Property versus Misappropriation: Legal Protection for Databases in Korea*

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I. INTRODUCTION

As a member of the international society which is now more interconnected than ever, Korea is experiencing a legal gap in the protection of databases. The commercial value of databases increased dramatically with the expanding use of computers and the Internet. As with other countries, Korea faces a choice in the legal forms of protection for databases: it can either extend the application of existing laws (i.e., patent[1] and copyright protection) or create a new law (i.e., *sui-generis* database protection).[2] In addition, Korea must

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* The *Journal* editors made every effort to verify the citations herein, but due to a language barrier with several of the primary sources, we relied on the integrity of the author.

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1. There is an increasing number of applications and registration for gene patents, which may be regarded as amounting to patent protection for genetic data themselves.

2. For clarification, one should note existing laws are not exclusively property based and new statutes do not necessarily take the misappropriation approach. For example, the current law on torts under the Civil Code of Korea may arguably provide database protection as the misappropriation doctrine in the United States prevents misappropriation of hot-news. *See* Int'l News Serv. v. Associated Press, 248 U.S. 215 (1918); Nat'l Basketball Assoc. v. Motorola, Inc., 105 F.3d 841 (2d Cir. 1997). On the other hand, a statutory proposal for database protection submitted to the National Assembly of Korea in 1999 was based on a property

choose either a property approach or a misappropriation approach for database protection.[3] Although Korea attempted both approaches,[4] there is still a controversy regarding which alternative will best guide Korea to prosperity in the digital age.

This Article argues that legislative proposals based on a property approach fail to cover the legal gap. A property approach has the potential to over-protect databases in Korea and negatively impact small innovators and the general public. Instead, this Article submits that the misappropriation approach is the best alternative for the protection of databases in Korea. Unlike other countries such as the United States, Korea has not developed a misappropriation doctrine through case law or statutory provision. This lack of established law on the misappropriation doctrine points to a need for the enactment of a statutory provision explicitly prohibiting the misappropriation of databases in Korea.

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approach. *See infra* note 74; *see also infra* notes 72-88 and accompanying text for the discussion on the *sui-generis* property protection for databases in Korea.

3. The misappropriation approach is basically a liability approach. The distinction between a property approach and a liability approach in entitlement originates from the foundational article: Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089 (1972) (arguing that a liability approach is for a market with relatively high transaction costs of exchange, and a property approach is for a market with relatively low transaction costs of exchange). "[A]n entitlement is protected by a property rule to the extent that someone who wishes to remove the entitlement from its holder must buy it from him in a voluntary transaction in which the value of the entitlement is agreed upon by the seller." *Id.* at 1092. In addition, "[w]henever someone may destroy the initial entitlement if he is willing to pay an objectively determined value for it, an entitlement is protected by a liability rule." *Id*. The misappropriation doctrine was judicially developed for the protection of hot-news. *See Int'l News*, 248 U.S. at 215; *Nat'l Basketball Ass'n*, 105 F.3d at 841. The conditions for protection of hot-news are: (1) the plaintiff gathers the news "at a cost"; (2) "the information is time-sensitive"; (3) the defendant's utilization of the plaintiff's information "constitutes free riding on the plaintiff's efforts"; (4) the defendant and the plaintiff are "in direct competition"; and (5) the defendant's free riding reduces the incentive of the plaintiff to the point that the existence or quality of the information would be "substantially threatened." *Id.* at 845.

4. The 1994 amendments to the Copyright Act of Korea include a change to Article 6, a statutory provision on compilation works to the effect that "collection of treatises, numerical values, diagrams and other materials, which are so systematically composed as to be retrieved by using information processing devices," i.e., databases, may now explicitly fall into the category of compilation works. Sang Jo Jong et al., Report on Legal Protection of Database 8 (Korea Database Promotion Center, Nov. 2000). There have also been statutory proposals for *sui-generis* protection for databases. *See infra* notes 71-100.

Part II describes the present situation of the Korean database industry which is pervaded by what is referred to as "the vicious cycle" between small market size and insufficient investment. Parts III to VI discuss whether and to what extent the current Korean legal system can lead the industry to break the vicious cycle and promote the Korean database industry. Part III analyzes the protectability of databases through copyright law and concludes that copyright alone does not provide sufficient protection. Part IV discusses the applicability of tort liability under the Civil Code and the Unfair Competition Prevention and Trade Secret Protection Act in Korea. However, these two statutes do not provide the industry with adequate legal protection due to the limitations in their subject matter and remedies. Part V and VI deal with the alternatives of licensing agreements and technological measures which are used by database developers to prevent unauthorized use of their databases. Due to the counter interest of consumer protection and free access to information and the uncertainty of tort liability for circumventing technological measures, those two individual self-help measures are arguably insufficient for database protection or detrimental to fair competition.

Part VII and VIII evaluate two recent proposals for the protection of databases. The first legislative attempt to protect databases took a property approach, which we will argue unnecessarily chokes competition and free access to information in databases. The second and current proposal, which takes a misappropriation approach, has a structure that can achieve the right policy goal of establishing fair competition by means of balancing promotion of the database industry against free access to information.

II. THE CURRENT SITUATION AND PROSPECTS OF DATABASE INDUSTRIES IN KOREA

Currently, the database industry of Korea is far behind that of the United States and Japan.[5] Typically, the databases produced in Korea

5. *See infra* Table 1.

center on generalized subjects, as opposed to the much more specified databases that are produced in the United States and Japan.[6]

Table 1: Comparison of Database Industry of Korea, U.S., and Japan (US$ million)

	Korea (1996)	U.S. (1994)	Japan (1994)
Sales	83	30,000	2,000
No. of Producers	551	2,221	377
No. of DB in the Market	1,616	5,219	3,061
No. of DB Made by Domestic Producers	1,200	N/A	1,048
Subject of DB Representing More than 50%	Education Culture General	Business Science Technology	Business

Source: Korea Database Promotion Center, Future of Database Industry (Mar. 1997).

Though Table 2 shows an expectation of high growth rate of Korean database industry, it is also expected that Korea will have to depend on foreign databases in such specialized fields as science and technology.[7]

6. *Id.*

7. KOREA DATABASE PROMOTION CENTER, URINARA DATABASE SANOPEU MIRAE [FUTURE OF DATABASE INDUSTRY] 3 (1997) [hereinafter KDPC, FUTURE OF DATABASE INDUSTRY].

Table 2: Estimated Growth Rate of Korea Database Industry
(US$ million, %)

Year	Growth Rate	Sales
1996		83
2000	66	138*
2005	54	213*
2010	21	258*
2015	5	272*

Note: * Estimate
Source: Korea Database Promotion Center, Future of Database Industry (Mar. 1997).

Tables 3 to 6 show more detailed status of database industry of Korea.

Table 3: Amount of Assets (US$ thousand, %, 1997)

Assets	~42	~83	~833	~8,333	~83,333	+83,333	N/A	Total
No. of Firms	139	67	142	55	42	41	433	919
Share	15.1	7.3	15.4	6.0	4.6	4.5	47.1	100

Source: Korea Database Promotion Center, White Paper on Database (1998).

Table 4: Number of Employees (%, 1997)

Employees	~10	~20	~50	~100	~500	~1,000	~10,000	+10,000	N/A	Total
No. of Firms	230	125	96	63	124	52	90	10	128	919
Share	25	13.7	10.4	6.8	13.5	5.7	9.8	1.1	13.9	100

Source: Korea Database Promotion Center, White Paper on Database (1998).

Table 5: Amount of Sales (US$ thousand, %, 1997)

Sales	~0.8	~8	~42	~83	~833	+833	N/A	Total
No. of Firms	12	49	72	26	59	14	687	919
Share	1.3	5.3	7.9	2.8	6.4	1.5	74.8	100

Source: Korea Database Promotion Center, White Paper on Database (1998).

Table 6: Amount of Investment (US$ thousand, %, 1997)

Investment	~8	~42	~83	~833	+833	N/A	Total
No. of Firms	51	103	49	115	11	590	919
Share	5.6	11.2	5.3	12.5	1.2	64.2	100

Source: Korea Database Promotion Center, White Paper on Database (1998).

As a result, database developers have weak financial standing.[8] This phenomenon is part of a vicious cycle within the Korean database industry: low quality of databases begets low demand for databases; low demand results in low sales and profits; low sales and profits leads to low investment and supply of qualified database technicians, which results in the production of low quality databases.[9]

Another characteristic of the Korean database industry is the relatively small number of companies specializing in database production.[10] In 1997, only 20.3% of all organizations producing databases characterized database production as their primary

8. *Id*. at 16.

9. *See* Ubong Kim, *Industry Guknae DB Sanopeu Gyongjaengryok Jego Jonryak* [*Strategy for the Competitiveness of Domestic DB*], DATABASE WORLD (Dec. 1999), *available at* http://www.dpc.or.kr/dbworld/document/9912/gigo.html.

10. KOREA DATABASE PROMOTION CENTER, DATABASE BAEKSO [WHITE PAPER ON DATABASE] (1998), *available at* http://www.dpc.or.kr/whitepaper/wp98/wp98.html [hereinafter KDPC, WHITE PAPER].

business.[11] Rather, most database companies merely process or re-organize already collected data.[12]

The Korean database industry should devise strategies to overcome the vicious cycle and other difficulties before foreign-produced databases overcome the language barrier and enter the Korean market.[13] There are three viable options to improve the future of the database industry of Korea. First, database companies should focus on the quality of individual databases as opposed to the quantity of such databases.[14] Second, as foreign databases tend to focus on science and technology, Korean database developers should focus on general subjects for the domestic market such as culture, entertainment, education, or everyday life.[15] Third, the subject area of Korean databases should be similarly formulated to foreign databases and include information on Korea, such as Korean culture, economy, and history, or information necessary for doing business in Korea.[16] Finally, a balanced legal solution for the production and social use of databases is necessary. Stronger legal protection for databases provides Korean database makers with strong incentives to invest in the production of better quality databases focusing on Korea. On the other hand, weaker legal protection makes it possible for consumers and Korean database developers to access foreign databases on science and technology at lower costs. Thus, a strong legal protection may promote the growth of the Korean database industry, at the expense of consumers, while weak protection may benefit consumers, but may stifle development of the database industry. The remainder of this Article will examine whether existing Korean laws and legislative proposals can properly balance these two conflicting interests.

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11. *Id.*
12. *Id.* at 61.
13. The language barrier is a major obstacle that database makers of developed countries face when they try to enter the Korean database market.
14. *See* KDPC, WHITE PAPER, *supra* note 11, at 76.
15. *Id.*
16. *Id.* at 76-77.

III. COPYRIGHT PROTECTION FOR DATABASES

Databases are currently protected in Korea as compilation works under the Copyright Act of Korea (Copyright Act).[17] The Copyright Act protects compilations if the manner of selection and arrangement of a compilation is original. Most Korean courts require a high degree of originality in the manner of selection and arrangement to grant copyright protection of databases.[18] On the other hand, there are judicial decisions that indicate a willingness by some courts to overlook the originality requirement and instead focus on similarity between the two compilation works in the dispute.[19] The question remains whether originality under the Copyright Act is a higher standard than the originality standard articulated in *Feist Publications, Inc. v. Rural Telephone Service Co., Inc*.,[20] which requires creativity as opposed to the 'sweat of the brow' standard.[21] A wide spectrum of judicial decisions interpreting the requisite degree of originality created substantial uncertainty regarding the databases under the Copyright Act, resulting in demands for alternative methods of database protection like tort law, contract law, and technological protection measures.

In a judgment on January 21, 1993, the Supreme Court of Korea required a higher degree of originality in compilation works, where a chronological table, which compared historical events in art with historical events in other areas, was held "not original" because such a comparison appeared to the Court to be a common structure of chronological tables.[22] In a January 23, 1993 judgment, the Courts confused the originality requirement in compilation works with the

17. Jojakgwonbop [Copyright Act], No. 6134, art. 6(1) (2000) (S. Korea).

18. Daebop [Supreme Court], No. 92 Ma 1081 (S. Korea 1993); Daebop [Supreme Court], No. 96 Da 6264 (S. Korea 1996); Daebop [Supreme Court], No. 92 Do 2963 (S. Korea 1993).

19. Daebop [Supreme Court], No. 91 Do 2101 (S. Korea 1992).

20. Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., Inc., 499 U.S. 340. (1991) (holding that the Constitution mandates originality as a prerequisite for copyright protection).

21. The 'sweat of the brow' doctrine extended copyright protection to mere collection of facts themselves, even when the collection lacked originality in the selection and arrangement of those facts. The court in *Feist* held that the 1976 revisions to the U.S. Copyright Act had abolished the doctrine. *Id.*

22. Daebop [Supreme Court], No. 92 Ma 1081 (S. Korea 1993).

idea-expression dichotomy[23] when dealing with "Korean learning cards," which contained pictures of animals, vehicles, and colors that were arranged in the order of difficulty regarding the concept of the words.[24] The plaintiff argued that there was originality both in the "consecutive learning method and in their selection and arrangement of materials."[25] Despite this, the court held that the "consecutive learning method" was an idea, not an expression, therefore not copyrightable, and that the selection and arrangement of cards lacked originality.[26] In another case, the Korean Supreme Court held that an annotated Bible, with cross-references between chapters, lacked originality because the cross-references were the result of repeated, simple labor, not of originality.[27] By contrast, in a case concerning an eye chart, which consisted of English and Korean letters, numbers, and animals arranged in the incremental order of their size for the purpose of eyesight tests, the Court held that the eye chart was original.[28]

In addition to the uncertainty or stringency of the originality requirement, the data access methods provide an inherent limitation for the copyright protection of databases. The main value of databases is not in the original expression, in the selection, or in the arrangement of their materials. Instead, it is in the faster access to large amounts of data. In a recent case, for example, a trial court held that originality should not be applied to the elements of a database, such as search functions and categorization methods, which are inevitable for the function of databases.[29] This case clearly shows the limitation of copyright protection for the main value of databases. In fact, a survey indicated that the biggest complaint of both institutional and private users of domestic databases centers around

23. 'Idea-expression dichotomy' means that copyright law protects an original expression of ideas and does not extend to its underlying ideas. The U.S. Copyright Act provides, "In no case does copyright protection for an original work of authorship extend to any idea . . . ." 17 U.S.C. § 102(b) (2001).

24. Daebop [Supreme Court], No. 96 Do 2624 (S. Korea 1993).

25. *Id.*

26. *Id.*

27. Daebop [Supreme Court], No. 92 Do 2963 (S. Korea 1993).

28. Daebop [Supreme Court], No. 91 Do 2101 (S. Korea).

29. Seoul Jibop [Seoul District Court], No. 98 Kahap 1699 (S. Korea 1998).

the different terms and connection commands in search engines of different databases.[30]

The standardization or unification of the main functional factors of databases is thus important, especially for Korea, a nation which fails to create sufficient demands on databases to break the vicious cycle afflicting the database industry. However, the desire to obtain copyright protection for databases may create the incentive for database makers to develop search engines or categorization methods that work differently than those of existing databases with the same quality and speed of data processing. Therefore, it is necessary for Korea to have a legal form of protection other than copyright, to increase incentives to invest in databases, which enable consumers to access data faster and more easily.[31]

IV. MISAPPROPRIATION OF NON-COPYRIGHTABLE DATABASES

The strict requirement of originality under the Korean Copyright Act makes the protection of databases as copyright works unpredictable and difficult. Therefore, the question remains as to what a database developer can do to prevent others from utilizing her database with authorization. The Unfair Competition Prevention and Trade Secret Protection Act of Korea (UTA)[32] is regarded as modeled after the German counterpart,[33] which in practice codifies the misappropriation doctrine. However, it does not provide a general provision prohibiting unfair competition and instead includes an

30. KDPC, WHITE PAPER, *supra* note 11. In this survey, 62% of institutional users and 38.8% of personal users ranked the different search terms and connection commands among domestic databases as the number one complaint.

31. *See* SANG JO JONG, INTERNETGWA BOPRYUL [INTERNET LAWS] 107-9 (2000) [hereinafter 2001 Database Proposal] (criticizing the Copyright Act for failing to provide a clear criterion on originality in databases).

32. Bujonggyongjaengbangjimityongopbimilbohoegwan-hanbopryul [Unfair Competition Prevention and Trade Secret Protection Act], Law No. 911 of 1961, *amended by* Law No. 5814 of 1999 [hereinafter UTA].

33. The German Unfair Competition Act has a general provision, which allows the court to protect databases with the Unfair Competition Act. Article 1 of the Act provides: "Any person, who, in the course of business activity for purposes of competition, commits acts contrary to honest practices, may be enjoined from these acts and held liable for damages." German Unfair Competition Act, art. 1 (English translation of Article 1 of the German Unfair Competition Act followed the one in WORLD INTELLECTUAL PROPERTY GUIDEBOOK: FEDERAL REPUBLIC OF GERMANY, AUSTRIA, AND SWITZERLAND GER 6-3 (Bernd Ruster ed., 1991)).

exhaustive list of acts constituting unfair competition.[34] The UTA does not provide any remedy against misappropriation of databases, unless it falls under one of the categories of unfair competition.[35] An unauthorized use of a database is not in the list, therefore, the UTA does not offer any protection for database developers.

An unauthorized use of a database may, however, constitute a tort under the Civil Code of Korea (Civil Code)[36] if such a use results from a free ride on the original database developer's efforts and investment, and should thereby be regarded as wrongful.[37] The argument is that the unauthorized use of undisclosed information that has an economic value is wrongful,[38] and therefore, the unauthorized use of a database would also be wrongful because the database, which is a collection of information with substantial investment of resources and efforts into the collection and organization of information, has an economic value as well. There is no judicial decision, however, that an unauthorized use of a database is wrongful and thus constitutes a tort under the Civil Code.

The key issue is what amounts to "wrongfulness" under the tort provision of the Civil Code. Infringement of statutory rights, like copyright, is clearly wrongful and constitutes a tort. The important question is whether and to what extent a tort is committed by encroaching upon another's interests, which are not subject to any statutory rights. In a December 20, 1996 judgment of the Seoul district court, the court granted damages for the unauthorized use of ideas in a television commercial advertisement.[39] Although, the unauthorized use did not infringe the copyright because the dispute

34. UTA, *supra* note 32, art. 2.

35. Junu Park, The Interface Between Intellectual Property Law and Competition 186-98 (2000) (unpublished J.S.D. dissertation, on file with Washington University in St. Louis) (arguing that the misappropriation doctrine under the unfair competition law should protect commercially valuable information against a person).

36. Minbop [Civil Code], Law No. 471 of 1958, *amended by* Law No. 5454 of 1997.

37. *Id.* art. 750. The concept of "wrongful act" in the Civil Code includes not only acts violating statutes, but also acts against public policy. Therefore, "wrongful acts" might include depriving others of their economic values. However, not all the acts taking economic value from others are against public policy. For example, public policy has advocated competition in the market. Thus, it is the matter of balancing to determine whether an unauthorized use of a database is against public policy, and so wrongful.

38. *See* UTA, *supra* note 32, arts. 2, 10-14.

39. Seoul Jibop [Seoul District Court], No. 96 Kahap 7170 (S. Korea 1996).

was over a brief advertising slogan and a lack of actual similarity. However, the court allowed damages to the plaintiff for the unauthorized use of ideas in the commercial copy in question.[40] Because there is no copyright infringement in this case, an unauthorized use of ideas in a commercial advertisement arguably constitutes either a tort or breach of a quasi-contract under the Civil Code. A single decision by a trial court cannot be regarded as persuasive precedent for the proposition that misappropriation of databases constitutes a tort under the Civil Code. It remains to be seen whether prevalent exploitation of licenses and/or technological protection measures, with regard to a specific database, raises the possibility that an unauthorized use of the database is wrongful and constitutes either a tort, interference with contractual relations,[41] or breach of a quasi-contract.

In determining whether an unauthorized use of a database is a tort, it is helpful to refer to legislative history and discussions on trade secret protection. Trade secrets are a well-known example of an economic interest that was not subject to a specific statutory right until the amendment to the UTA.[42] Prior to the amendment, there was much debate on whether an unauthorized use of a trade secret is a tort. The amendment of the UTA brought the debate to an end and introduced damages and injunctions as remedies for the infringement of trade secrets.[43] The amendment made it clear that the infringement of trade secrets constitutes a tort. However, another amendment in 1991 of the UTA exempted those who continued to use a trade secret

40. Seoul Jibop [Seoul District Court] (S. Korea 1996). Seoul district court decision, the plaintiff sent the defendant a beer brewing company a sample beer bottle equipped with a visual heat-sensor tape and an idea for a television commercial: "the temperature of the most tasty, feel it with your eyes." *Id.* The defendant did not accept the plaintiff's idea. One year later, the plaintiff produced beer with a mark of spring water on the bottle. The mark was printed with heat-detecting ink. The plaintiff also used the lines, "At the temperature of the most tasty, a mark of spring water appear on the bottles of Hite. The most tasty of Hite, feel it with your eyes," for its television commercial. *Id.* The court held that the idea of a bottle with a heat-detecting tape is already known in developed countries, and so it is not a trade secret in Korea. Not admitting copyright infringement, the court allowed damages for the use of idea for the commercial based on the tort theory. *Id*.

41. *See infra* notes 51-59 and the accompanying texts for a discussion on interference with contractual relations by third parties.

42. *See* UTA *supra* note 32, arts. 2(i) and 10-14.

43. *Id.*

that they possessed before the effective date of the earlier amendment.[44]

In a Supreme Court case dealing with the grandfather clause of the UTA, the Court addressed whether the exempted use of a trade secret constitutes a tort under the Civil Code.[45] The Court held that an unauthorized use of a trade secret, which did not violate the UTA, became wrongful against public policy only under special circumstances.[46] Furthermore, the Court denied the wrongfulness and the tortiousness of an unauthorized use of a trade secret acquired before the effective date.[47] The court followed the grandfather clause that was added to the UTA. Therefore, the Supreme Court's decision suggests little in solving the issue of whether such a use of a trade secret constitutes a tort, and the decision failed to address the issue of whether an unauthorized use of a database is a tort.[48]

To summarize, an unauthorized use of a database is not covered by the UTA, and it is uncertain that such a use constitutes a tort under the Civil Code. Furthermore, the Supreme Court of Korea has not accepted the U.S. misappropriation doctrine[49] as the basis for tort liability related to the unauthorized use of a database. Even if the Supreme Court of Korea admits the tort liability for the unauthorized use of a database, injunctions might not be granted as a remedy under the Civil Code. Therefore, a legislative solution to codify the U.S. misappropriation doctrine for database protection is being considered in order to overcome the current uncertainty and limitation of the remedy concerning the misappropriation of databases.[50]

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44. *See* UTA, *supra* note 32, Addendum Art. 2.

45. Daebop [Supreme Court], No. 96 Da 31574 (S. Korea 1996).

46. *Id.*

47. *Id.*

48. Even if an unauthorized use of a database constitutes a tort, injunctive relief would not be available; damages would be the only remedy for a tort under the Civil Code. *See* Minbop [Civil Code] arts. 750-66. It is because the Civil Code distinguishes the remedy for the invasion or infringement of property interests from the remedy for other torts. *Id.* arts. 213, 214, 750.

49. *See supra* note 3 and accompanying text.

50. *See infra* notes 87-100 and accompanying texts for discussions on statutory proposals based upon misappropriation doctrine.

V. ALTERNATIVE TO STATUTORY PROTECTION: CONTRACTS

Due to the uncertain state of legal protection against the unauthorized use of databases by third parties under the Copyright Act,[51] the UTA, and the Civil Code,[52] most developers of databases resort to contract law. Contracts can effectively provide database protection where the licensing agreement between database developers and their users have a legally binding effect upon the contracting parties.

Notwithstanding their effectiveness, contracts used to protect databases are also subject to legal uncertainty. Contracts must specifically include: (1) whether a licensing agreement is validly concluded; (2) at which stage of the purchasing and consuming process a valid mass-market contract, like a shrink-wrap license,[53] is entered into; (3) whether consumers ascertain and agree that it is a licensing agreement, rather than a sales agreement; and (4) whether a provision in a contract makes the contract void due to its unfairness.[54]

When the contract itself does not clearly include these details, the court refers the applicable statutory provision. While statutory provisions on licensing agreements in the Copyright Act apply to licensing agreements for copyrighted databases,[55] they remain quite limited. These statutory provisions merely establish the availability of licenses, and further explain that some exclusive licensees are treated similarly to copyright owners under the Copyright Act.[56] In addition, lack of statutory provisions explicitly dealing with shrink-wrap

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51. *See supra* notes 17-31 and accompanying text (discussing the copyright protection for databases in Korea).

52. *See supra* notes 32-50 and accompanying text (discussing the effectiveness of UTA and the Civil Code in protecting databases).

53. Shrink-wrap licenses are standard form contracts attached to mass-market software sealed in a transparent plastic. *See* ProCD Inc. v. Zeidenberg, 86 F.3d 1447, 1449 (7th Cir. 1996).

54. Yakgwaneugyujeegwanhanbopryul [Adhesion Contract Act], Law No. 3922, art. 6 (1986), Law No. 5491 (1997) (not specifically dealing with licensing agreements, but rather, only contracts in general); *see also* Minbop [Civil Code], arts. 103, 104.

55. Jojakgwonbop [Copyright Act], Law No. 432, arts. 42, 54-60 (2000).

56. It is not clear, however, whether exclusive licensees, other than exclusive publishers as prescribed in Articles 54 to 60, are granted remedies under Articles 91 and 93 of the Copyright Act.

licenses or other difficult issues concerning licensing agreements creates additional uncertainty.[57]

Furthermore, there exists questions concerning the reach of contracts. While various prohibitions in a contract are binding on parties to the contract, it is questionable whether they also apply to third parties. For example, while a user who pays for a legitimate copy of a database CD-ROM is bound by the sales contract and its accompanying license, what is questionable if a person who borrows or steals a copy is bond by the same contract. Arguably, users, including those who stole a CD-ROM, are regarded as parties to the licensing agreement.

Alternatively, interference with third parties' contractual relations may constitute a tort when the interference is regarded as "wrongful."[58] "Wrongfulness," however, is difficult to define. Despite this difficulty, because the most unauthorized uses of databases are usually committed by third parties, tort law or the misappropriation doctrine provide more protection for databases.[59]

VI. TECHNOLOGICAL MEASURES

In order to protect databases, developers turn to technological innovations to protect their investment. One such practice that developers employ is to "fence around" their databases: fencing includes technological measures to prevent unauthorized extracting, copying, or accessing of information. In addition, database developers use a variety of technological measures to facilitate contractual protection or to strengthen copyright protection. While technological measures seemingly appeared to be the ultimate solution to efficient protection for both copyrightable and non-copyrightable databases, they are not. In fact, technological measures

57. If a case similar to *ProCD, Inc. v. Zeidenberg*, 86 F.3d at 1447, dealing with the validity of a computer softwares shrink-wrap license, appealed in a Korean court, it is not clear whether the Court would rule as the trial court did, making the contract void. ProCD, Inc., v. Zeidenberg, 908 F. Supp. 640 (W.D. Wis. 1996). Also, interpretation of the Civil Code of Korea may be similar to the conclusion the court reached in *Klocek v. Gateway, Inc.*, 104 F. Supp. 2d 1332 (D. Kan. 2000).

58. YOON-JIK KWAK, CHAEGWONCHONGRON [CONTRACTS IN GENERAL] 110 (1983).

59. *See supra* notes 32-50 and accompanying text.

to prevent unauthorized copy or access were shortly followed by the production of counter technologies destructing or circumventing technological protection measures. Therefore, the legislature responded by prohibiting circumvention itself and the production or sale of circumvention technologies and devices.[60] For example, the Computer Program Protection Act of Korea (CPPA) expressly prohibits circumvention of technological measures.

The CPPA defines a technological measure as that which protects a copyright in computer programs through the input of an identification number, encryption, or others.[61] A person, who nullifies technological measures by circumvention, removal, or destruction without authority, can abet or contribute to the infringement of copyright by another. Therefore, the CPPA prohibits both activities of nullifying technological measures and distribution or transmission of devices, equipments, parts, or programs nullifying technological measures.[62] Further, a violation of such prohibitions is a crime just like the infringement of copyright law.[63]

While a statutory provision under the CPPA with respect to criminal liability for circumventing technological measures exists, there is no specific provision in posing tort liability for the circumvention. This lack of specificity is contrary to the Digital Millennium Copyright Act of the United States (DMCA).[64] However, it appears that the drafters of the CPPA intended the tort liability issue to be addressed by provisions discussing joint and several tort liability under the Civil Code.[65] Thus, if the plaintiff proves that, the defendant with the use of circumvention technology aided or abetted copyright infringement by a third party, the defendant and the third party may have to pay damages under the joint tort liability doctrine. However, since circumvention is not a direct infringement of a

60. WIPO Copyright Treaty, Dec. 20, 1996, WIPO Doc. CRNR/DC/94, art. 11, Dec. 23, 1996; WIPO Performances and Phonograms Treaty, Dec. 20, 1996, WIPO Doc. CRNR/DC/95, art. 18, Dec. 23, 1996; 17 U.S.C. §§ 1201-1205 (2000).

61. Bohobop [Computer Program Protection Act], Act No. 3920 (1986), *amended by* Act No. 6233 (2000) [hereinafter CPPA], art. 2(9) (S. Korea).

62. *Id*. art. 30.

63. *Id*. art. 46.

64. 17 U.S.C. § 1203 (1999).

65. Minbop [Civil Code] art. 760.

copyright, no injunctive remedy is available either under the Copyright Act or under the Civil Code.

One potential dilemma is, if a technological measure for copyrighted computer programs can prevent unauthorized access to an accompanying database, can the anti-circumvention provision of the CPPA be invoked indirectly to deter the unauthorized access. For example, if the DeCSS program in *Universal City Studios, Inc. v. Reimerdes*,[66] which is used for the copying of DVDs, could also be used to descramble both computer programs and databases, criminal liability might be imposed on the distribution of DeCSS under the CPPA. But, as mentioned above, the availability of the injunctive remedy is uncertain in Korea. Moreover, since a person other than the copyright holder does not have standing to bring suit on a theory of copyright infringement under the Copyright Act,[67] neither damages nor an injunction would be available. For example, while the trial court allowed a preliminary injunction to the developer of technological measures, who was not a copyright holder, in *RealNetworks, Inc. v. Streambox, Inc.*,[68] the CPPA and the Civil Code of Korea could not have provided the developer of technological measures with any basis for civil remedies.

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66. 82 F. Supp.2d 211 (S.D.N.Y. 2000). In this case, the court granted a preliminary injunction barring Web site operators from distributing software that enables users to descramble and copy DVD movies. *Id.* DeCSS is a program, which decodes the scrambled signal on digital versatile disks (DVDs). *Id.* Content Scramble System (CSS) is an encryption-based security and authentication system that requires the use of appropriately configured hardware such as a DVD player or a computer DVD drive to decrypt, unscramble, and play back, but not copy, motion pictures on DVDs. *Id.*

67. Seoul Jibop [Seoul District Court], No. 96 Gahap 75067 (S. Korea 1997).

68. RealNetworks, Inc. v. Streambox, Inc., No. C99-2070P, 1999 WL 1448173 (W.D. Wash. Dec. 23, 1999) (granting RealNetworks motion for preliminary injunction).

VII. *SUI-GENERIS* PROTECTION BASED UPON PROPERTY APPROACH

Much like in the United States[69] and Europe,[70] statutory limits and uncertainties with regard to database protection in Korea led to various legislative attempts and proposals to protect databases explicitly. For example, a statutory bill for database protection was submitted to the National Assembly of Korea on December 3, 1999 (1999 database bill).[71] Additionally, there were legislative proposals for database protection again in 2000.[72]

The 1999 database bill took a property approach like the European Union's Database Directive.[73] There are heated debates in Korea over the property approach of the European Union and the misappropriation approach shown in some of the U.S. statutory bills. Ultimately, the legislature elected to take the property approach over the misappropriation approach in the 1999 database bill. Members of the National Assembly sponsoring the 1999 database bill simply explained that "it seems that there would be few problems in protecting database developers with a property right, because most European countries have already granted exclusive property rights."[74] The 1999 database bill established stronger protection for databases to provide more incentives to the database industry without fully considering its negative effects upon free access to information.

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69. The current U.S. bills for database protection are—Collections of Information Antipiracy Act, H.R. 354, 106th Cong. (1999); and Consumer and Investor Access to Information Act of 1999, H.R. 1858, 106th Cong. (1999). *See also* Database Investment and Intellectual Property Antipiracy Act of 1996, H.R. 3531, 104th Cong. (1996); Collections of Information Antipiracy Act, H.R. 2652, 105th Cong. (1997); and Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified as amended in scattered sections of 26 U.S.C.).

70. Directive 96/9/EC, 1996 O.J. (L 277). Copyright and Rights in Databases Regulations 1997/3032 (U.K.); Informations- und Kommunikationsdienste-Gesetz (F.R.G.); Loi n 98-536 du 1er juillet 1998 portant transposition dans le code de la propriété intellectuelle de la directive 96/9/CE du Parlement européen et du Conseil, du 11 mars 1996, concernant la protection des bases de donnees (fr.).

71. Bill No. 15-2445, 15th Nat'l Assembly, 208th Sess. (1999) (S. Korea) [hereinafter 1999 database bill]. This bill was never acted upon by the legislature before the close of the legislative session.

72. Ministry of Information and Communication, Public Notice No. 2001-5, *available at* http://www.moleg.go.kr/forelaw/prev/htms/b012203.html (last visited Feb. 6, 2002).

73. Council Directive 96/9/EC, *supra* note 70.

74. NAT'L ASSEMBLY, COMM. ON SCIENCE, TECH., INFO., & TELECOMM. REP. NO. 208-24, 15th Nat'l Assembly, 208th Sess. (1999).

The 1999 database bill provides an exclusive property right for a period of fifteen years,[75] not only to the developer of the database, but also to the operator. A developer is the individual who made the substantial investment, in capital and labor, to make a database.[76] An operator is defined as the individual to whom the developer either transferred his right or granted exclusive right to utilize his database and who actually operates the database after registration.[77] There is also a prohibition on the extraction or re-utilization of all or a substantial portion of the materials in a database, in a way which conflicts with either the normal exploitation or prejudices surrounding the economic interests of the developer or the operator.[78] In addition, the circumvention of technological measures, the circulation of circumvention devices, and alteration of database management information are also prohibited.[79] There are exceptions to the protections of the 1999 database bill: (1) the protection does not extend to computer programs necessary to the making or operation of a database;[80] and (2) there are other exceptions for personal, educational, academic, or governmental use.[81]

The 1999 database bill lacked the support of the database industry. Due to the weak financial standing of firms that specialized in database production, as well as the shortage of source information in Korea, it is unduly burdensome for firms to invest in both the production of source code and the organization of that code into a database format.[82] Thus, database specialty firms depend on other firms and institutions that produce source information, such as

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75. 1999 database bill, *supra* note 71, art. 13. The term of protection is quite different from the copyright term and rather close to the patent term which is twenty years from the date of patent application. Teukhobop [Patent Act], Law No. 950 of 1961, *amended by* Law No. 6024 of 1999, art. 88(1). Comparing the situation that the database industry is facing with that of the software industry, despite a slight difference in the term of protection, the property protection for databases would also generate part of the problem that patent protection for computer programs is facing.

76. 1999 database bill, *supra* note 71, art. 2(2).

77. *Id*. art. 2(3).

78. *Id*. art. 25(1).

79. *Id*. art. 25(2)(iv), (v), (vi).

80. *Id*. art. 3(a). *Compare* H.R. 1858, 106th Cong. § 104(c)(2) (1999), *with* H.R. 354, 106th Cong. § 1404(b)(1) (1999).

81. 1999 database bill, *supra* note 71, art. 7.

82. *See supra* Tables 1-6 in Part II.

newspaper, broadcasting companies, and research institutes. Currently, firms and institutions that produce source information are often directly engaged in developing their own source information into databases either as a by-product or for the convenience of information management.[83] Because a property approach would grant property rights to database developers, who have other incentives in creating databases rather than deriving profits directly from their databases, such an approach might result in over-protection. Recent reports on the legal protection of databases warn against the costs to the database industry that would result from a property approach; and instead, they recommend a misappropriation approach.[84] Accordingly, lawmakers will have to look beyond a property approach to achieve a more efficient system for database developers in order to facilitate access to source information at cheaper transaction costs and to achieve fair competition.

VIII. *SUI-GENERIS* PROTECTION BASED UPON A MISAPPROPRIATION APPROACH

As discussed above, it is doubtful that the 1999 database bill, with a property approach, would strike a fair balance between conflicting interests and bolster the Korean database industry. In the United States, while the Database Investment and Intellectual Property Antipiracy Act of 1996[85] took a property approach, the Consumer and Investor Access to Information Act of 1999[86] came much closer to a misappropriation approach.[87] Likewise in Korea, while the 1999 database bill took a property approach, the Ministry of Information and Communication[88] took a misappropriation approach when

83. *See supra* notes 5-16 and accompanying texts and tables.

84. Sang Jo Jong et al., *supra* note 4, at 200-03; KOREA DATABASE PROMOTION CENTER, DATABASEEU BOPJOK BOHOE GWANHAN YONGU [RESEARCH ON LEGAL PROTECTION OF DATABASE] 96-98 (1999) [hereinafter KDPC, LEGAL PROTECTION OF DATABASE].

85. H.R. 3531, 104th Cong. (1966).

86. H.R. 1858, 106th Cong. (1999).

87. FED. TRADE COMM'N, *Prepared Statement Concerning H.R. 1858: The "Consumer and Investor Access to Information Act of 1999," available at* http://www.ftc.gov/opp/hr09881.htm (last visited Feb. 6, 2002).

88. Ministry of Info. and Communication, Public Notice No. 2001-5, *available at* http://www.moleg.go.kr/forelaw/prev/htms/ b012203.html (last visited Feb. 6, 2002).

proposing a new bill for the protection and use of databases in 2001 (2001 database proposal).[89]

The 2001 database proposal would prohibit unauthorized duplication, distribution, or transmission of a part or whole of a database in a manner that would cause material harm to the market of a database developer.[90] In other words, under the 2001 database proposal, information contained in a database could be freely extracted or recycled, as long as it does not harm fair competition. In addition, competitors would be able to produce and distribute a database consisting of information obtained by means other than extracting it from a database produced by others.[91] In this way, the 2001 database proposal would lead the development of the database industry by balancing the interests of investors in the development of databases with free access to information by the general public. Further, the 2001 database proposal excludes from protection computer programs used for the manufacture or operation of databases, government databases, or databases that consist of the Internet addresses necessary for wired or wireless telecommunications or electronic mail addresses.[92] This proposal provides both monetary and injunctive remedies, which would certainly be a more effective means of relief than those under the Civil Code.[93] The term of protection would be fifteen years from the first distribution or transmission,[94] and it would provide criminal liability for more effective protection of the right of database developers,[95] although the proposal conditions prosecution on the victim's consent.[96]

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89. Authors of this Article proposed a "Statutory Bill for the Protection and Use of Databases" as a result of their research on the protection of databases, which was funded by the Korea Database Promotion Center in 2000. The statutory bill proposed by the authors was mostly reflected in the 2001 database proposal. *See* 2001 Database Proposal, *supra* note 31, at 193.

90. *See* 2001 Database Proposal, *supra* note 31, art. 5.

91. *See id.* art. 7.

92. *See id.* art. 3.

93. *See id.* arts. 12 and 13.

94. *See id.* art. 14.

95. *See id.* arts. 16 and 17.

96. *See id.* art. 18.

The misappropriation approach for the 2001 database proposal is a superior legal tool to the 1999 database bill in achieving a balance between seemingly conflicting interests: promoting the growth of the database industry by protecting investment and free access of the public to information in Korea. There is still not enough information to measure and define the social value of databases as a prerequisite for entitlement to databases and the sale or license of databases in the market.[97] It will take prohibitively high, if not impossible, costs to gather all information necessary to define rights to databases.[98] However, a misappropriation approach can save the great costs of defining rights to information or technologies.[99] Under these circumstances, in order to reduce the transaction costs to the database market, the best approach is to restrict certain acts rather than trying to measure and define databases, or to let the unauthorized use of databases happen first and then determine the condition for the use. That is, society can overcome the huge costs of entitlement to databases by letting someone use a database without the maker's consent, and then have him pay the maker damages in court for the use of the database. In this way, information necessary to confer more specifically designed rights to databases accumulates in courts.

The misappropriation approach is also more appropriate than a property approach for the development of the Korean database industry, which lacks source information and its high costs of production and collection. As a result, under the misappropriation approach, the database makers can recover their investments without choking public access to databases. In sum, the 2001 database

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97. Costs necessary to define, protect, and enforce entitlement are called transaction costs. *See* DOUGLASS C. NORTH, INSTITUTIONS, INSTITUTIONAL CHANGE AND ECONOMIC PERFORMANCE 28-33 (1990).

98. "[T]he costliness of information is the key to the costs of transacting." *Id.* at 27.

99. [T]he costliness of information begets bounded rationality and incomplete information of human beings, which again begets gaps between the law and reality:

> Several thousand years of human history have made it clear that a lawmaker, however dedicated and ambitious, must accept incompleteness in any fabricated order. All of the contingencies of real life cannot be anticipated ex ante. Thus, a rational lawmaker does not try to regulate everything to the last detail. Rather, he recognizes the wisdom of leaving reasonable gaps in his design.

EIRIK G. FURUBOTN & RUDOLF RICHTER, INSTITUTIONS AND ECONOMIC THEORY: THE CONTRIBUTION OF THE NEW INSTITUTIONAL ECONOMICS 17 (1998).

proposal meets the legislative need for the misappropriation approach for the protection of databases by means of promoting fair competition in the database industry.

IX. CONCLUSION

The current legal system in Korea is not sufficient to protect databases. There are several methods that Korea could use to better protect databases. The most desirable of these is the misappropriation approach which offers a more balanced structure to achieve both the promotion of database industry and free access to information.

In the information era, the debates surrounding the 1999 database bill and the 2001 database proposal in Korea can be understood in the context of a bigger picture of economic and philosophical debates on privatization of information by enclosure. The social and legal consequences of these debates will probably have great influence on the future of information society in general, as well as on the economy of Korea. It is interesting to note, however, that these debates are not only pursued at the theoretical or academic level, but also exploited to disguise jurisdictional conflicts among the government agencies in Korea.[100] It remains to be seen who will win the theoretical and jurisdictional battles. When lawmakers accept the 2001 database proposal, as indicated by various research studies and legislative needs for database protection in Korea, it will amount to codifying a misappropriation doctrine, similar to the U.S. approach. Judicial courts in Korea have yet to clearly embrace this approach. Therefore, the 2001 database proposal and its possible enactment would mean, from the perspective of legal history in Korea, that a transplant of the Western world's legal system continues and that this

100. On the one hand, the Ministry of Culture and Tourism prefers a property approach with the hope that additional database protection could be incorporated into the existing Copyright Act, which is under its jurisdiction. On the other hand, the Ministry of Information and Communication interprets *sui-generis* protection as meaning that rights granted to database developers should be different from existing copyright and, accordingly, should be provided in a separate statute from the existing Copyright Act. For more discussion on the jurisdictional conflict among government agencies regarding legal protection of new technologies, see Park, *supra* note 35, at 184-85 (exemplifying jurisdictional conflicts between the Ministry of Culture and Tourism and the Computer Program Mediation and Deliberation Committee regarding the CPPA).

legal system will move to the American sphere of legal influence, as opposed to European sphere.