes registration issues are confused with ownership rules when it comes to addressing secured financing. Consider this example:

> **Illustration 12.** Build Co. obtains a loan from Lender secured by its "existing and future intellectual property rights." Poindexter, an employee of Build Co., invents a new process that becomes the basis of a software patent. Meanwhile, other Build Co. employees develop a new copyrighted software program, modifying the source code daily. None of the source code is registered with an available national copyright office. How does Lender go about establishing the priority of its security interest against competing claims?

It is sometimes argued it is too burdensome for a lender to ensure a debtor has registered new source code every day. Instead, the law should allow Lender, as in the example, to establish priority by a simple notice filing against Build Co. regardless of whether or when any registration occurs.

The argument, however, misinterprets the interplay of the ownership and registration rules. Start with the software patent. No patent rights will exist in the software patent unless and until letters patent are issued, and no notice filing by Lender will change that. In addition, patent law typically vests patent ownership in individual inventors. Build Co. may have a shop right to use the software patent, but not ownership absent an assignment from Poindexter. No notice filing by Lender will change this either. As to any copyright in the software, under most national laws, Build Co. may claim ownership, or at least exclusive licensing rights, of any copyright in the software. No registration is necessary to change this result.

As a result of the information law rules, Lender cannot assume a notice filing against Build Co. gives it security in any intellectual property created or acquired by Build Co., regardless of any registration. Instead, Lender must examine the ownership rules for each item of information to ensure it is available as collateral. This is prudent. If Lender is loaning money to Build Co. it wants assurances beyond Build Co.'s representations that Build Co. actually owns the assets. This means Lender must verify ownership or control of each item of information Build Co. proposes to use as collateral. The notice filing against Build Co. did not help Lender in this process because the background ownership rules for information do not equate possession with ownership.

Lender may also desire to establish priority of its interest against competing claimants of Build Co. Registration can important here if it is required for a valid recording. The problem with a notice filing approach, however, is that does not clearly resolve conflicts between a lender who relies on the horizontal system and a bona fide purchaser relying on the vertical system. Consider:

> **Illustration 13.** In Illustration 12, Lender makes a notice filing in the local personal property system covering "all existing and future intellectual property rights" of Build Co. Later, Build Co. registers the software copyright in the national copyright office and transfers the entire copyright to Next Co., who grants a partial assignment to Release Co., who grants an exclusive license to User Co. None of these parties have any actual knowledge of Lender, and all of their transfers are duly recorded in the national copyright system. Lender now seeks to foreclose its security interest against Build Co. and "wipe-out" the licenses. Use Co. defends on the grounds that it was a good faith purchaser for value who recorded prior to Lender in the national system.

Which system takes precedence, the local personal property system, or the national copyright system? The local personal property filing system was incapable of registering the copyright or recording ownership transfers, so these were recorded in and gained priority through the national system. When Lender sought to foreclose, it tried to become an *owner* of the copyright, and thus needed to test its interest in reference to the ownership system. Lender's failure to record in the national copyright office would be fatal against later recording good faith ownership transfers in typical systems. Lender may hope the notice filing at least gave it an advantage over Build Co.'s insolvency representative, but that depends on the interplay between insolvency and intellectual property laws. In many countries Lender's failure to record in the information filing system would also be fatal against the insolvency representative as well.

A surer way for Lender to secure its interest was to obtain regularly copies of the source code and, to the extent available in a national system, to register them and record its lien. This is also sensible practice, since without actual source code the security interest may have little value anyway. Another alternative is to establish a new "bankruptcy-remote" development company as the debtor, and then make all the creative personnel render services directly for this company under contracts that vest all ownership in this new entity. Lender can then treat this entity as the debtor.

More is involved here than the difference between a first-to-file rule and a modified first-to-create rule. As emphasized earlier, the vertical approach in information law conflicts with the horizontal approach in traditional chattel financing law. Given that conflict and the assumption that information priority rules prevail in contests between parties using the information system and secured lenders using the personal property system, the information rules actually free up and support financing that horizontal filing systems inhibit. Consider:

> **Illustration 14.** Lender 1 makes a loan to Studio, acquiring an interest in all Studio's current and future assets, including all general intangibles. Lender 1 files and perfects its interest in a horizontal system covering all of "Studio's assets." It also makes filings in the national copyright office for all then-existing copyrights. Later, Lender 2 is asked to make a loan to finance Studio's production of a new motion picture, *Rain Drops in Seattle*. As soon as possible, Lender 2 registers and records its interest in the copyright office with respect to *Rain Drops in Seattle*. Which lender has priority with respect to *Rain Drops in Seattle*?

This example now involves a direct conflict between two lenders, but the problem is the same: in case of conflict, which system prevails? Again, the key is not so much filing (attachment) but foreclosure (enforcement). It is foreclosure that allows a creditor to take the debtor's interest in the collateral to retire the debt. Here, Lender 2 has taken the necessary steps to place itself first in the ownership priority line-up and thus should ultimately have priority over Lender 1 in the copyright in *Rain Drops in Seattle*. Filing in the horizontal notice system has been of limited utility for Lender 1 since Studio was easily able to transfer the collateral free of Lender 1's lien by registering and transferring to a bona fide transferee who uses the information vertical system.

V. FINANCING INFORMATION TRANSFERS

Information assets are frequently exploited through tiers of contractual transfers and subtransfers. Interests under these transfers can also be the subject of secured financing. The collateral can involve the informational rights being transferred, associated payment streams, or physical embodiments of the information. We will discuss physical embodiments later. Here, we focus on the rights and payment streams arising under the contractual transfers. Commercial use of contract rights as collateral has widespread application in financing. When brought into the context of information law, however, special concerns make the lending practice unique.

A. Identifying the Transfer Interest

Initially, it helps to address two basic issues. The first issue involves the nature of the transfer itself. Broadly speaking, information transfers fall into two categories:

- *Ownership transfers*, such as assignments and in some contexts exclusive licenses, which transfer ownership interests in the information itself; and
- *Use privileges*, such as non-exclusive licenses and in some contexts exclusive licenses, which authorize use of the information free of an infringement claims but do not include associated ownership rights.

Distinguishing these two is important in valuing the asset, and information law contains specific rules for so doing. In general, an ownership transfer carries with it "standing" in the form of the ability to sue third parties for infringement, "exclusivity" as a right to prevent others from making competing uses, and "alienability" allowing granting further ownership transfers (partial assignments) or licenses (use rights) unless restricted in the instrument of transfer. Use privileges, on the other hand, only allow the transferee to use the information within the scope of the transfer free of infringement claims, but typically do not allow standing, often do not grant exclusivity, and usually are not transferable without consent. These principles, of course, can vary depending on the type of information being transferred. We will not discuss all the variations here, only remark it is important to keep them in mind when discussing information transfers as collateral because of the different results and valuation that may flow in each case.

The second issue is to clarify is that information contact financing entails two distinct legal formats depending on the status of the party involved:

- *Transferor:* The first deals with the transferor's use for financing purposes of its interest. Most frequently, this involves transferor's right to receive payments from a transferee, and a financing arrangement typically entails mechanisms to convert future payment streams from sublicensing into present cash.
- *Transferee*: The second treats the transferee as the debtor and its rights as collateral. Sometimes these rights may be the only collateral, but they may also be significant in maintaining the value and operational capacity of other property. Often these include the right to earn income from sublicensing.

These two formats entail different legal issues. However, it is important to realize that one party may be subject to both formats in a financing. Look again at Figure 1. The Creator is certainly always a transferor, just as the End User is always a transferee. But the intermediate parties occupy both roles. This is a common occurrence in the information industries.

B. Current Information Law Practices

It is now useful to examine how current information law and practice finances interests under information transfers. To make the discussion concrete, consider Illustration 15:

> **Illustration 15:** Debtor is in the business of exploiting video rights in motion pictures worldwide. Debtor has obtained exclusive licenses from hundreds of producers authorizing Debtor to make and sell videos of their movies and to grant sublicenses authorizing others to do so in multiple countries. In each case Debtor agrees to pay the producer a royalty of 25% of the income Debtor derives from exploiting the video rights. Debtor has entered in sublicenses in 5 countries under which the transferees agree to pay Debtor royalties equal to 50% of the transferee's income, which Debtor estimates will amount to payments of at least €100,000 per quarter for the next three years. Debtor anticipates entering into other sublicenses as well for similar terms. Debtor approaches Lender about a loan secured by Debtor's video licenses and the expected royalty income.

This situation, in which Lender is taking security in an array of information assets, is often called "library financing." Under this model, the Lender establishes a "borrowing base" of information assets acquired by Debtor, in this case Debtor's licenses from producers and the resulting royalty payments from (credit-worthy) transferees. As each picture is unique, Lender evaluates each asset, determines Debtor's interest and expected revenue, and includes the asset in the borrowing base for a specific value (*e.g.* X% of expected income) against which it will extend credit. This process involves two related but distinct issues. The first is the "look up" problem of ensuring Debtor owns the exclusive licenses and there are no conflicting claims that could impair Lender's interest. The second is the "look down" problem of establishing the priority of Lender's lien in the Debtor's licensed rights and their resulting royalty streams.

Let's start with the "look up" issue of ensuring that Debtor owns or controls the information collateral. This entails the following steps.

- *Chain of Title Search:* Lender needs to search of the chain of title for each motion picture to ensure a valid sequence of transfers from the initial creator through each intermediate transfers to Debtor. Typically, Debtor does this when acquiring the pictures itself, so Lender can rely on Debtor's searches. Alternatively, Debtor, and Lender, can rely on representations and warranties from a producer, and include mechanisms to reduce the borrowing based if a picture "falls out." Whether such reliance is worth the risk in practice depends on the credit-worthiness and reputation of the producer.
- *Conflicting Licenses*: A related issue is any conflict between the Debtor's license and other licenses granted by the producers. This conflict has intrinsic importance given the frequency of multiple licenses of informational property. No priority conflict exists between non-exclusive licenses, although the value of a non-exclusive license may be affected by the existence of another non-exclusive license. In contrast, conflicts between exclusive licenses do present priority issues depending on the extent to which they overlap.
- *Termination Rights*: Since continued use of information after license termination can be infringing, Lender should examine each license from the producer for termination rights. This also applies throughout the chain of title, since termination of any prior license, including by foreclosure of a prior lien, terminates all transfers deriving from it. In some cases, Debtor may negotiate to eliminate a producer's termination right, something often done if Debtor anticipates including a license in the borrowing base. In other cases, to avoid being "foreclosed out" transferees often enter into "Acknowledgement" agreements with a

senior lender in which the transferee agrees to continue paying royalties in case of foreclosure, and the senior lender agrees to continue the transferee's interest so long as payments continue in case of a foreclosure.[7]

- *Attachment - Transfer Restrictions*: The Lender must also examine each license from a producer to determine whether it contains "anti-assignment" language they may restrict the Debtor from using the licensed rights as collateral. In the usual case, ownership transfers (assignments and in some cases exclusive licenses) allow assignment unless restricted by contract, while non-exclusive licenses are considered non-transferable without consent. Again, Debtor may specifically negotiate with a producer on this point for Lender's benefit.
- *Payment Obligations*: The Lender should also examine payment obligations due under the licenses, in this case the 25% royalty payable to producers. There are two issues here. First, can the producers exercise a termination or other right in case of non-payment? In many cases produces will agree by contract they may not terminate for non-payment, in effect becoming general creditors of the Debtor, but that may not be always the case. Second, even if a producer does not have such a right, a foreclosure sale purchaser will take the license subject to the payment right, which may impact its value as collateral. These payment obligations may thus affect Debtor's effective income added to the borrowing base.

Once the Lender has completed these steps, the next "look down" issue involves ensuring priority in the license collateral and resulting royalty streams. This entails the following steps.

- *Priority Against Competing Transfers*: For each license Lender includes in the borrowing base, Lender should take necessary steps to establish priority against competing claimants of the Debtor, including an insolvency representative. This requires examining the applicable information transfer priority rules. The basic rule is: as between two conflicting transfers, the first transfer in time prevails, unless local law allows a second transfer to prevail by complying with a recording act or other rule. In many countries, *e.g.* Germany, the "first in time" rule applies to all transfers. Other countries, *e.g.* the U.S., maintain filing systems which provide the first transfer duly recorded prevails; such systems usually require registration for an effective of a recording. The Lender will need to ensure that the information is registered and its mortgage duly recorded in any applicable recording system.
- *License Monitoring*: Lender may also desire to review and approve the terms under which Debtor makes sublicenses. This can include terms regarding up-front "advance" payment of expected royalties, allowing termination in case of non-payment, restricting assignment of the contract or royalty payments, and the like. These are similar to the provisions Lender examined when it examined the licenses to Producer.
- *Priority over Subtransfers*: Lender may also take steps for priority in the royalties from sublicensees over competing claimants of both Debtor and the sublicensees. Such priority in payment streams can follow from priority in the information. Lender may also give licensees notice that their royalty payments have been assigned to Lender, and both Lender and the licensees may enter into "Acknowledgement" agreements under which licensee acknowledges the assignment to Lender and agrees to make all payments to Lender in exchange for which Lender agrees not to terminate the license in case of a foreclosure.

This structure supports effective information secured financing in three ways. First, it establishes symmetry of obligation. That is, although Lender has the burden in clearing chain of

[7] This is analogous to real property practice, where a tenant in an office building enters into an "attornment" agreement with the real property "dirt" lender to the same effect.

title at the "look up" stage, it obtains the benefit of using those rules at the "look down" stage to establish priority and impose similar restrictions on sublicensees to ensure legal and contractual means to obtain payment. Second, the system facilitates valuation of collateral. Information creations are not like fungible goods. Each picture Debtor licenses from producer will have a different value and expected payment stream. Examining chain of title and expected revenue for each picture individually allows a Lender to determine the proper value to place on each asset it includes in the borrowing base. Third, the system allows adjustment of credit risk at each stage by tailored contractual terms. Just as every picture is different, each licensee who is making payments can have a different credit profile. A Lender may be more willing to accept an unsecured promise to pay royalties from a major company than a start-up. Debtor, with Lender's oversight, can thus adjust by individual negotiation those contracts that will require termination and non-assignment rights to enforce payment obligations to yield the best credit risk.

C. Comparison with Traditional Secured Financing Law

It is useful to compare how the Lender in Illustration 15 would fare under the traditional "horizontal" rules in goods-centric secured financing law. As a starting point, horizontal system advocates claim it is too difficult for the Lender to examine the chain of title for each of the hundreds of movie licenses Debtor obtained from the producers. Instead, the Lender should be allowed to encumber all of Debtor's licenses in a single floating lien that attaches to all existing movies licensed by Debtor and new movies as soon as they are acquired. For simplicity, the lien should be publicized by a "notice filing" against Debtor where the Debtor is "located." Priority of the Lender's lien is then determined under the local personal property rules.

To give Lender the maximum source for repayment, it is advocated that the royalty receivables from Debtor's licensing efforts should be viewed as divorced from the intellectual property rights, so that the producers have no claim to their 25% royalty superior to the Lender's floating lien unless the producers have filed before Lender in the notice system. This means that the producers need to search the personal property system for Debtor to find Lender's lien when making their licenses. It also means that if Lender's lien is a pre-existing "floating lien," it will have priority over producers' claim to their royalty share of Debtor's receivables under the priority rules in the personal property filing system. Thus, producers must contact Lender and negotiate for their royalty payments. If producers find this unattractive, they can make a license for a single up-front payment and forego royalty payments over time.

The licenses with producers may contain "anti-assignment" clauses that would prevent the Lender's lien from attaching to their licensed rights or royalty entitlement. As such, it is argued that secured transactions law should invalidate any legal rule or contract right that restricts the Debtor's ability to assign its rights or receivables for security or that allows termination of the license for making such a security assignment. In addition, financing law should consider restricting the ability of the licensors to terminate a license to the extent it impairs the Lender's collateral, or at least should recognize that "ordinary course" licenses survive termination of a prior transfer.

In this vision Lender, by a single notice filing in a personal property system, can create an effective security interest that attaches to all of the Debtor's licensed video rights when acquired and can establish the superiority of the Lender's right to all the royalty income ahead of any contrary claim by prior parties such as producers. It is argued that secured transactions law, by allowing this result, would ease the ability of the Lender to take security in Debtor's going concern value, enhance the extension of secured credit, and conform to market expectations.

In fact, the opposite is true. Lender's collateral and Debtor's business have been substantially impaired. The problem with the horizontal vision is that it uses the wrong image of Debtor's business. It sees Debtor's activities in sublicensing its rights as divorced from its activities in acquiring the rights, whereas due to information chain of title, and the consequent ability for prior parties to control remote users, the contrary is the case. As a result, the rules intended to "free up" the Debtor's assets for secured financing *as a transferee* are available to Debtor's sublicensees and their lenders to reduce Debtor's ability as *a transferor* to collect the income Lender needs to retire the debt. Consider how this would work in practice.

Start with the Lender's "look down" problem of ensuring its ability to collect royalty payments from the Debtor's sublicensees. Under the horizontal system, these sublicensees may also have lenders who can use the same horizontal tools to limit the payments from their borrowers to Debtor. For example, assume a sublicensee has assigned all of its income from which its makes the €100,000 quarterly payments to its own creditor. How does the Lender assure itself it can obtain these payments ahead of the sublicensee's secured creditor? Consider:

- *Searching*: Under the horizontal system the Lender was relieved of the burden of searching all of the hundred of *prior* producers, but now it must instead search the hundreds of *subsequent* sublicensees for each picture to find their lenders. Under the vertical system the Lender need to make only one vertical search per picture when the loan was made.
- *Filing*: Under the vertical system, the Lender needed to make only one filing per picture in an available national system to establish priority against later transferees. Under the horizontal Lender is required to make a new filing for each transferee to obtain priority.
- *Priority*: Under the vertical system, timely filing established priority over all later transferees. Under the horizontal system's priority rules, if the transferee's creditor had filed its own "floating lien" before Lender, then Lender will not be able to obtain priority against such creditor even with a filing.
- *Contractual Restrictions*: To ensure payment Lender may require Debtor to include "anti-assignment" provisions in each sublicense prohibiting sublicensees from assigning their rights or royalty payments to their own creditors, or "termination" rights in case of an unauthorized assignment or non-payment. The horizontal system undermined this alternative.
- *Up-Front Payment:* In dealing with the producers, Lender said that they could always make a paid-up license and forego royalties. Lender was unsympathetic to the producers' claim this could lead to undervaluation of their information collateral. Now, Lender faces the same undervaluation issue when dealing with the sublicensees.
- *Foreclosure*: If the sublicensees are using the information without full payment (because their royalties have been assigned to their own lenders), the Debtor may be forced into default and Lender may need to foreclose. Upon foreclosure, Lender would at least like to take back the information collateral, "wipe-out" the junior sublicenses, and re-license the information. But the horizontal system has proposed that "ordinary course" transferees may continue to use information even with termination of a prior transfer.

To address these problems, Lender is now faced with monitoring, searching and filing requirements to ensure that it can cover its loan from sublicensing income. The supposed simplicity and economy of initial filing under the horizontal system has evaporated in costly systems needed to ensure the continuing value and enforcement of the information collateral.

One must also consider the impact on the Lender's "look-up" problem of ensuring Debtor has ownership or control over the information. The horizontal system sees the security interest filing system as divorced from the information ownership filing system, but this overlooks that filing is not the acid test, foreclosure is. A security interest has limited value unless on foreclosure a creditor can take ownership of the debtor's interest in the collateral. This requires a priority rule to resolve claims between a creditor who obtains ownership by foreclosure under the horizontal system and a bona fide transferee who takes ownership in reliance on the filing in the vertical system. Unless the horizontal system entirely replaces the vertical system, a Lender must still file in the vertical information system to preserve the value of its collateral against competing ownership claims. In other words, horizontal filing alone has been of minimal value to Lender.

Reliance solely on the horizontal system could also increase the Lender's risk of infringement or fraud. Assume that, in the example, the Debtor proposes to add to the borrowing base a license for *Rain Drops in Seattle*. In fact, Debtor does not own any rights in the picture because of a defect in the chain of title (infringement risk) or the Debtor is simply misstating its rights (fraud risk). The horizontal system reduces these risks for tangible goods by background legal rules that equate possession with ownership, but such rules do not exist for intangible information. The notice filing against Debtor did not help Lender deal with these risks because the background legal structure for information had different ownership and vesting rules.

The proposed provisions of secured transactions law intended to "free up" information collateral for financing by limiting enforcement of anti-assignment and related contractual rights in practice had a negative effect on the collateral value. As discussed above, information is a public good, and "free alienability" policies applicable to industrial commodities do not readily translate. Rather, information law accords creators, and their successors, rights to control uses through licensing so that they can reap the greatest value for their creation. For the Lender in the example, the proposed rules of secured financing law that "freed up" the information collateral so the Lender's security interest could more readily *attach* had the effect of impairing contractual provisions that allowed it to better *enforce* its lien. In such a setting, a Lender may well desire to deal with contractual restrictions up front before making the loan rather than worrying later about the ability to recover the debt after the money is lent.

D. Royalty Streams - Accounting Issues

It is useful to mention, if only briefly, that financing royalty streams from information licenses raise accounting issues that also differ from those for typical buy/sell transactions. We can illustrate the differences as follows:

Illustration 16:

A. Manufacturer sells widgets. Manufacturer sells Buyer 1,000 widgets for €1M, prepares an invoice and delivers it to the buyer along with shipment of the widgets.

B. Studio produces movies. Studio enters into a license with Broadcaster granting exclusive television rights and agreeing to deliver physical materials necessary to broadcast the movie one year after the picture is produced. Broadcaster pays Studio €1M upon signing the license, with another €1M due six months after first broadcast.

These two situations have very different accounting treatments. In the widget case, Manufacturer's obligations to complete the sale occur upon invoice and shipment, with the result that Manufacturer can recognize the buyer's payment obligation ("account") as earned on invoicing. The case is different for Studio. Accounting rules disallow income recognition until the picture is "accepted and available" so that the payment is "earned." Thus, the initial €1M payment, although cash in hand to the Studio, is in fact a debt, not an asset. Broadcaster has a claim to return of this deposit if in fact the picture is not delivered as contracted. The second €1M is also unrecognizable both when the deal is signed and when the physical materials are delivered because it is based on a contingent event, "first broadcast," and there is no recognition until this occurs.

Both situations in Illustration 16 can be the subject of secured financing, but they raise different issues for reporting and valuation. Goods based accountings typically treat income as "earned" on invoice and shipment, which leads to income recognition and availability for asset financing. But for information licenses, signing a contract, preparing an invoice, receiving a payment, or even shipping materials does not necessarily trigger income recognition. Payments received before they are earned may not be an asset of the transferor under appropriate accounting rules. Instead a transferee can have a claim for return of the deposit if the conditions for recognition are not met. For instance, in the example above, if the picture is censored in the local country.

It is not uncommon for information transferees to pay deposits against anticipated future royalties, with a right to return if certain conditions are not met. In such cases transferees may restrict the use of their pre-payments to specific purposes, such as creation costs. The transferors may then seek to use these deposits as collateral for a loan, for example to fund creation. This can lead conflicts between the transferee and the lender if the deposit is subject to a return due to a transferor's non-performance. In practice, information lenders therefore use other methods to make the deposits available as collateral. For example, in the motion picture and audiovisual industries, Lloyd's underwriters have for decades issued lenders "completion" insurance that guarantees performance by a producer sufficient to vest advance payments. Recently, the American EXIM Bank has issued export insurance to cover political risk and credit risk under international licenses.

The point again is that is not appropriate to imagine that royalty streams payable under information licenses arise from the same legal dynamic, have the same accounting treatment, require the same reporting rules, or utilize the same business practices, as do accounts arising from basic buy/sell transactions. The royalty streams require different treatment in all of these areas, and hence need different approaches to make them appropriate subjects for secured financing.

VI. THE FORM OF THE SECURITY INSTRUMENT

Another issue that arises in information financing is the form of the security instrument. Information financing typically uses instruments which emphasize the role of "title," such as a mortgage. Many secured financing laws, such as UCC Article 9, have moved to a generic "security interest" which de-emphasizes title in preference to functional rules allocating rights and remedies among debtor and creditor. It is sometimes argued that use of a mortgage for information financing is outdated, thus justifying its replacement with a generic "true" security interest. Such an argument, however, fails to understand that title based instruments do not restrict information lenders; they empower them. They serve significant policy goals for information assets that do not exist for industrial goods.

A. The Importance of Title in Information Financing

Traditional secured transactions law often downplays the role of "title" to collateral. Indeed, a key provision of the American UCC Article 9 states that its rules apply irrespective of whether title to the property is held by the debtor or the creditor. This might suggest that title is immaterial, but of course that cannot be the case. Title can be very material if it means the collateral is owned by a third party rather than the debtor. What this rule actually reflects is that the location of "title" in collateral as between lender and debtor is not determinative of their relative rights and remedies for purposes of the financing. It dos not eliminate the need to evaluate title for other purposes. For information interests, title and ownership are central concerns on a variety of issues that apply regardless of financing concerns:

- *Ownership.* As discussed above, in many instances determining ownership of an information interest will be an important, threshold issue that requires application of various doctrines about intellectual property authorship and transferability. Often, under intellectual property law, multiple ownership interests, varying by territory, exist in an information asset.
- *Standing.* Information law accords an owner property rights to prevent infringement. An infringement suit is a powerful weapon, but not every one in a chain of title may assert it. American law identifies the parties with legal capacity to sue under the concept of "standing." Other countries use similar concepts. Identifying ownership in this context is essential, since, as in general, assignees ("owners") have standing while mere licensees do not.
- *Priority.* Title issues also play an important role in determining whether other claimants have a priority position against the Lender. In the usual case, a Lender takes subject to pre-existing *non-exclusive* licenses, whether or not recorded, but not to prior *ownership* claims that do not have priority such as failure to record properly in a national recording system.

In this context, it worth noting that different persons may hold concurrent ownership interests in the same asset at the same time. Assume Henry owns the entire rights to a patent in the United Kingdom. Henry grants his patent to a trustee. Under Anglo-American legal theory, the trustee holds the "bare legal title" in trust for Henry, who retains an "equitable" title. In this schema, legal title represents an existing, vested interest, while the equitable title represents a conditional right to take legal ownership on the happening of some conditional event or otherwise to receive value from use of legal title. In many systems, a creator's right to receive royalties is treated as a type of "equitable" interest. For example, in the European Union, the Rental Directive creates a right of equitable remuneration payable to identified authors of a cinematographic or audiovisual work for the rental or lending of their works.

These principles apply in information financing. While the financing is in place, it is critical to know which party, debtor or creditor, has standing to sue and the right to grant licenses. In classic theory, determining the proper party turns on how one handles "title" under the security instrument. This issue cannot be ignored by referencing policies in secured transactions law that reduce the important of "title" as between debtor and creditor. The issue is not about the relationship of the parties *inter se*, but their relationship to third parties who might reduce the value of the information collateral by infringement or increase its value by licensing.

The solution, at least in American practice, has been to allow the parties flexibility to determine the matter for themselves. In the famous decision in *Waterman v. Mackenzie*[8] the American Supreme Court addressed the issue in a case involving standing to sue under a patent mortgage. The court noted there were two types of mortgages then in use: a "title" mortgage, which granted the legal title to the creditor and left the debtor with an equitable title to recover the collateral upon repayment; and a "lien" mortgage which left legal title in the debtor but gave the creditor the conditional right to take legal title upon proper foreclosure. The court said the parties could determine which approach to take in the mortgage instrument. Absent a specification, the presumption was the creditor held "legal title" and consequent standing to sue and authority to grant licenses while the mortgage was in place in order to protect the value of its collateral. American courts have applied the same reasoning to trademarks. The U.S. Copyright Act goes further and now gives standing to both legal and equitable title holders.

The American UCC Article 9 eliminated the difference between the older "title" and "lien" mortgages by adopting a single "security agreement" format that provided a consistent set of rights and remedies regardless of the location of title. However, this functional approach only applied to debtor/creditor issues. As Article 9-202 acknowledged, it did not eliminate the need to locate legal title for other purposes. Article 9 did adopt functional rules that mirrored the earlier approach, providing that, unless changed in the security agreement, the creditor was assumed to have the right to collect infringement damages as "proceeds" and that the security interest continued in case of transfers or licenses.

Thus, for information purposes, the location of "legal title," or its functional components of standing to sue and ability to grant licenses, remains important in information financing. The form of the security instrument should be sensitive to these concerns. These principles are not formalities, but have consequences for information lenders, as illustrated by the next section.

B. The Problem of Mortgage Milking

"Mortgage milking" became a significant problem on both sides of the Atlantic during the Great Depression. It worked like this. A property owner would obtain a mortgage on a building, then lease out the property for a high-front payment but minimal rent. The debtor would take the up-front cash and depart for parts unknown, leaving the hapless creditor with property encumbered with long term, below-market rent. All courts duly declared the practice a fraud, and allowed the lender to foreclose on the property and "wipe-out" the improvident leases.

A similar situation is possible for intellectual property licenses due to its chain of title. To protect creditors, information law also provides that proper foreclosure of a security instrument wipes out subsequent "junior" transfers. In proper legal theory, this happens through application of title concepts. A security instrument, such as a mortgage, grants an ownership interest in the information to the secured creditor when it attaches. This ownership interest can either be an

[8] 138 U.S. 252 (1891).

immediate vested "legal title," or a conditional "equitable" title. In either case, upon foreclosure, the creditor's rights "relate back" to the attachment date and the creditor takes full ownership of the information (*i.e.* both legal and equitable title) as it existed in the hands of the debtor on the attachment date. As of that date, later transfers did not exist, and they are "wiped-out." The lender, however, takes "subject to" proper transfers that gained priority before attachment.

Information lenders often take advantage of these rules to preserve collateral value. Consider the "library financing" in Illustration 15. With regard to the standing rules, in the usual case the Lender will leave pursuit of infringement claims to the Debtor. But in some cases a lender may want to retain that right, especially where the debtor is a start-up company with limited ability or incentive to pursue infringement actions. As to granting licenses, lenders often include in the loan agreement specific business and legal parameters for license agreements, and retain a right of prior approval over any license agreements before they may be included in the borrowing base. Lenders may even require establishing a new "bankruptcy-remote" development and licensing entity to serve as the debtor. The lender may take an equity stake in the entity for additional control. This entity can then be responsible for pursuing infringers or granting licenses, with appropriate lender oversight. The point, again, is that concepts in information law that seem unnecessary in traditional goods based financing actually facilitate effective information financing in the context of the different policy requirements for information economies.

C. No "Ordinary Course" Transfers

The role of title in information transfers also illustrates why information law does not recognize "ordinary course" transfers. Recall that under tangible personal property law, a "buyer in the ordinary course" takes free of a prior ownership claim or security interest, even if aware of it, and even if the transfer violates a prior contractual restriction. Information law, however, adopts a different approach, as illustrated by the following:

> **Illustration 17.** Card Co. makes and sells trademarked baseball cards. Card Co. grants Print Co. a non-exclusive license to sell its trademarked cards at one sports stadium. The license is expressly made non-assignable and prohibits sublicenses. Print Co. nonetheless grants non-exclusive sublicenses to User One through User Ten to sell the trademarked baseball cards at other stadiums. Print Co. has routinely granted other such licenses to User One to User Ten, it represents that each license is authorized by Card Co., each User is unaware of the restrictions in the Print Co.'s license, and each one takes in good faith in the ordinary course of business. Card Co. sues User One through User Ten for infringement.

If this were a situation only involving goods, a sale of the goods to User One through User Ten, as "buyers in the ordinary course" would still be valid even though the terms of the sale violated the contact between Card Co. and Print Co. Card Co. would have a breach of contract claim against Print Co., but no claim against User One to Ten. Information law is different. It does not recognize "ordinary course" transfers. Claims of innocent intent are not a defense to infringement claims, although they may reduce the remedies available in some settings. In this example, Print Co.'s unauthorized sublicenses has the effect of reducing the ability of Card Co. to itself make the licenses to Users One to Ten, or to sell its trademarked cards in those stadiums itself. Thus, information law allows Card Co. to stop "free riders" such as Users One to Ten in order to preserve the value of the information. Certainly, if Card Co. had financed its interest, its own lender would agree in the need to stop this reduction in its asset value.

VII. FINANCING INFORMATION INVENTORY

Another issue is the financing of goods that embody informational content. For example, assume that the loan is made to debtor whose only assets are a copy of a software program and a computer in which the program is used. Here, informational rights are only secondarily involved because the debtor is not an information-rights owner. Nonetheless, the property rights of the software copyright or patent owner may have significant impact on the lending transaction.

A. Contrasting Frameworks

As discussed above, for transactions in goods, possession is often equated with presumptive ownership or at least with the right to pass good title to the goods. The common assumptions that often flow from the fact of possession support a large body of tangible property rights law associated with the idea of protecting a "bona-fide purchaser" or, in a more limited fashion, a "buyer in the ordinary course." These rules reflect the policy that a person relying on an appearance of ownership arising from possession of the goods resulting from voluntary acts of the true owner should be protected in its purchase and accorded the rights it in good faith expected to receive. The key fact is that the policy arises from assumptions that possession of the subject matter - the physical goods themselves - implies a right in those goods.

Goods-based assumptions about the importance of possession and the resulting policy of protecting bona fide purchasers of goods do not apply to informational property. Possessing a copy alone does not give the possessor intellectual property rights associated with the information or process contained in or enabled by that copy. Indeed, even in the most simple transaction regarding information assets (a sale of a copy), no one expects that possessing a copy of a work gives the copy owner all rights in the information. The buyer of a book, for example, cannot use its copy to make and then distribute multiple copies. Intellectual property rights are not conveyed merely by transferring physical possession of a copy. Instead, intellectual property law draws a distinction between possession (even ownership) of a copy and ownership of the intellectual property rights associated with the information contained on the copy.

B. The Exhaustion Doctrine

In some cases, a person that *buys* a copy or a patented machine at an *authorized* sale "exhausts" certain of intellectual property rights with respect to the copy. This principle, variously called the "exhaustion" or "first sale" doctrine, is recognized in nearly all national intellectual property systems in some form. The issue, however, is not the existence of the doctrine, but the conduct that leads to exhaustion and the rights exhausted. On these points the international intellectual property community has not yet reached full consensus. Article 6 of TRIPS excludes exhaustion concerns from dispute settlement issues for this reason. But this does not mean members states are free to do as they will on the issue, as Article 6 clearly states. Rather, consensus and harmonization on the issue still needs to be reached in the appropriate international intellectual property forums, such as WIPO.

In the typical case where the doctrine applies, an authorized sale of a copy allows the copy owner to resell *that copy*. However, the doctrine is limited in several aspects. First, the authorization to make the sale must come from the information owner, directly or indirectly. A buyer who purchases a copy from a pirate, even in good faith, does not benefit from the doctrine.

Second, the doctrine only applies to a further sale (or other limited disposition) of that copy. Other intellectual property rights continue. For trademarked goods, if in reselling the goods the buyer repacks or reconfigures them in a way that makes their sale under the mark materially misleading, the goods are not longer genuine and their resale is infringing. For copyrighted works, the *copy* owner cannot make or distribute any additional copies; cannot publicly perform the work; and cannot make a derivative work. In addition, TRIPS Article 11 requires member states to allow owners of computer programs and cinematographic works (with limited exceptions) a right to control the rental of copies even after a "first sale." All those rights remain exclusively in the copyright owner even as to that specific copy. Of course, because it does not have these rights, the copy owner cannot convey them as collateral for a loan.

Third, even more importantly, the concepts of "first sale" and "exhaustion" require an *authorized* transaction that places *ownership* of the copy in the person who takes possession of it. If the transaction in which a person obtains possession entails restrictions that indicate something other than a transfer of copy ownership, exhaustion does not apply. For example, a transaction that restricts the use of a copy of a computer program or a patented machine in a manner inconsistent with ownership of that copy or machine eliminates the first sale concept; the possessor's rights are defined by the contract restrictions. In such cases, exceeding those restrictions in a way inconsistent with the contract infringes the property right as to that copy or machine. Lacking the rights that flow from exhaustion or first sale, the possessor of a copy or machine cannot transfer them to another, even in a secured loan. And a transferee who receives an infringing distribution has liability risk even if it acts in good faith.

Finally, there is some debate how the exhaustion doctrine could or should apply in an international setting. Does an authorized sale in one country exhaust the right to control a resale of *that copy* in another country? To what extent, if any, should the doctrine apply in an on-line environment, especially where there is debate whether "making available" on-line even impacts a distribution right? Again, these are issues that should be framed and harmonized in appropriate international intellectual property settings, not local secured transactions law.

Informational property law thus protects the right of the information owner to control distribution. It downplays assumptions that might otherwise flow from mere possession in the law of goods. This does not reflect arbitrary doctrine, but that, in this field, property rights and commercial value lie in intangibles. Physical possession of a copy or a machine ordinarily does not create a plausible inference about control of intangible rights beyond that particular copy. For financing law and practice, this means that information property rights often create a type of encumbrance or at least a limitation on the tangible items and their use. "Ordinary" goods-based concepts of bona fide purchaser do not provide an umbrella safe harbor for this type of asset or this type of encumbrance in secondary financing involving information assets.

To see the difference between law related to information rights here and law related to goods, consider Illustration 18.

> **Illustration 18.** Publisher owns a copyrighted computer program it distributes under its trademark CODE1. Publisher licenses Distributor to make 10 copies of CODE1 in Distributor's computers and to distribute those copies in those computers. Distributor makes 50 copies of CODE1 and distributes them without any computer to Wholesaler, who purchases for full value, in good faith, and with no knowledge of Publisher's contract. Wholesaler sells the copies to Retailer, who is also a bona fide purchaser. End User buys the 50 copies for use in its business, also acting in good faith. Lender takes a security interest in the 50 copies. Software Publisher sues End User, and possibly Lender, for infringement.

Here, making the 50 copies was unauthorized (because copying was permitted only for a particular purpose) and all distributions (sales) of the copies were also unauthorized (because distribution was permitted only along with computers). Under intellectual property law, the End User infringes the copyright and trademark and has no right to use the copies or to grant a valuable security interest in them. In contrast, if the distribution contract involved ordinary goods not subject to intellectual property rights, while a sale violating the contract terms breaches the contract, one or more of the subsequent buyers would be bona fide purchasers of the goods and the Publisher could not assert ownership claims against End User.

Property rights for informational assets create situations in which upstream rights limit the value of copies held downstream by debtors. Indeed, a lender dealing with such assets in secondary financing must assume that such claims exist and that the only issues concern their nature and scope. Those limits may result from breaches in the chain of title which fails to transfer valid rights. They may stem from the terms of the actual transfer by which the debtor obtained the copy and the restrictions placed on use of that copy by license or otherwise. One function of law here should be to underscore for secured lenders the need to identify and evaluate the level of risk of such encumbrances and their impact on the asset values involved.

VIII. Registration and Recording Systems

As mentioned above, most states have adopted national systems for registering various types of information and recording ownership transfers and lien claims. It has been argued, by analogy to personal property horizontal systems, that international information financing would be better served by adopting either an international registration system, or a system that fixed all information internationally in the "location" of the debtor. The international intellectual property community, however, has studied both of these approaches and found them wanting. It is worthwhile to review their findings in this regard.

A. Recording vs. Registry Acts

A starting point is the difference between the information recording acts and the personal property registry acts. It is sometimes thought that the "notice filing" personal property system is "more modern" than the information recording systems. This is not entirely accurate.

The first filing system in Anglo-American law was the Statue of Enrollments enacted during the reign of Henry VIII. The statute was a *registry act* or notice filing system that required enrolling notice of land transfers in record books in Westminster, but not all the specifics of the deed. The American colonies extended the system to *recording acts* which required recording of the entire deed, or at least a sufficient memorandum to indicate the essential terms. Four types of recording acts developed: pure notice, pure race, race notice, and race grace. Essentially, all required a deed to be timely recorded in the local land office ("county recorder of deeds") or the transfer would be ineffective against a later recording "bona fide purchaser," a term that included both an ownership transferee and a mortgagee.

In the nineteenth century, the American Congress adopted a similar recording act structure for patents, copyrights and trademarks. These systems continue to this day. Other countries have also adopted national systems for recording for transfers and liens of intellectual property that also utilize a recording act structure.

Also in the nineteenth century, the real property system was also carried over, with some modification, to personal property financing in the form of chattel mortgage acts. In the twentieth century, the Americans replaced the chattel mortgage acts with the "security interest" and floating lien system described above. In so doing UCC Article 9 reverted to the earlier *registry act* or notice filing structure for the reasons discussed above. This simplified notice filing system works well for fungible assets that form the primary subject matter of chattel financing, and is supported by background legal rules that reduce emphasis on prior ownership claims in individual assets. It is a specialized structure for specialized financing, however.

B. Territorial Principle

All of the national intellectual property systems operate under the "territorial" principle, a requirement also embodied in the international conventions. The basic idea is that the scope of protection is determined by the law of the country where protection is sought. National laws are harmonized internationally to provide "minimum rights" for various types of intellectual property; "national treatment" then guarantees that nationals of other signatory countries will be treated no less favorably than local nationals. The "territorial" principle thus creates a centralizing choice of law rule under the international conventions. Local law where enforcement is sought is often an important factor in evaluating priority of transfer in the protecting country under the territorial and national treatment principles.

In the early nineteenth century, before the international conventions were fully formulated, there was some notion that protection should be determined by the law of the "country of origin" of the creator. The approach, however, was long ago abandoned in favor of the national treatment and territorial formula, and it is now disfavored.[9] It is incompatible with the basic national treatment principle. Its application is problematic in concrete cases, such as co-ownership, stateless persons, situations where different countries have varying definitions of the creator, and the interplay with treaty connecting factors.

An approach that seeks to localize information worldwide where a debtor is "located" raises similar concerns, both in how it conforms to the national treatment and territorial requirements of existing international conventions, and in its practical application. Some examples illustrate the difficulties.

One may again consider Illustration 7, a situation where there are different owners of the copyright in some countries, and multiple co-owners located in different countries in other countries. A lender seeking to take security in the "worldwide copyright" would have difficulty identifying just where the "debtor" is located. Using the territorial principle, Lender can to take necessary steps to establish priority of its loan in relevant countries using national copyright offices, if any, or relying on the "first in time" priority rule where they are unavailable.

A further problem arises where different countries might establish information ownership in different parties. For example:

> **Illustration 19.** Golden Sun, a Taiwanese company, sells toy replicas of classic Roman swords (*glaudia*) in Asia under its LEGION mark, which it has duly registered in Taiwan. Yankee Toys, who has no knowledge of Golden Sun, later begins selling toy replicas of Roman swords in the United States under the LEGION mark, which it has duly registered there. Lender takes a security interest in Golden Sun's "worldwide trademark rights." Golden Sun now desires to start selling its toys in the United States. Golden Sun, and possibly Lender, sue Yankee Toys for trademark infringement in the United States.

An initial question, of course, is Taiwan's unique status and how it would become part of an international convention. Putting that issue aside, the failure of Golden Sun to establish its trademark rights in the United States before Yankee Toys should bar its suit. However, does a rule that "localizes" all intellectual property worldwide in the "location of the debtor" mean that because Golden Sun has obtained a loan under Taiwanese law, the "worldwide trademark" is located there, meaning the United States should recognize the validity of the Golden Sun's trademark in the United States to preserve the Lender's collateral value? If so, one may wonder how such a rule would impact the ability to clear trademark rights before use. If not, one may wonder what filing in Taiwan did for Lender's collateral in other countries.

The "location of the debtor" rule raises difficulties when there are multiple prior transfers in the chain of title. Consider:

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[9]. For a thorough vetting of the "country-of-origin" principle as an erroneous copyright-conflicts rule *see* Paul Edward Geller, *International Copyright: An Introduction* § 4[2][a][ii] in Nimmer & Geller, INTERNATIONAL COPYRIGHT LAW AND PRACTICE (2005).

> **Illustration 20.** Khan Films, a Chinese company, produces *The Great Khan*. It grants exclusive North American distribution rights (copyright and trademark) to Teutonia, a German company, which in turn grants exclusive U.S. distribution rights to Yank Films, which duly registers the U.S. copyright and trademark and records its grant. Yank Films proposes to grant exclusive U.S. pay television rights to PayShow. Lender proposes to loan PayShow funds to acquire these rights.

How does PayShow, or its Lender, search chain of title to determine whether there are competing liens under a "location of the debtor" rule? To determine if there are prior liens against Khan Films evidently it must search records in Beijing, if any, and presumably the priority of any lien granted there will be determined by Chinese law. As to Teutonia, Germany does not have a filing system, so no searching is possible. As to Yank Films, one must presumably search in the state where it is "located." Depending on what is found, ownership and priority of PayShow's rights in a *U.S.* copyright exploited by a *U.S.* company in the *U.S.* will evidently be determined by Chinese or German law. It is a counter-intuitive approach in light of the intellectual property conventions.

One of the policy justifications supporting the minimum rights / national treatment / territorial construct in the international conventions is that it allows each nation to establish intellectual property protection within the framework of its own national laws and legal systems, subject to basic treaty requirements. Not all nations implement treaty requirements in precisely the same legal setting, and, although most nations maintain registrations systems, especially for patents and trademarks, not all systems operate with the same efficiency, transparency or resources. It is thus seems more appropriate for each country to establish its own system in light of its own resources and needs. A "location of the debtor" system that make priority of transfer and effectiveness of a security interest for information in one country, which may have extensive filing needs and the resources to handle them, subject to the priority rules and filing system in another country with different needs and resources, does not have obvious intuitive appeal.

Indeed, one can identify several practical problems that could arise with such a basic change in the structure of the international conventions. First, there are no rules, harmonized on the international level, as to how different personal property registration systems in different countries should deal with priority issues. Second, there is no rule on how local personal property systems ensure integrity of their records against false filings or allow remedies against pirates who do so. Third, there is no international standard as to how local personal property registration systems should index filings or facilitate searching, especially by non-nationals who may use a different language or alphabet. Finally, there is no international standard on appropriate filing forms, searching costs, or availability of the local system for searching.

C. The WIPO International Register

The international intellectual property community has also experimented with the use of international registration systems. In this regard, it is useful to discuss the experience of WIPO with the International Register of Audiovisual Works.

Starting in the mid-1980s, WIPO sponsored a lengthy series of expert committee meetings on developing an International Register of Audiovisual Works. A key focus of the International Register was to accommodate the needs of lenders for secured financing. An issue extensively studied in this regard was the facilitation of mechanism for convenient filings that could apply to all of the audiovisual works owned by a party.

The expert committee noted the difference between the notice filing system used for tangible personal property and the information recording acts. Essentially, notice systems index filings against a "person," *i.e.*, the debtor. Intellectual property systems index flings against the "property", *i.e.* the information. This represents a classic database management problem, often known as the "card file" problem. Assume a business card for "Joe Smith, Vice-President, Acme Co." Does one index the cards by the name of the person (Joe Smith) or the company (Acme Co.)? Each system has its advantages for some searches and disadvantages for others. Older database designs used a "hierarchical" model in which only one index is used. Notice filing systems still used this older design. Modern database systems use a "relational" model in which it is possible to search by either a person or a property, with database rules to maintain integrity.

WIPO commissioned an extensive study of modern relational systems. The current U.S. Registrar of Copyrights spent more than a year at WIPO working on the filing rules and forms, along with the international community. The result was the "International Film Register." The Register allowed filing against either a property or a person. Filings included both ownership transfers and security interests. Filings against a "person" could be duly indexed against works previously registered by that person. The Register was supported by a Treaty under which member states agreed to give a presumption of validity to filings in the Register.

The work of WIPO demonstrated how it is possible to accommodate the "person" indexed notice filing systems with the "property" indexed intellectual property systems in a single construct using modern relational database management systems. However, the international motion picture community, especially in the United States, eventually decided that implementing such a Register at the international level was impractical for several reasons.

First there were concerns about data integrity. The motion picture industry had extensive experience with pirates in other countries presenting false documents to provide a phony "chain of title" as a defense to infringement actions. The fear was that pirates would flood the International Register with false documents which would nonetheless have a presumption of validity in local courts. Although WIPO proposed procedural rules to mitigate these concerns, the worry remained. The International Register was created before WIPO had taken over the ICAAN system and established an international system for arbitrating domain name disputes, so this approach was not then available.

Second, there were issues with enforcement. If a pirate did file a false document, what remedy did the real owner have against a pirate? It might be possible to nullify the effect of the filing in the International Register, but one still needed a remedy against the pirate under local law. This would seem to require additional treaty requirements to amend local law to authorize actions to ensure integrity of the International Register effective.

Third, there was always a question of costs, although WIPO, and the Austrian government, made significant efforts to keep costs low.

In any case, the international motion picture community eventually decided that a better approach would be to work through national systems and private initiatives. They have been several developments on this front.

At the national level, the U.S. Copyright Office has build on its international experience with WIPO and has promulgated forms for filing transfers, including security interests, covering individual or multiple works. Filing can be done electronically. The Copyright Office has placed its records on-line so that searching can be conducted free over the Internet. Searching is possible by person (the "author index") or by title (the "work index."). The U.S. Patent and Trademark Office has also made its records available on-line. One can also search for patents or registered trademarks either by the property (patent or mark) or by person (owner, assignor, assignee, *etc.*). For both offices, private searching is also available.

The European Community has made similar strides, such as for the Community Trade Mark. Records for the CTM are available on-line and can be searched under a variety of criteria, including by name, number, owner or representative.

At the international level, Article 14 of the Patent Law Treaty specifically contemplates filing security interests in the national patent office. The Standing Committee of the Paris Union has prepared recommend proposals for recording trademark licenses,

Finally, the collective management societies represented by CISAC, and the representatives of producers through AGICOA, have developed the ISAN (International Standard Audiovisual Number) under the sponsorship of UNESCO. The purpose of the ISAN is to provide an identifying number for an audiovisual work, similar to the International Standard Book Number (ISBN) for literary works. The process has required some study including: how does one identify different versions of a movie (*e.g.* "director's cut", edited-for-television version), and collections of related works (*e.g.* episodes of a broadcast season)? It was also necessary to develop systems to relate a particular work to the ISAN claimant, a process that also involved relationship database design. An ISAN number does not identify ownership or chain of title for a work, but rather serves as a unique identifier for an audiovisual work related to an identified claimant. The ISAN system is now operational under the sponsorship of UNESCO. It is expected that similar systems will be developed for other works.

All of these efforts demonstrate the desire of the international community to establish procedures to simplify the finding, filing, searching and priority of transfers, including security interests, in information assets. The ISAN, for example, provides a facility to identify an audiovisual work, even though its title may have changed when it is exhibited in another country. The provisions in the Patent Law Treaty for patent security interests, and the Paris Union initiatives for trademark licenses, encourage use of established national registration systems to record transfers and liens, facilitating searching chain of title. The actions in the United States and the European Union demonstrate the practical possibilities of using on-line technologies to make existing filing systems readily available and searchable by either person or property. These developments demonstrate the practical benefits of using existing structures as the foundation for information financing. They are a reason for optimism that it is possible to modernize secured transactions law and practice to meet the needs of the information age.

IX. CONCLUSION

As information assets become more central to the global economy, it is increasing important to update existing secured financing laws to accommodate the very different legal and economic structures that support information creation and exploitation. The first step is to adopt the proper image of information financing transactions, and as such to recognize that the methods for creating, owning, transferring and using information do not have the same legal structure or policy bases as those for industrial goods. These differences require a fresh conceptual approach to information secured financing.

Certain principles of information law stand out as enhancing asset value and increasing market efficiency in this sector. A modern secured financing law should give appropriate deference to and support for these principles. They include recognition that information has a chain of title which allows creators and their authorized successors to control remote users even after a transfer. As such, information law does not equate mere possession with information ownership or control, and does not recognize "ordinary course" transfers. Moreover, for information transactions, freedom of contract remains a fundamental value that allows creators, and their successors, to negotiate at each stage in the cycle of exploitation the best terms of use and royalty payments to optimize their risk/reward profile. One should look warily at provisions that limit the enforceability of contract terms, and instead recognize that anti-assignment clauses and terminate rights often enhance asset value for information. Finally, a contemporary secured financing law should work through established national filing systems and experienced international intellectual property institutions to build registration and recording structures that are grounded in existing institutions and incorporate the latest data management technology.

The Twenty Second Century Foundation hopes that this paper can contribute towards the common goal of modernizing secured financing law for the information age.

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