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SECURITY INTERESTS IN HUMAN MATERIALS

Kevin H. Smith

In his classic short story about Christmas and sacrifice, The Gift of the Magi, O. Henry writes of a poor woman who sells her long and beautiful hair to obtain enough money to buy her husband a chain for his cherished watch only to discover that he has sold his watch to obtain the funds to buy her combs for her precious hair. Literature would have been the poorer, but the ending of the tale perhaps would have been happier, if O. Henry had written the story so that each spouse had purchased the gift on secured credit. The husband’s watch certainly would have been considered appropriate collateral for a loan with which to purchase the hair combs. But what of the wife’s hair? Could it have served as the collateral for a secured loan?


2. Under the current 1972 version of the Uniform Commercial Code ("UCC" or "the Code"), the watch probably would have been classified as a consumer good. See U.C.C. § 9-109(1) (1972) ("Goods are (1) ‘consumer goods’ if they are used or bought for use primarily for personal, family or household purposes . . . ."); Revised U.C.C. § 9-102(a)(23) (1999) (same).

In 1998, a revised Article 9 was approved by the National Conference of Commissioners on Uniform State Laws and The American Law Institute. This revision is sometimes referred to as Revised Article 9-Secured Transactions (1999), but shall be referred to in this Article as Revised Article 9. In states which adopt Revised Article 9 as it is written, the effective date will be July 1, 2001. As with any revision to the UCC, it is impossible to foresee the speed with which various states will adopt Revised Article 9, and it is likely to be many years before a majority of the states do so. Therefore, in this Article, all references to the UCC are to the current version unless otherwise specifically stated. When a reference is made to a section of, or the language of, the current version of the UCC, the correlative section in Revised Article 9 will be referenced in a footnote. However, the language of Revised Article 9 will be reproduced in the footnote only if the language is significantly and substantively different than the language of the current Article 9.

For articles which discuss Revised Article 9, compare the language and likely impact of Revised Article 9 with the current Article 9, and make arguments concerning why Revised Article 9 should or should not be adopted in its current form, see Larry T. Garvin, The Changed (and...
Recent advances in medicine and technology have squarely raised the issue of the economic worth of a large number of human organs and other human materials. Federal and state statutes have significantly re-


Technology transforms formerly unthinkable situations into reality, challenging the most fundamental legal principles. Because it applies primarily to the human body, medical technology challenges the legal principles related to the body and its close cousin, the person. Moreover, current medical technology allows for the transfer and processing of body parts and other products of human origin in a manner typical of banal commodities. Should the rules of general property law relevant to commodities be applied to these human materials? Does their human origin warrant different rules in all or just some cases? The complex relationship between the person and his or her body must be scrutinized not only for purely academic or philosophical interest, but for practical reasons as well.

Id. Ducor also notes:

The utility and availability of human materials has ... increased dramatically as a result of recent technological developments. Society has discovered that human materials are a useful and even vital resource. Simultaneously, society discovered these materials are also scarce and difficult to acquire. Utility and scarcity enhance the value of materials once considered worthless. As a result, issues concerning property rights arise with unexpected acuity.

Id. at 226. Recent advances in medical technology have resulted in the existence, or perceived possibility, of a wide variety of uses for parts of the human body ranging from organs to DNA. A debate now rages concerning the ethical implications of these uses. The arguments raised on both sides are complicated and numerous. Two of the most important arguments involve the concern that women and the poor will face disproportionate pressure to sell their body parts, and that the sale of body parts by any individual causes the human body to be viewed as a commodity, thus undermining human dignity. Numerous articles investigate different aspects of these and other arguments. For articles which offer a representative sampling of the arguments and the range of opinions, see Jennifer J.S. Brooks, Taxation and Human Capital, 13 AM. J. TAX POL’Y 189, 189-213 (1996); Richard Gold, Owning Our Bodies: An Examination of Property Law and Biotechnology, 32 SAN DIEGO L. REV. 1167, 1167-1249 (1995); Steven Goldberg, Gene Patents and the Death of Dualism, 5 S. CAL. INTERDISC. L.J. 25, 32-40 (1996); Paul A. Gerike, Comment, Human Biological Material: A Proprietary Interest or Part of the Monistic Being, 17 OHIO N.U. L. REV. 805, 816-25 (1991); Brian G. Hannemann, Comment, Body Parts and Property Rights: A New Commodity for the 1990s, 22 SW. U. L. REV. 399, 406-29 (1993); Hannah Horsley, Note, Reconsidering Inalienability for Commercially Valuable Biological Materials, 29 HARV. J. ON LEGIS. 223, 230, 239 (1992); Shelby E. Robinson, Comment, Organs for Sale? An Analysis of Proposed Systems for Compensating Organ Providers, 70 U. COLO. L. REV. 1019, 1035, 1045 (1999); Catherine A. Tallerico, Comment, The Autonomy of the Human Body in the Age of Biotechnology, 61
restricted or outlawed the alienability of human organs for consideration, either during the donor’s life or after her death. Blood, ova, and se-


4. When singular pronouns facilitate writing, I will use feminine pronouns. The reason is simple: I find writing using “he and she,” “his and her,” and “himself and herself” to be cumbersome. As a result, I have taken to alternating between the use of feminine and masculine pronouns in each article or essay which I write. The last article used masculine pronouns, so I am using feminine pronouns in this Article.

5. For a discussion of these statutes, see infra Part II.

6. See generally Andrea Fine, The Parent Web: Infertile Couples Turn to Internet for Egg Donors, CHI. SUN TIMES, Sept. 20, 1998, at 44. Fine refers to “the growing number of egg donors” as an indication that the “demand for eggs” is “growing.” Fine states:

Egg donors receive an average of $2,500 to $4,000 per harvest. The payments can go much higher, though. One middle-aged couple has advertised on the Internet, offering $10,000—or about twice the highest agency fee offered—to a donor who is “healthy, highly intelligent, very attractive, and gifted in the arts.”

Id. Fine indicates that the number of women actually acting as donors over the Internet remains uncertain. But the number of individuals and clinics providing the service is growing—as is the demand for eggs.

Indeed, one agency involved in the practice, the Center for Surrogate Parenting and Egg Donation Inc. in Beverly Hills, Calif., gets between 20 and 60 calls a day from couples interested in finding an egg donor. It gets another 100 a week from potential donors responding to the Web site, www.eggdonor.com, said Lyne Macklin-Fife, the company’s egg-donor program administrator.

Id.; see also Kathleen Parker, How Do You Want Your Eggs?, DEN. POST, Jan. 11, 1998, at 2J (“[W]e’re apparently rich in donors. . . . Eggs, produced several at a time after ovaries are stimulated with fertility drugs, go for around $5,000 each.”). Apparently, the potential supply of ova is sufficiently large that buyers can afford to be highly selective. Parker states:

The only hitch is that consumers have high standards for their progeny. While not everyone wants dimples, nearly all insist on smarts.

Yes, kids, your SATs do count. The larger egg companies are so selective they prefer to recruit from the Ivy League. One company skims primarily from Stanford, Harvard and MIT. But even high marks aren’t enough to guarantee sales. Donors often must also answer questions about their favorite books and movies. (Hint: Tolstoy and Bergman.)

Said one egg poacher: “If she tells me she likes to read Danielle Steel, that’s telling me that with all of her schooling, she was never touched by the classics.” Next.

Id. As the following example illustrates, the demand for ova of high standards has produced price inflation:

Life may be priceless, but for a female Princeton student with the right genetic background, it may be worth $35,000.

An anonymous couple, through a broker, advertised in the Princeton University student newspaper this year for a young woman willing to sell her ova, offering $35,000 plus expenses for the egg of an “attractive, intelligent woman with proven fertility.”

Though an extreme example, the fee reflects the bidding war between private brokers and fertility clinics for women willing to allow healthy eggs to be taken from their ovaries so infertile couples can have a child.

Adrienne Knox & Clara Herrera, What Price for Life?: Rising Fees for Human Eggs Stir Fears of
men remain relatively unregulated and may be legally sold in many states. If human materials may be completely alienated, there is no logical reason that they could not serve as collateral for a secured transaction.

7. See generally Bonnie Steinbock, Sperm as Property, 6 STAN. L. & POL'Y REV. 57 (1995) (examining recent technological advances and the law which deals with property rights in sperm); Leslie Milk, Looking for Mr. Good Genes, WASHINGTONIAN, May 1999, at 65 (providing a thorough examination of sperm banks and sperm donations and their use in creating "designer babies"); Bill Briggs, Babies by the Book: Sperm, Egg Catalogs Just the Start, DENV. POST, May 21, 1997, at G-01 (discussing the sale of sperm and ova which derive from individuals with specific racial, educational, and physical characteristics); Fine, supra note 6, at 44 (indicating that "sperm donation has been going on for years"); Jim Nolan, Banking on Birth: More and More Women Take the Mate Out of Mating by Seeking Out Sperm Donors, SPOKESMAN-REV., Aug. 17, 1998, at B3 (discussing the "sperm-for-sale" business); Parker, supra note 6, at 21 ("[W]e're apparently rich in donors. Guys can finance a weekend date with a few vials of sperm at about $100 each.").

8. In this Article, the phrase "human materials" is defined as human blood and blood products derived therefrom, human unfertilized ova, human semen and the sperm contained therein currently part of, or previously harvested from, living human adults who at all relevant times possess the capacity to enter into legally binding agreements, including loan documents, security agreements, and medical consent forms. Because of the special issues which they raise, special attention is focused on blood and blood products ("blood"), unfertilized ova ("ovum" or "ova"), and sperm.

Human materials, as defined above, includes the phrase "currently part of . . . living human adults . . . ." As I will discuss at various points in this Article, I recognize the practical difficulty of taking possession of collateral that is part of an individual’s body. Unless the debtor willingly submitted to a procedure for removal, the process of removal would involve a breach of the peace or would involve the need for a court to order the specific enforcement of a contract to provide the items of human material, a prospect which is unlikely. Cf. Margaret Jane Radin, Property and Personhood, 34 STAN. L. REV. 957, 966 (1982) (arguing that it is "appropriate to call parts of the body property only after they have been removed from the system").

Other circumstances not considered in this Article, particularly situations involving the sale or transplant of human organs, might necessitate a broader definition of human materials. See, e.g., Ducor, supra note 3, at 198 ("For purposes of this Article, the term ‘human materials’ should be construed as including all materials of human origin, biologically living or not living, including persons, dead bodies, embryos and fetuses, organs, germinal and somatic cells, hair, skeletons, DNA, chemicals, and other substances."). Ducor also notes that "only a few types of human materials [taken from living individuals] are currently sold in practice: whole blood and blood components, semen, breast milk, placentas, urine, sweat, saliva, hair, and teeth." Id. at 249. Ducor does recognize that ova are also sold. Id. at 254 nn.399-404.

9. The use of human materials as collateral under the Article 9 regime has been suggested. See, e.g., Elizabeth Warren, Making Policy With Imperfect Information: The Article 9 Full Priority Debates, 82 CORNELL L. REV. 1373, 1386 (1997). Warren notes:

If the goal of a commercial law system is expansion of credit, then perhaps the revisions of Article 9 should reflect changes in medical technology since the 1960s. Why not permit security interests in body parts? Any debtor who promised her liver or her heart would surely have strong incentives to perform on the loan. It would be possible

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*a Fertility Auction Block: Egg Donation Fees: An Ethical Price?,* AUSTIN AM.-STATESmAN, Apr. 5, 1998, at G1.

Knox and Herrera provide a thorough review of the unregulated nature of the trade in ova in the United States, the fact that such trade is banned in some countries, and the arguments made by opponents and proponents of such a trade.

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This Article explores the use of human materials as collateral under Article 9 of the Uniform Commercial Code ("UCC" or "the Code"). This Article examines the scope of Article 9 and concludes that, unless forbidden by federal or state law, human materials may be used as collateral. Next, this Article examines a variety of practical issues concerning attachment, perfection, priority, and default. This examination reveals that, although human materials may be used as collateral, Article 9 does not provide a practical and serviceable framework for securing an obligation using such collateral. In response to the difficulties exposed by this discussion, a number of minor changes in the Code are proposed. Before proceeding to the main discussion, Part I provides two examples of situations in which human materials might serve as collateral for a secured transaction.

To restrict security interests to body parts that leave the debtor diminished, but alive, such as offering a kidney, skin for a graft, a womb, or a cornea as collateral. It appears that the expansion of credit notion has not been embraced fully.

Id. Warren recognizes, however, that policy reasons may exist for not embracing the full range of body parts as collateral. See id. at 1386 ("The idea here is not to give the current Article 9 drafters new ideas. Instead, the point is to note that even if a security device promotes lending, reasons not to support it may exist."). I certainly agree. This Article addresses the issue by focusing on three forms of human materials which are either renewable (blood and semen) or in relatively abundant supply (ova), and for which harvesting is relatively easy, relatively painless, and, if done competently, leaves no permanent damage. See Steven L. Schwarcz, A Fundamental Inquiry into the Statutory Rulemaking Process of Private Legislatures, 29 GA. L. REV. 909, 946 (1995). Schwarcz makes somewhat the same point when he states:

The need to revise the Code in such circumstances is a game of "catch up," to allocate rights and obligations and define proper procedures before something goes wrong.

Technology changes that affect the substantive coverage of commercial law, such as obtaining a security interest in organs and other body parts of a living person, can raise fundamental policy and ethical questions. In this example, the threshold issue is whether such security interests should be permitted. That issue transcends commercial law. Only when that issue is resolved can one begin to address how to create and perfect the security interest under a revision to Article 9.

Id. (footnote omitted).

10. This Article is not, nor is it intended to be, a primer concerning the statutory provisions of Article 9, the accompanying Official Comments, and the case law and Permanent Editorial Board commentaries which have interpreted those provisions. It is assumed that the reader has a substantial familiarity with both the range of issues raised by a secured transaction under Article 9 and the operation of the provisions of Article 9. The discussion in this Article is confined, therefore, to the specific issues raised by the use of human materials as collateral.

11. As indicated in fn. 9, supra, a normative issue exists: Should human materials be used as collateral under the current or the revised version of Article 9? This issue is better addressed as part of the ongoing debate concerning the alienability of human materials more generally defined. There is, of course, the possibility that a court would find the use of such collateral to be against public policy. For discussions of the normative issues, see the articles discussed supra in note 2.
I. EXAMPLES OF HUMAN MATERIALS AS COLLATERAL

There are few reported cases in which human materials have been used as collateral and, because of their atypical nature, it may be difficult to imagine how human materials might serve as collateral. The following two hypothetical situations are presented both to illustrate the possible use of human materials as collateral and to provide examples of some of the practical problems that the use of human materials as collateral might raise.

A. Hypothetical One: Blood as Collateral

1. The Hypothetical

Bob has an extremely rare blood type; so rare, in fact, that only one person in ten thousand people has a similar blood type. Bob has stockpiled ten pints of blood with the local blood bank in the event of an emergency in which he needs a massive blood transfusion. Because Bob's blood type is so rare, it is worth $1,000 per pint.

Bob decides to open a business which will require $10,000 worth of computer equipment, but few other tangible assets. He will run the business out of the apartment which he rents. Bob owns no real property, has little cash in the bank, and has other assets consisting only of items of clothing, some furniture, some books, and a television.

No computer store will sell him $10,000 worth of computer equipment on credit. The manager of each store tells Bob that his business idea is highly speculative and that with the rapid development of more powerful and sophisticated computers, any computer equipment Bob buys now will depreciate to 20% of its original value within six months.

Bob goes to a local bank and seeks a $10,000 loan. He offers, as collateral for the loan, the computers he wants to buy, as well as any future accounts generated by his business. Citing the likely depreciation in the value of the computers and the speculative nature of the business, the loan officer declines to make the loan. Desperate, Bob then offers the stockpile of blood as collateral.

12. See, e.g., FDIC v. D.O.C., Ltd., No. CIV.A. 87-2460-V, 1990 U.S. Dist. LEXIS 5347, at *8 (D. Kan. Apr. 4, 1990) ("The wholesale value of the property pledged to secure the notes 4493, 5378 and 7001797 was as follows: Whole Blood $ 60,000.00[,] HLA Serum 110,000.00[,] Equipment 25,000.00 . . . "). There are also reported cases in which analogous animal materials have been used as collateral. See, e.g., Mewes v. Bankwest of S.D. (In re Mewes), 56 B.R. 108, 110 (Bankr. D.S.D. 1985) (discussing a security interest covering a wide variety of collateral, including: "All inventory of Semen—Various Bulls").
The loan officer verifies that the blood is stored at a blood bank, that there is a market for the blood, that it is worth $1,000 per pint, and that the blood will maintain its value for the life of the loan. The loan officer makes the loan after Bob signs a promissory note and a security agreement. The security agreement lists the following as collateral: the computers, any future accounts receivable generated by Bob’s business, and the stockpile of blood. Bob insists that he have access to the blood in the event of a medical emergency which requires a transfusion. Believing the request to be reasonable, the bank, the blood bank, and Bob sign an agreement under which the blood will be stored by the blood bank on the bank’s behalf, but with the further understanding that the blood is: (1) to be released to the bank if Bob defaults on the loan; or (2) is to be released to Bob’s physician in the event of a verified medical emergency; or (3) is to be released to Bob’s control once the bank verifies that the loan is paid off. To protect itself, the bank includes a provision in the security agreement which provides that in the event of default, should blood have been used in a medical emergency and the remaining amount of stored blood be insufficient to cover outstanding debt, Bob will provide sufficient blood (in monthly installments) to pay off the outstanding balance. The bank files, in all proper places, duly executed financing statements covering the computers and any future accounts.

Unfortunately for Bob and the bank, two months later Bob is involved in a bad accident. The several required surgeries totally deplete the supply of blood. Because of the severe nature of his injuries and the time required for recuperation, Bob’s business fails, and he defaults on the loan.

The bank receives $5,000 from a commercially reasonable disposition of the computers and the collection of the accounts receivable, from which it deducts the reasonable cost of the disposition of the computers and the reasonable expenses of collecting the accounts receivable. The outstanding balance is slightly over $5,200. The bank requests that over the next six months Bob have six pints of blood removed and turned over to the bank for sale. Bob refuses. Although the bank could sue Bob for breach of contract, it recognizes that he has no non-exempt assets to which a judgment lien might attach, and that he has no job from which he receives wages that could be garnished.

13. Under case law such as Norwest Bank St. Paul v. Bergquist (In re Rolain), 823 F.2d 198 (8th Cir. 1987), the three-party agreement probably would give the bank sufficient possession of the blood to perfect the bank’s security interest. See U.C.C. § 9-305 & cmts. (1972); Revised U.C.C. § 9-313 & cmts. (1999).
2. Discussion of Hypothetical One

Hypothetical One demonstrates a situation in which blood has significant value and could serve as collateral for a loan. It also demonstrates the difficulties associated with the use of human materials as collateral. The bank engaged in a gamble. First, it gambled that Bob would not be involved in an accident serious enough to deplete the blood supply. This gamble is not unreasonable. Most individuals rarely face a medical condition which is serious enough to require the use of ten pints of blood. In fact, this gamble is no worse than any gamble involving a non-capital intensive business that accounts receivable will be generated on which a secured party could collect. Further, if the blood were somehow covered by Bob's insurance as an accident-related loss, the bank would have a decent claim that it is entitled to the insurance proceeds for the loss.

Second, the bank gambled that should the capital be depleted, Bob would follow through on his promise in the security agreement to replace any blood used by him for medical purposes. At the time the bank entered into the security agreement, it recognized both that it could not "collect" on the promise without breaching the peace and that a court would be unlikely to specifically enforce a contractual provision in the security agreement which would require an unwilling individual to undergo a medical procedure.

Third, the bank gambled that the blood in the blood bank was uncontaminated (a good bet because of the screening procedures in place at blood banks) and that should Bob be required to donate additional

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14. See, e.g., Barry Nelson, Campaign Launched to Ease Blood Pressure, N. ECHO, Mar. 27, 1999, at 16 (indicating that the average operation requires approximately a pint and a half of blood).

15. Pursuant to section 9-203(3), "[u]nless otherwise agreed a security agreement gives the secured party the rights to proceeds provided by Section 9-306." U.C.C. § 9-203(3). Section 9-306(1) states that "[i]nsurance payable by reason of loss or damage to the collateral is proceeds, except to the extent that it is payable to a person other than a party to the security agreement." Id. § 9-306(1); see also Revised U.C.C. § 9-203(f) ("The attachment of a security interest in collateral gives the secured party the rights to proceeds provided by Section 9-315 . . . "); Revised U.C.C. § 9-102(64) ("Proceeds" means the following property: . . . (E) to the extent of the value of collateral and to the extent payable to the debtor or the secured party, insurance payable by reason of the loss or nonconformity of, defects or infringement of rights in, or damage to, the collateral.").


17. If the bank were to sell Bob's blood and he had a disease, the bank may be liable depending upon the laws of the state. The liability issues, although bearing on the commercial feasibility of the use of blood as collateral, are beyond the scope of this Article. For a brief discussion of the issues raised by the sale of tainted human materials, see infra note 36.
blood he would not have contracted any diseases which would render his blood unsellable (an unquantifiable risk unless the bank is permitted to establish Bob’s risk factors).  

B. Hypothetical Two: Ova as Collateral

1. The Hypothetical

Ellen is a twenty-two year old woman of good health, better-than-average looks, and great talent. In addition to a high IQ and an Ivy League education with honors, she is both blessed with an exceptional voice and the drive and discipline to see that her voice develops into one of national, if not international, stature. Ellen believes that to achieve this goal, she must spend a year in London studying at, and performing with, the London Opera Company. Ellen estimates the cost of this enterprise would be approximately $20,000.

Ellen’s intellectual and musical talents permitted her to go to college on a full scholarship, but no scholarship or fellowship is available for study at the London Opera Company. Although she would be paid for her performances, she would have small roles and would be paid only a nominal amount, certainly not enough on which to travel to London and to study and live. Ellen comes from a poor family to which she cannot look for financial assistance. She has little cash in the bank, and her other assets consist of items of clothing, some furniture, some books, CDs, and a CD-player.

Ellen goes to the local bank and seeks a $20,000 unsecured loan. Although the loan officer agrees that Ellen possesses a voice of exceptional quality, the loan officer is not willing to make the loan on that basis alone. The loan officer then makes a suggestion—she indicates that a person of Ellen’s attributes and achievements could obtain between $5,000 and $7,500 per ovum from a fertility clinic, with the clinic paying for the cost of harvesting the ova. The loan officer suggests that Ellen use harvested ova as collateral for the loan. The loan officer indicates that if Ellen would agree to use six harvested ova as collateral, the bank would be willing to loan Ellen $20,000 with no payments for two

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18. Establishing Bob’s risk factors raises a host of legal issues which are beyond the scope of this Article. It should be immediately apparent that while the risk of discrimination is relatively low when donated (and therefore pre-screened) blood is used as collateral, the risk of discrimination is much higher when the collateral would be blood to be donated at some later date. A bank may find a convenient reason not to grant the request for a loan from someone who fits some “profile” of a person “likely” to carry or to contract a disease.
years, and with payments then stretching over the next five years. Ellen says she will think about it.

Ellen spends the next several days thinking about the loan officer's suggestion and offer. Desperate for the funds, Ellen agrees to permit six of her ova to be used as collateral. However, because harvesting ova requires the donor to undergo a relatively extensive protocol involving a series of shots (the contents of which may increase the risk of cancer) and, depending upon the woman, an uncomfortable to painful procedure, Ellen makes the counterproposal that she merely promise to provide the ova should she default on the loan. Reluctantly, the loan officer agrees to permit six unharvested ova to serve as the collateral.

In addition to a promissory note embodying the above-stated terms, Ellen executes a security agreement and a financing statement listing six unharvested ova as collateral for the loan. The bank files the financing statement the next day. An alert clerk at the central filing office notices the unusual nature of the collateral and calls a national tabloid. The next week, the cover of the tabloid shows a picture of Ellen along with the headline, "Singer Agrees to Lay an Egg." The story then recounts the publicly available information concerning Ellen and her desire to become an opera star. When Ellen is called for an interview, she declines. Although she is embarrassed by the incident, she uses the money to study in England.

The money is well spent. Ellen develops into an international star, and she pays off the loan.

2. Discussion of Hypothetical Two

Hypothetical Two demonstrates a situation in which ova have value and could serve as collateral for a loan. It also demonstrates other difficulties with the use of human materials as collateral. In contrast to the use of blood and sperm as collateral, the use of ova as collateral involves an unquantifiable risk of cancer or other injury, as well as certain discomfort, if not pain. Further, because the procedure to harvest ova is

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19. See Jim Ritter, Infertility Woes Boost Egg Costs: More Couples Using Donors to Get Pregnant, CHI. SUN TIMES, Aug. 2, 1999, at 11 (discussing that side effects associated with fertility drugs include bloating, abdominal pain, hospitalization, or death); Amy Virshup, How Much Would You Pay for this Family? For the Millions of Americans who Suffer from Some Form of Infertility, the Quest for Children has Become a Matter of Both High Technology and High Finance, SMARTMONEY, Dec. 1998, at 132 (indicating that drugs associated with egg donation may increase the chances of ovarian cancer).

20. See Gina Kolata, As Price of Donor Eggs Rises, So Does Debate, ORANGE COUNTY REG., Mar. 8, 1998, at 16 (noting that sperm donation is relatively inexpensive and risk free whereas egg donors undertake a risky and expensive procedure); Ritter, supra note 19, at 11; Vir-
expensive,\textsuperscript{21} unless a fertility clinic agrees to assume the cost, using ova as collateral would require the woman to borrow money to cover the cost of the procedure, thus increasing the amount of the loan required. While the decision to use harvested ova as collateral ultimately is a choice for the woman to make, these practical difficulties make the use of ova less attractive. The most attractive scenario would be for a woman who has agreed to have an ovum harvested for a specific recipient to have other ova harvested at the same time and frozen for possible use as collateral.

If the bank accepts unharvested ova as collateral, it engages in a two-fold gamble. First, it gambles that Ellen will follow through on her promise in the security agreement to undergo the procedure to have ova harvested should she default on the loan. At the time the bank entered into the security agreement, it recognized both that it could not “collect” on the promise without breaching the peace and that a court would be unlikely to specifically enforce a contractual provision in the security agreement which would require an unwilling individual to undergo a medical procedure.\textsuperscript{22} Second, should Ellen undergo the procedure, there is always the possibility that the ova will not be fertile.

C. Conclusion

The two hypotheticals demonstrate that the use of human materials is feasible, although not without risks when the collateral is unharvested at the time the secured party gives value. In addition, a comparison of the cost, inconvenience, risk, and pain involved in harvesting each type of collateral suggests that possession may be a viable form of perfection for blood and sperm, but not for ova. Further, under the current regime, a publicly available financing statement is the only means of perfecting a security interest in unharvested human materials; the public nature of a financing statement may lead to the debtor being embarrassed if the nature of the collateral is made public.

II. HUMAN MATERIALS AS PERSONAL PROPERTY SUBJECT TO A SECURITY AGREEMENT

Part II first discusses whether any federal or widely adopted state law governs the use of human materials as collateral. Concluding there

\textsuperscript{21} See Kolata, supra note 20, at 16.
\textsuperscript{22} See Roosevelt, supra note 16, at 116.
are no such impediments to the use of human materials as collateral, Part II next considers whether the provisions regarding the scope of Article 9 permit the use of human materials as collateral. Finally, in order to demonstrate that Article 9 can accommodate human materials as collateral, the place of human materials under Article 9's classificatory scheme for collateral is examined.

A. General Regulation of Human Materials

The threshold legal issue concerns whether any federal law or widely adopted state law prohibits the use of blood, ova, and sperm as collateral for a secured transaction during the lifetime of the "donor." Federal and state laws heavily regulate the ability to either sell or donate many forms of human materials, principally organs, both prior to and after the donor's death. No widely adopted state statutory scheme directly deals with the issue raised by the use of human materials as collateral, that is, the status of human materials from a living person as collateral. Therefore, the law regulating the post-mortem disposition of bodies and body parts is of no real relevance to this Article.

23. It shall be assumed that the donor is alive both at the time a security agreement is created (a rather obvious necessity) and at the time the secured party would seek to obtain possession of the human materials which serve as collateral (not always medically necessary, but by far the most empirically likely scenario). This assumption permits the Article to remain focused on Article 9 of the UCC and to avoid entanglement with empirically unlikely scenarios involving the various versions of the Uniform Anatomical Gift Act ("UAGA"), which governs post-mortem dispositions of bodies and body parts.


[While Article 9 is largely concerned with collateral and types of security, other state law will have an impact in this area as well. Rules of law exist in most jurisdictions that concern ownership of chattels and intangibles for purposes of taxation and licensing which may affect Article 9 transactions in one way or another. Although Article 9's provisions may be helpful or instructive regarding these other legislative and judicial concerns, they are by no means controlling. The lawyer who relies on Article 9 rules for solution to these other problems involving security or collateral does so at his or her substantial peril.]

Id. (footnotes omitted).

25. These laws have been discussed thoroughly and well in other articles. A reader who is interested in a full discussion of the federal and state laws dealing with the sale and donation of human materials should consult the works referenced supra in note 2, as well as the following: Gregory S. Crespi, Overcoming the Legal Obstacles to the Creation of a Futures Market in Bodily Organs, 55 OHIO ST. L.J. 1, 10-17 (1994); Michelle Bourianoff Bray, Note, Personlizing Personality: Toward a Property Right in Human Bodies, 69 TEX. L. REV. 209, 210, 220-25 (1990); Susan Hankin Denise, Note, Regulating the Sale of Human Organs, 71 VA. L. REV. 1015 (1985); Hannemann, supra note 3, at 404-19.

26. Of course, the only reasonable instances involving a security interest in human materials involve situations in which a living person is attempting to use his or her human materials as collateral. Therefore, the law regulating the post-mortem disposition of bodies and body parts is of no real relevance to this Article.
alienable personal property. The only relevant federal statute is the National Organ Transplant Act ("NOTA").

NOTA makes it "unlawful for any person to knowingly acquire, receive, or otherwise transfer any human organ for valuable consideration for use in human transplantation" under the penalty of a "fine[] of not more than $50,000 or imprison[ment of] not more than five years, or both." A "human organ" is defined as "the human (including fetal) kidney, liver, heart, lung, pancreas, bone marrow, cornea, eye, bone, and skin or any subpart thereof and any other human organ (or any subpart thereof, including that derived from a fetus) specified by the Secretary of Health and Human Services by regulation." The definition of "human organ" does not include blood and blood products, ova,

27. See Ducor, supra note 3, at 227 ("A nearly inextricable array of laws addressing different issues regarding human materials and their different purposes presently exists. This patchwork of legal sources includes laws concerning cadavers and autopsies, cemeteries, human waste disposal, public health, transplantation, blood and semen sales . . . ." (footnotes omitted)). With respect to the disposition of whole dead bodies and the parts thereof, the UAGA is the principal statutory scheme adopted by the states. For discussions of the UAGA, see id. at 227-59; Bray, supra note 25, at 222-24. As Bray notes:


The 1968 and 1987 versions of the UAGA are similar in scope and focus, although markedly different in organization and some specific provisions.


30. Id. § 274e(b).
31. Id. § 274e(c)(1).
32. See id.
33. For a discussion of the sale of blood and blood products, see Ducor, supra note 3, at 247-48 nn.358-65; see also Charles W. Mooney, Jr., Introduction to the U.C.C. Annual Survey: Some Observations on the Past, Present, and Future of the U.C.C., 41 BUS. LAW. 1343, 1348.
and semen. Thus, there is no federal or widely adopted state statutory scheme which would affirmatively prevent the alienation of these items for consideration.

(1986) ("Commentary and case law indicate that the scope of various provisions of the U.C.C. could be more crisply defined. For example, are blood transfusions and organ transplants 'transactions in goods' subject to U.C.C. article 2 warranty provisions, or are they primarily services outside its scope?"). For example:

While the sale of blood, in giving a blood transfusion, has been held to be a transaction in goods to which Article 2 of the Uniform Commercial Code is applicable, most courts have held that transactions involving blood constitute the furnishing of a service and not the sale of goods. Indeed, some jurisdictions have enacted statutes declaring that the furnishing of blood for transfusion or similar purposes constitutes a service and not a sale, and such statutes would appear to preclude a claim for breach of warranty under Article 2 of the Uniform Commercial Code.


34. See Ducor, supra note 3, at 254. Ducor states:

Gametes do not conform to the general classification scheme for human materials. Arguably, sperm and ova can be considered either "transplantable" or "for use in therapy," depending on how one views reproductive technology. Sperm and blood share a similar legal status. Neither are covered by NOTA's specific provisions, but both are covered by the UAGA. Therefore, donations, as well as inter vivos sales, are allowed. As with blood sales, sperm sales have been qualified as the provision of a service. Ova are sellable as well. The difference in price between gametes probably reflects the relative scarcity of ova compared to sperm and the inconvenience in procuring each type. It is difficult, however, to distinguish between the price paid for ova and the just compensation for the inconvenience involved in sampling or service. Hence, ova sales may be disguised as a "provision of service."

Id. (footnotes omitted). The "relative scarcity of ova compared to sperm" is due to the fact that, "[u]like sperm, which continue to proliferate during adult life, the amount of ova is determined at birth." Id. at 254 n.403; see also Bray, supra note 25, at 210 ("Indeed, modern medical techniques allow live donors to provide many transplantable organs. Ova can be surgically removed and fertilized outside of the body, and the resulting embryo can be implanted in the donor, donated to an infertile woman capable of gestating the embryo, or frozen." (footnotes omitted)). See also infra note 36.

35. For a discussion of ova and semen, see Ducor, supra note 3, at 254 nn.399-404.

36. Although it is not related to the classification of human materials as personal property, a legal issue which would influence the use of blood, ova, and semen as collateral is the liability which the secured party would face should the debtor default and the secured party make a com-
B. Human Materials Within the Scope of Article 9

Given the general lack of legal impediments to the alienability of human materials for consideration, the next legal issue concerns whether Article 9 permits human materials to serve as collateral for a secured transaction. Neither the UCC’s language nor its Official Comments directly address this issue. Rather, all relevant language speaks in broad, expansive terms concerning the nature of the property which might be used as collateral.³⁷

³⁷. Despite the broad language of the Code, statutes and public policy limit what may serve...
The UCC’s drafters intended that the UCC would “permit the continued expansion of commercial practices through custom, usage and agreement of the parties.” The drafters’ desire to provide for “evolutionary growth” is embodied in their express recognition that the UCC is drawn to provide flexibility so that, since it is intended to be a semi-permanent piece of legislation, it will provide its own machinery for expansion of commercial practices. It is intended to make it possible for the law embodied in this Act to be developed by the courts in the light of unforeseen and new circumstances and practices.

Indeed, the UCC’s first substantive provision recognizes the potential for elastic application as long as the result comports with the UCC’s basic principles, and it states: “This Act shall be liberally construed and applied to promote its underlying purposes and policies.” Given the drafters’ intention that the UCC would be liberally and expansively construed to cover new commercial practices that fall within the UCC’s goals, the next question is whether Article 9’s language and spirit will permit human materials to be used as collateral to support a security interest.

A “security interest” is defined in general terms as “an interest in personal property or fixtures” which secures payment or performance as collateral. See Brown v. Baker, 688 P.2d 943, 947 (Alaska 1984); see also BARKLEY CLARK, THE LAW OF SECURED TRANSACTIONS UNDER THE UNIFORM COMMERCIAL CODE § 1.03(2) (rev. ed. 1993) (discussing Brown). Brown dealt with intangibles—fishing rights and loss of livelihood; however, the same basic concern could occur with any form of collateral. See Brown, 688 P.2d at 945-47. I make the assumption, however, that there is a statute or case law which either permits alienability or does not forbid it. See id. at 947.

38. U.C.C. § 1-102(2)(b) (1972). Official Comment I admonishes us, however, that “the proper construction of the Act requires that its interpretation and application be limited to its reason.” Id. § 1-102 cmt. 1.
39. Id. § 1-102 cmt. 2.
40. Id. § 1-102 cmt. 1. While writing Article 9 there were perhaps four primary goals in the minds of the drafters of Article 9, though they are by no means discrete: simplicity, uniformity, flexibility (both in terms of the approach to existing security devices and in terms of adaptation to commercial needs in the future) and the elevation of functional substance over formalism.”

8 HAWKLAND ET AL., supra note 24, § 9-101:01 (emphasis added).
41. U.C.C. § 1-102(1).
42. Section 9-313 states that “goods are ‘fixtures’ when they become so related to particular real estate that an interest in them arises under [state] real estate law,” U.C.C. § 9-313(1)(a); see also Revised U.C.C. § 9-102(a)(41) (1999) (“‘Fixtures’ means goods that have become so related to particular real property that an interest in them arises under real property law.”). It is intuitively obvious that human body materials are not fixtures and, at least under any plausible scenario, never would become fixtures. Therefore, from this point on in this Article, “fixtures” will not be discussed.
of an obligation." And, the definition of collateral provides no additional assistance when it states that "[c]ollateral means the property subject to a security interest." "Personal property" is not defined in the UCC or its Official Comments.

Despite the lack of definition, Article 9 does imply that "personal property" is to be broadly interpreted. Article 9 is clearly intended to cast its net over the widest possible range of transactions. The Official Comment to section 9-101 unequivocally states: "This Article sets out a comprehensive scheme for the regulation of security interests in personal property." The nearly unlimited sweep of the personal property which may be subject to a security interest under Article 9 is demonstrated by section 9-102 when it provides that "[e]xcept as otherwise provided in Section 9-104 on excluded transactions, [it] applies ... to any transaction (regardless of its form) which is intended to create a security interest in personal property ... including goods, documents, instruments, general intangibles, chattel paper or accounts." The use of

43. U.C.C. § 1-201(37) (emphasis added); see also Revised U.C.C. § 9-102(c) ("Article 1 contains general definitions and principles of construction and interpretation applicable throughout this article."); Revised U.C.C. § 9-109 cmt. 2 ("As to which transactions give rise to a 'security interest,' the definition of that term in Section 1-201 must be consulted.").

44. U.C.C. § 9-105(1)(c) (emphasis added). Official Comment 3 of section 9-105 states in relevant part:

"Collateral", defined in paragraph (1)(c), is a general term for the tangible and intangible property subject to a security interest. For some purposes [such as the method of perfection or the determination of priorities] the Code makes distinctions between different types of collateral and therefore further classification of collateral is necessary [elsewhere in the Code].

U.C.C. § 9-105 cmt. 3 (emphasis added). Although [it] might have been possible for the drafters of the Code to avoid defining collateral broadly at all and instead to have merely defined the various types of property that might serve as security... the drafters were disinclined to freeze the state of commercial law. Had they only listed the primary types of security (goods of various types, accounts, chattel paper, intangibles, instruments, documents, etc.), the effect might have been to forestall or prevent the development of other types of security. By defining collateral to mean the property subject to a security interest and further defining the most common existing types of security, the drafters created sufficient flexibility to permit commercial expansion in the future. Beyond that, the definition of collateral is sufficiently clear and broad that few if any problems have arisen with respect to it.

HAWKLAND ET AL., supra note 24, § 9-105:04 (footnote omitted). Revised Article 9 defines collateral: "'Collateral' means the property subject to a security interest or agricultural lien. The term includes: (A) proceeds to which a security interest attaches; (B) accounts, chattel paper, payment intangibles, and promissory notes that have been sold; and (C) goods that are the subject of a consignment." Revised U.C.C. § 9-102(12).

45. U.C.C. § 9-101 cmt.; see also Revised U.C.C. § 9-101 cmt. 1 ("This Article supersedes former Uniform Commercial Code (UCC) Article 9. As did its predecessor, it provides a comprehensive scheme for the regulation of security interests in personal property and fixtures.").

46. U.C.C. § 9-102(1)(a) (emphasis added). The drafters of Article 9 intended
"including" in section 9-102 clearly demonstrates that the list was not intended to be exhaustive.\textsuperscript{47} The language strongly indicates that Article 9 will not cover a transaction only if the type of personal property or the situation involving the personal property falls within section 9-104.

The Official Comment to section 9-102 also makes clear the breadth of the transactions intended to be covered by Article 9 when it states that "[t]he main purpose of this Section is to bring all consensual security interests in personal property\textsuperscript{46} \ldots under this Article, except for certain types of transactions excluded by Section 9—104."\textsuperscript{49} Thus, un-
less a transaction and its underlying collateral are excluded by section 9-104, they are covered by Article 9.

Section 9-104 excludes transactions based both on types of property interests and types of collateral. Human material is not a proscribed type of collateral; therefore, it is a permissible type of collateral unless otherwise forbidden by public policy or judicial interpretation of personal property in a particular state.

However, section 9-104 does provide a potential limitation on the ability for human materials to serve as collateral when it indicates that Article 9 "does not apply . . . to a security interest subject to any statute of the United States to the extent that such statute governs the rights of parties to and third parties affected by transactions in particular types of

tractual arrangement that creates a security interest is within its coverage.

8 HAWKLAND ET AL., supra note 24, § 9-102:02. Although the drafters are discussing the form of the transaction rather than the nature of the collateral, they clearly intend for the widest range of situations to fall within the coverage of Article 9 if the parties thereto so intend. See Revised U.C.C. § 9-109 cmt. 2 ("No change in meaning [from section 9-102 under the previous version of Article 9] is intended. Under subsection (a)(1), all consensual security interests in personal property and fixtures are covered by this Article, except for transactions excluded by subsections (c) and (d.").

50. See U.C.C. § 9-104(b).

51. See id. § 9-104(k).

52. For a thorough discussion of the coverage of section 9-104, see CLARK, supra note 37, § 1.08. See also Revised U.C.C. § 9-109 (implementing essentially the same coverage and not making specific or implied reference to human materials).

53. For representative judicial interpretations of the interaction of section 9-102 and section 9-104, see Stephenson v. First Union Nat'l Bank (In re Berry), 189 B.R. 82, 87 (Bankr. D.S.C. 1995). The court noted:

To the extent that a transfer of an interest in personal property for security is not specifically excluded, Article 9 is intended to cover the transfer. S.C. Code Ann. § 36-9-102 and S.C. Code Ann. Title 36, Background and Introduction, p. 14. One’s realization that an assignment may be subject to Article 9, is made easier when one focuses on the statutory exclusions to Article 9 relevant to assignments of an interest in accounts. Section 36-9-104(f) excludes from Article 9 "an assignment of accounts for the purpose of collection only . . . [and] a transfer of a single account to an assignee in whole or partial satisfaction of a preexisting debt." Those exclusions of Article 9 do not cover the item extant in this adversary proceeding: an assignment of accounts for security.

Thus, it reasonably may be deduced that an assignment of accounts for security, not being specifically excluded by the statute, may create a security interest which is governed by Article 9 of the UCC.

Id. (footnote omitted).

54. See 8 HAWKLAND ET AL., supra note 24, § 9-102:02.

Of course, both courts and legislatures remain free both to tinker with the code by enacting nonuniform provisions, to exclude transactions from coverage by defining property to be other than personal property, and by creating or applying state statutory or public policy rules that prevent or limit the application of Article 9.

Id. (footnotes omitted) (citing, for example, situations in which a liquor license may not be deemed property for purposes of a security interest).
property.” However, as discussed in Part II of this Article, no federal statute prohibits the use of human materials as collateral.

C. Classifying Human Materials Under the UCC Scheme

Although human materials are not explicitly excluded by section 9-104 and appear to fall within the broad reach of section 9-102, the case that human materials are covered by Article 9 would be strengthened if human materials could be classified within one of the various types of collateral set forth in Article 9. Further, such a classification will need to be made for the purposes of determining how to cause a security interest to attach, how to perfect a security interest, how to resolve priority disputes, and the rights and remedies of various parties upon de-

55. U.C.C. § 9-104(a). Official Comment 1 to section 9-104 does not mention any federal statute which deals with human materials. Official Comment 1 makes it clear that if a federal statute does not specifically deal with security interests and related issues, Article 9 applies. Official Comment 1 states in relevant part: “The exclusionary language in paragraph (a) is that this Article does not apply to such security interest ‘to the extent’ that the federal statute governs the rights of the parties. Thus if the federal statute contained no relevant provision, this Article could be looked to for an answer.” U.C.C. § 9-104 cmt. 1; see also Revised U.C.C. § 9-109 (c)(1) (providing exclusions similar to those in the current section 9-104, including an exception for when “a statute, regulation, or treaty of the United States preempts this article.”).

56. Section 9-102(1)(a) opens the door to classification problems by suggesting human materials may serve as collateral even though human materials do not fit squarely into one of the Code’s categories for collateral. See U.C.C. § 9-102(1). Section 9-102(1) states: Except as otherwise provided in Section 9-104 on excluded transactions, this Article applies ... to any transaction (regardless of its form) which is intended to create a security interest in personal property or fixtures including goods, documents, instruments, general intangibles, chattel paper or accounts; and also ... to any sale of accounts or chattel paper.

Id. (emphasis added).

57. See, e.g., id. § 9-203(1) (indicating that the attachment of a security interest in “investment property” will be governed by the provisions of § 9-115 and § 9-116). For example, section 9-115(2) states: Attachment or perfection of a security interest in a securities account is also attachment or perfection of a security interest in all security entitlements carried in the securities account. Attachment or perfection of a security interest in a commodity account is also attachment or perfection of a security interest in all commodity contracts carried in the commodity account.

Id. § 9-115(2); see also Revised U.C.C. § 9-203 (implementing essentially the same scheme).

58. See, e.g., U.C.C. §§ 9-302, -304, -305, -306, -313 (providing for different methods of perfecting security interests in different types of collateral); see also Revised U.C.C. § 9-308(a) (“Except as otherwise provided in this section and Section 9-309, a security interest is perfected if it has attached and all of the applicable requirements for perfection in Sections 9-310 through 9-316 have been satisfied.”). Sections 9-310 through 9-316 of Revised Article 9 are organized by the type of collateral for which perfection of a security interest is relevant.

59. See, e.g., U.C.C. § 9-312 (providing for different priority rules for interests in different types of collateral). See Revised Article 9, which has many sections that provide for different priority rules for interests in different types of collateral. See, e.g., Revised U.C.C. §§ 9-301 to -306.
fault. The Code established and defined the categories of collateral long before human materials became a plausible form of collateral; therefore, it is not surprising that none of the definitions unambiguously embrace human materials. However, the definition of "goods" is broad enough to embrace human materials without too much violence. Section 9-105 defines "goods" to include

all things which are movable at the time the security interest attaches or which are fixtures (Section 9-313), but does not include money, documents, instruments, accounts, chattel paper, general intangibles, or minerals or the like (including oil and gas) before extraction. "Goods" also includes standing timber which is to be cut and removed under a conveyance or contract for sale, the unborn young of animals, and growing crops[.]66

If the human material has been harvested at the time the security interest attaches, it certainly would be as "movable" as many other forms which a good may take. For example, a container of frozen blood is as readily identifiable and movable as a container of frozen cranberry juice.62

60. See, e.g., U.C.C. § 9-503 (providing for different requirements for the disposition of different types of collateral); see also Revised U.C.C. § 9-609 (same).

61. U.C.C. § 9-105(1)(h). Official Comment 3 to the current version of section 9-105 provides further insight into the nature of "goods," and it states in relevant part:

Collateral which consists of tangible property is "goods", defined in paragraph (1)(h); and "goods" are again subdivided in Section 9-109. For the purpose of this Article, goods are classified as "consumer goods", "equipment", "farm products", and "inventory"; those terms are defined in Section 9-109. When the general term "goods" is used in this Article, it includes, as may be appropriate in the context, the subclasses of goods defined in Section 9-109.

62. For an example of human materials which appear to have been treated as goods, see su-
The definition becomes more problematic when the human materials have not been collected at the time the security interest attaches. It could be argued that because the person is movable, the human materials within that person constitutes goods, but that interpretation is palpably strained and contrived. However, "the definition of goods includes some things that are clearly not movable at the time that the security interest attaches and that will perhaps never be movable again (such as permanent fixtures)," including timber, which is to be cut and removed under a conveyance or contract for sale, the unborn young of animals and growing crops. Unharvested human materials are analogous to each of these three forms of goods.

First, all parties to a transaction involving timber, unborn young, and growing crops recognize that the collateral is living and needs to remain attached to the land or inside the mother animal until it is time for harvesting or a birth. So, too, must human materials remain in the person until they are harvested if they are to remain of value. Second, blood and semen can be collected easily, as crops can easily be cut or timber easily harvested. The collection of ova, although more invasive, painful, and complicated, does not begin to approach the expense and complication of extracting minerals and gas buried deep inside the earth. Third, like with unborn young, semen may be separated from the body by a natural process which may be analogized to the natural process of birth; and blood and ova may be separated from the body by medical procedures similar to an animal cesarean section. Fourth, because timber, unborn young, and growing crops are not movable at the time a security interest attaches, yet are considered goods, it is clear that lack of independent mobility is not considered an indispensable requirement for classification as a good. Fifth, holding human materials to be goods is in harmony with section 2-107(1), which states that "a contract for the sale of minerals ... to be removed from realty is a contract for the sale of goods within this Article if they are to be severed by the seller."

The case for considering unharvested human materials to be goods is compelling; however, should a court find that they are not goods, they likely would be classified as general intangibles, as are "minerals or the like (including oil and gas)" before extraction in states in which such

63. 8 HAWKLAND ET AL., supra note 24, § 9-105:09.
64. See Ritter, supra note 19, at 11.
65. U.C.C. § 2-107(1).
66. Id.
materials are considered to be personal property prior to their extraction.\textsuperscript{67}

If classified as goods, the next issue would involve determination as to which of the four classifications of goods human materials should be assigned. Section 9-109 sets forth four categories of goods: consumer goods, equipment, farm products, and inventory.

Section 9-109(1) states in relevant part: "Goods are . . . 'consumer goods' if they are used or bought for use primarily for personal, family or household purposes."\textsuperscript{68} Blood, ova, and sperm clearly are "used . . . primarily for personal . . . purposes."\textsuperscript{69} Thus, they arguably are consumer goods.

Section 9-109(2) provides in relevant part:

Goods are . . . "equipment" if they are used or bought for use primarily in business (including farming or a profession) or by a debtor who is a non-profit organization or a governmental subdivision or agency or if the goods are not included in the definitions of inventory, farm products or consumer goods.\textsuperscript{70}

Blood, ova, and sperm clearly are not "used . . . primarily in business"\textsuperscript{71} and would not qualify as equipment under this part of the definition. However, equipment also is a residual definition, and covers "goods [which] are not included in the definitions of inventory, farm

\begin{footnotesize}
\begin{itemize}
\item[\textsuperscript{67}] See id. § 9-105 cmt. 3 ("If in any state minerals before severance are deemed to be personal property, they fall outside the Article's definition of 'goods' and would therefore fall in the catch-all definition, 'general intangibles', in Section 9-106."). Section 9-106 defines "'general intangibles' as "any personal property (including things in action) other than goods, accounts, chattel paper, documents, instruments, and money." Id. § 9-106. The Official Comment to section 9-106 provides further illumination of the scope of general intangibles, and states in relevant part: "The term 'general intangibles' brings under this Article miscellaneous types of contractual rights and other personal property which are used or may become customarily used as commercial security." Id. § 9-106 cmt.
\item[\textsuperscript{68}] U.C.C. § 9-109(1). Revised Article 9 defines consumer goods as "goods that are used or bought for use primarily for personal, family, or household purposes." Revised U.C.C. § 9-102(a)(23).
\item[\textsuperscript{69}] U.C.C. § 9-109(1).
\item[\textsuperscript{70}] U.C.C. § 9-109(2). Revised Article 9 defines equipment as "goods other than inventory, farm products, or consumer goods." Revised U.C.C. § 9-102(a)(33). Under both versions of Article 9, equipment is a residual category, covering all manner of goods which do not fall within the other three categories of goods.
\item[\textsuperscript{71}] U.C.C. § 9-109(2).
\end{itemize}
\end{footnotesize}
products or consumer goods. If the three forms of collateral do not fall within consumer goods, farm products, or inventory, they would be considered equipment.

It is clear that blood, ova, and sperm do not constitute farm products. Section 9-109(3) indicates that goods are “farm products” if they are crops or livestock or supplies used or produced in farming operations or if they are products of crops or livestock in their unmanufactured states (such as ginned cotton, wool-clips, maple syrup, milk and eggs), and if they are in the possession of a debtor engaged in raising, fattening, grazing or other farming operations. If goods are farm products they are neither equipment nor inventory.

Although analogous animal products might constitute farm products, blood, ova, and sperm are not “used or produced in farming operations” and are not “products of crops or livestock.”

Section 9-109(4) defines “inventory” as goods that are held by a person who holds them for sale or lease or to be furnished under contracts of service or if he has so furnished them, or if they are raw materials, work in process or materials used or consumed in a business. Inventory of a person is not to be classified as his equipment.

72. Id.
73. Id. § 9-109(3). Revised Article 9 defines “farm products” as goods, other than standing timber, with respect to which the debtor is engaged in a farming operation and which are:
   (A) crops grown, growing, or to be grown, including:
       (i) crops produced on trees, vines, and bushes; and
       (ii) aquatic goods produced in aquacultural operations;
   (B) livestock, born or unborn, including aquatic goods produced in aquacultural operations;
   (C) supplies used or produced in a farming operation; or
   (D) products of crops or livestock in their unmanufactured states.
Revised U.C.C. § 9-102(a)(34).
74. U.C.C. § 9-109(3).
75. Id.
76. U.C.C. § 9-109(4). Revised Article 9 defines “inventory” as goods, other than farm products, which:
   (A) are leased by a person as lessor;
   (B) are held by a person for sale or lease or to be furnished under a contract of service;
   (C) are furnished by a person under a contract of service; or
   (D) consist of raw materials, work in process, or materials used or consumed in a business.
Revised U.C.C. § 9-102(a)(48).
Official Comment 3 provides some clarification when it states: “The principal test to determine whether goods are inventory is that they are held for immediate or ultimate sale. Implicit in the definition is the criterion that the prospective sale is in the ordinary course of business.”

It is clear that the human body is not a business enterprise in which human materials are sold “in the ordinary course of business.” It might be possible to construct a scenario in which a person’s blood or sperm is in such high demand that the individual makes regular sales. However, this is a rather unusual situation and a rather contrived reading of inventory. The Official Comments to Revised Article 9 also seem to remove even these relatively infrequent sales from the coverage of inventory. Official Comment 4(a) to section 9-102 of Revised Article 9 states:

Implicit in the definition [of inventory] is the criterion that the sales or leases are or will be in the ordinary course of business. For example, machinery used in manufacturing is equipment, not inventory, even though it is the policy of the debtor to sell machinery when it becomes obsolete or worn.

By analogy, the regular sale of “extra” or “obsolete” blood, ova, and sperm should not cause such human materials to be considered inventory.

Human materials can be brought into the definition of inventory only when they are held by a business that has purchased them and holds them for sale. The harvested sperm held for sale by a sperm bank and the harvested ova held for sale by an egg bank would be inventory.

In conclusion, no federal or widely adopted state law forbids the alienation of blood, ova, or sperm for consideration. The expansive language of Article 9 permits all types of non-excluded personal property to serve as collateral to support a secured transaction. Human materials which have been harvested certainly constitute goods, although there is some uncertainty regarding the particular category of goods into which they fall. Human materials that have not been harvested probably would be considered goods, although there is an argument that they would constitute general intangibles. If unharvested human materials constitute

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77. U.C.C. § 9-109 cmt. 3. Official Comment 4(a) to Revised Article 9 section 9-102 states that “Implicit in the definition is the criterion that the sales or leases are or will be in the ordinary course of business.” Revised U.C.C. § 9-102 cmt. 4(a).
78. U.C.C. § 9-109 cmt. 3.
79. Revised U.C.C. § 9-102 cmt. 4(a).
goods, once again there is some uncertainty regarding the particular category of goods into which they fall.

In Part I.D. of this Article, certain modifications to Article 9 are proposed which would resolve the difficulties that result from the uncertainty about the classification of the collateral.

D. Suggested Modifications to Article 9 of the UCC

The first suggested modification to Article 9 of the UCC is to amend the definition of "goods" to specifically include human materials as defined in this Article. The definition of "goods" in section 9-105(1)(h) should be revised to include the italicized material:

"Goods" includes all things which are movable at the time the security interest attaches or which are fixtures (Section 9-313), but does not include money, documents, instruments, accounts, chattel paper, general intangibles, or minerals or the like (including oil and gas) before extraction. "Goods" also includes standing timber which is to be cut and removed under a conveyance or contract for sale, the unborn young of animals, human materials, and growing crops.

Official Comment 3 to the current version of section 9-105, which provides further insight into the nature of "goods," should be revised to include the italicized language:

Collateral which consists of tangible property is "goods", defined in paragraph (1)(h); and "goods" are again subdivided in Section 9-109.

80. U.C.C. § 9-105(1)(h) (italics represent the author's suggested modification). The definition of "goods" in the Revised Article 9 should be amended to include the italicized language:

"Goods" means all things that are movable when a security interest attaches. The term includes (i) fixtures, (ii) standing timber that is to be cut and removed under a conveyance or contract for sale, (iii) the unborn young of animals, (iv) human materials, (v) crops grown, growing, or to be grown, even if the crops are produced on trees, vines, or bushes, and (vi) manufactured homes. The term also includes a computer program embedded in goods and any supporting information provided in connection with a transaction relating to the program if (i) the program is associated with the goods in such a manner that it customarily is considered part of the goods, or (ii) by becoming the owner of the goods, a person acquires a right to use the program in connection with the goods. The term does not include a computer program embedded in goods that consist solely of the medium in which the program is embedded. The term also does not include accounts, chattel paper, commercial tort claims, deposit accounts, documents, general intangibles, instruments, investment property, letter-of-credit rights, letters of credit, money, or oil, gas, or other minerals before extraction.

Revised U.C.C. § 9-102(a)(44) (italics represent the author's suggested modifications).
For the purpose of this Article, goods are classified as "consumer goods", "equipment", "farm products", "inventory", and "human materials"; those terms are defined in Section 9-109. When the general term "goods" is used in this Article, it includes, as may be appropriate in the context, the subclasses of goods defined in Section 9-109.81

The amendments are based on the addition of a new category of goods, that is, "human materials." Human materials will need to be defined, and the definition should be contained in section 9-109, which currently contains the subclasses of goods. The definition of "human materials" should be added as subsection (e), and it should read as follows: Goods are: (e) "human materials" if they are human blood or blood products, one or more unfertilized human ova, or human sperm, whether contained in, or separated from, human semen.82

The Official Comments to section 9-109 discuss the subcategories that section 9-109 defines.83 A new Official Comment 6 should be added to correspond to the definition of human materials, and it should read as follows:

6. Goods are "human materials" if "they are human blood or blood products, one or more unfertilized human ova, or human sperm, whether contained in, or separated from, human semen." This definition does not distinguish between human materials which have been harvested from an individual's body and human materials which have not been harvested from the debtor's body at the time the security interest attaches. The secured party should realize that harvested human materials provide superior collateral because, of course, harvesting human materials after default and without the debtor's consent un-

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81. U.C.C. § 9-105 cmt. 3. (italics represent the author's suggested modification). Revised Article 9 includes the definitions of the categories of goods in section 9-102, the general definition section. Official Comment 4(a) to Revised Article 9 section 9-102 should be amended to include the italicized language: "The definition of 'goods' is substantially the same as the definition in former Section 9-105. This Article also includes five mutually-exclusive 'types' of collateral that consist of goods: 'consumer goods,' 'equipment,' 'farm products,' ... 'inventory,' and 'human materials.'" Revised U.C.C. § 9-102 cmt. 4(a) (italics represent the author's suggested modifications and are used primarily for clarification).

82. "Human materials" may be more broadly defined. For examples of human materials which currently are sold, see supra note 8. Section 9-102 of Revised Article 9 contains the definitions of consumer goods, equipment, farm products, and inventory. See Revised U.C.C. §§ 9-102(a)(23), (33), (34), (48). Section 9-102 will need to be amended to include the definition of human materials as set forth in the text accompanying this footnote. Under the current numbering scheme, the definition of human materials would be included as section 9-102(a)(47), with subsequent definitions being renumbered accordingly.

83. See Revised U.C.C. § 9-102 cmt. 4(a).
doubtedly would constitute a breach of the peace (see 9-503(1)), as well as, perhaps, several different torts and crimes.\textsuperscript{64}

E. Conclusion

Human materials may serve as collateral for secured transactions, although it is unclear precisely what type of collateral they are. If they are considered to be either inventory or equipment, then possession or filing will serve to perfect them; precise classification is not required. However, to minimize confusion, several changes to the UCC are suggested.

The remainder of this Article analyzes the treatment of human materials under the condition of uncertainty for each of the following four fundamental legal issues raised by every secured transactions situation: (1) Did a security interest attach? (2) Is the security interest perfected? (3) What is the priority among competing claimants? (4) What are the rights and remedies of all the parties involved, including the debtor? At appropriate points, modifications in Article 9 are suggested; sometimes specific language is suggested, while at other times, when there are a number of viable options, the discussion is merely conceptual.

III. ATTACHMENT

A security interest becomes enforceable against the debtor when it attaches to the collateral.\textsuperscript{85} In general, a security interest attaches to the collateral when the last of the following three events specified in section 9-203(1) have occurred.\textsuperscript{66}

\textsuperscript{64} Section 9-102 of Revised Article 9 contains the definitions of consumer goods, equipment, farm products, and inventory. See Revised U.C.C. §§ 9-102(a)(23), (33), (34), (48). Section 9-102 will need to be amended to include the definition of “human materials” as set forth in the text accompanying this footnote. Under the current numbering scheme, the definition of human materials would be included as section 9-102(a)(47), with subsequent definitions being renumbered accordingly. Official Comment 4 to section 9-102 of Revised Article 9 contains “Goods-Related Definitions.” See id. § 9-102 cmt. 4. Official Comment 4 would need to be revised to include the commentary set forth in the text accompanying this note.

\textsuperscript{85} See U.C.C. § 9-203(2) (1972) (“A security interest attaches when it becomes enforceable against the debtor with respect to the collateral.”); see also Revised U.C.C. § 9-203(a) (“A security interest attaches to collateral when it becomes enforceable against the debtor with respect to the collateral, unless an agreement expressly postpones the time of attachment.”). \textsuperscript{66} See U.C.C. § 9-203(2) (“Attachment occurs as soon as all of the events specified in subsection (1) [of section 9-203] have taken place unless explicit agreement postpones the time of attaching.”); see also Revised U.C.C. § 9-203 (having the same impact, although stated in different language).
A security interest is not enforceable against the debtor or third parties with respect to the collateral and does not attach unless

(a) the collateral is in the possession of the secured party pursuant to agreement, or the debtor has signed a security agreement which contains a description of the collateral . . . and

(b) value has been given [by the secured party]; and

(c) the debtor has rights in the collateral. 87

87. U.C.C. § 9-203(1). Revised Article 9 offers a provision similar in substance. It states in relevant part:

(b) . . . Except as otherwise provided in subsections (c) through (i), a security interest is enforceable against the debtor and third parties with respect to the collateral only if:

(1) value has been given;
(2) the debtor has rights in the collateral or the power to transfer rights in the collateral to a secured party; and
(3) one of the following conditions is met:
   (A) the debtor has authenticated a security agreement that provides a description of the collateral and, if the security interest covers timber to be cut, a description of the land concerned;
   (B) the collateral is not a certificated security and is in the possession of the secured party under Section 9-313 pursuant to the debtor's security agreement;
   (C) the collateral is a certificated security in registered form and the security certificate has been delivered to the secured party under Section 8-301 pursuant to the debtor's security agreement; or
   (D) the collateral is deposit accounts, electronic chattel paper, investment property, or letter-of-credit rights, and the secured party has control . . . pursuant to the debtor's security agreement.

Revised U.C.C. § 9-203(b). Revised Article 9 appears to have done away with a verbal pledge. Official Comment 4 to Revised Article 9 section 9-203 states in relevant part: "[T]he phrase 'debtor has authenticated a security agreement,' used in paragraph (3)(A) . . . contemplates the debtor's authentication of a record. In the unlikely event that possession is obtained without the debtor's agreement, possession would not suffice as a substitute for an authenticated security agreement." Id. § 9-203 cmt. 4. It appears that an "authenticated security agreement" generally is required. Section 9-102(a)(73) of Revised Article 9 provides that a "[s]ecurity agreement" means an agreement that creates or provides for a security interest." Id. § 9-102(a)(73). "Agreement" is defined by section 1-201(3) as "the bargain of the parties in fact as found in their language or by implication from other circumstances including course of dealing or usage of trade or course of performance." U.C.C. § 1-201(3). The definition of agreement implies that a non-written security agreement is permitted. However, the requirement that the security agreement be "authenticated" would require a writing. Revised U.C.C. § 9-102(a)(7). Section 9-102(a)(7) of Revised Article 9 states: "'Authenticate' means: (A) to sign; or (B) to execute or otherwise adopt a symbol, or encrypt or similarly process a record in whole or in part, with the present intent of the authenticating person to identify the person and adopt or accept a record." Revised U.C.C. § 9-102(a)(7). The only way in which a security interest could be authenticated is if it were in written or electronic form.
Whether the putative secured party has given value is not normally a matter of any particular controversy. 88 Assuming that federal law and the law of a particular state consider human materials to constitute personal property, which an individual may alienate for consideration, the debtor clearly would have rights in his or her human materials, and therefore, in the collateral. As was indicated in Part I of this Article, there appear to be no federal statutes or widely adopted state laws which forbid an individual from possessing a property interest in his or her blood, ova, or semen. Therefore, the main attachment issue will be whether “the collateral is in the possession of the secured party pursuant to agreement, or the debtor has signed a security agreement which contains a description of the collateral.”

A. Possession or a Signed Security Agreement

Section 9-203(1)(a) gives the parties to a secured transaction two options concerning the method by which the parties may memorialize their agreement: possession of the collateral by the secured party pursuant to an agreement or a written security agreement and signed by the debtor containing a description of the collateral. 90 The availability of a non-written agreement stems from the language in section 9-203(1)(a) that a security interest may attach if, among the other requirements, “the collateral is in the possession of the secured party pursuant to agreement.” 91 That a security agreement may be unwritten is clear from reading together section 9-105(1)(l), which defines a “security agreement” as “an agreement which creates or provides for a security interest,” 92 and section 1-201(3), which defines an “agreement” as “the bargain of the parties in fact as found in their language or by implication from other circumstances including course of dealing or usage of trade or course of performance.” 93

88. “Value” is defined in section 1-201(44). The sale of a good on credit or the extension of a loan or a letter of credit is sufficient to meet the definition of “value.” See U.C.C. § 1-201(44). The existing definition of “value” will apply to the Revised Article 9. See Revised U.C.C. § 9-102(c) (“Article 1 contains general definitions and principles of construction and interpretation applicable throughout this article.”).
89. U.C.C. § 9-203(1)(a).
90. See id.
91. Id. (emphasis added).
92. Id. § 9-105(1)(l) (emphasis added).
93. Id. § 1-201(3). Section 1-201(3) states in full:
“Agreement” means the bargain of the parties in fact as found in their language or by implication from other circumstances including course of dealing or usage of trade or course of performance as provided in this Act (Sections 1-205 and 2-208). Whether an
For evidentiary reasons, even if the secured party possesses the collateral, a written security agreement is advisable. This is particularly true in the case of gametes, which eventually might be used to produce a child.

As a practical matter, the choice between an oral and a written security agreement also depends upon the status of the collateral. Harvested human materials can be possessed by the secured party. Unhar-
vested human materials cannot easily be possessed by the secured party because they are still “part” of the debtor. This raises the legal and practical issues of whether unharvested human materials may be “possessed” by having custody (i.e., physical possession) of the person in which the materials are located. It is possible to construct a limited number of scenarios in which it may be argued that the debtor (and the collateral) is in the “possession” of the secured party: The debtor may be an inmate in a prison, a soldier confined to a base, or an ordinary individual who has agreed to temporarily forego her liberty.\textsuperscript{96} The proposed modification to the definition of “goods” and the proposed addition of a definition of “human materials” which includes unharvested materials should help remedy this problem.\textsuperscript{97}

**B. Description of the Collateral**

If attachment occurs through possession of the collateral after it is harvested from the debtor, a written agreement signed by the debtor is not required for attachment; the collateral itself may serve the evidentiary function of “minimiz\[ing\] the possibility of future dispute . . . as to what property stands as collateral for the obligation secured.”\textsuperscript{98} As a practical matter, even if the human materials have been harvested and are in possession of the secured party, a signed, written security agree-
ment will be used in order to “minimize[] the possibility of future dispute as to the terms of a security agreement.” If the parties are depending upon a written security agreement as the embodiment of the terms of the agreement, that document must contain a “description of the collateral.”

With respect to a description of the collateral, there are two issues to be answered, one legal and one factual. The legal issue concerns whether the description of the collateral which is contained in the security agreement is sufficient to meet the requirement of section 9-203(1)(a); in other words, the legal issue concerns whether the description of the collateral which is contained in the written document is sufficient to permit the document to be considered a “security agreement.” Assuming the document constitutes a security agreement, there is a factual issue concerning precisely what collateral is the subject of the description.

The legal standard appears relatively easy to meet. Section 9-110 sets forth the “sufficiency of description” for collateral, and it states: “For the purposes of this Article [9] any description of personal property or real estate is sufficient whether or not it is specific if it reasonably identifies what is described.” The Official Comment amplifies:

99. Id.
100. Id. § 9-203(1)(a). See Revised Article 9, which requires that, for the vast majority of cases in which a security agreement is used, it “provides a description of the collateral.” Revised U.C.C. § 9-203(b)(3)(A).
101. Discussions of the issue surrounding the description of collateral may be found in CLARK, supra note 37, ¶ 2.02[3]. For a discussion of the difference between the legal issue and the factual issue, see JAMES J. WHITE & ROBERT S. SUMMERS, UNIFORM COMMERCIAL CODE, at § 22–4 (3d ed. 1988).
102. U.C.C. § 9-110. The Revised Article 9 presents a more elaborate statement:
(a) . . . Except as otherwise provided in subsections (c), (d), and (e), a description of personal or real property is sufficient, whether or not it is specific, if it reasonably identifies what is described.
(b) . . . Except as otherwise provided in subsection (d), a description of collateral reasonably identifies the collateral if it identifies the collateral by:
  (1) specific listing;
  (2) category;
  (3) except as otherwise provided in subsection (e), a type of collateral defined in [the Uniform Commercial Code];
  (4) quantity;
  (5) computational or allocational formula or procedure; or
  (6) except as otherwise provided in subsection (e), any other method, if the identity of the collateral is objectively determinable.
(c) . . . A description of collateral as “all the debtor’s assets” or “all the debtor’s personal property” or using words of similar import does not reasonably identify the collateral.
(d) . . . Except as otherwise provided in subsection (e), a description of a security
The requirement of description of collateral (see Section 9-203 and Comment thereto) is evidentiary. The test of sufficiency of a description laid down by this section is that the description do the job assigned to it—that it make possible the identification of the thing described. Under this rule courts should refuse to follow the holdings, often found in the older chattel mortgage cases, that descriptions are insufficient unless they are of the most exact and detailed nature, the so-called "serial number" test. 103

The statutory language, combined with the Official Comment's repudiation of the "most exact and detailed" description embodied in a "serial number" test, suggests a relatively lenient standard. 104

If the human materials have been collected, the description should easily be able to pass muster. Regardless of the type of human material, it will be placed in some type of container, marked, and then refrigerated or frozen. An adequate description should be created by describing the source of the item, its nature, and the identifying mark used by the secured party's agent or the bailee. An example of a description might be: "One pint of Type O blood withdrawn from [Debtor or name of debtor] on 1/2/99 and stored in container A-15001 at Blood Supply, Inc., 123 Main Street, Anywhere, Anystate 12345." Where the agent's or bailee's records are well-kept, and it will be easy to match the debtor's donation and a specific container, a description such as the following should be sufficient: "One pint of Debtor's blood stored at Blood Supply, Inc., 123 Main Street, Anywhere, Anystate 12345."

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Revised U.C.C. § 9-108. 103. U.C.C. § 9-110 cmt. Comment 2 to Revised Article 9 section 9-108 states in relevant part:

The purpose of requiring a description of collateral in a security agreement under Section 9-203 is evidentiary. The test of sufficiency of a description under this section, as under former Section 9-110, is that the description do the job assigned to it: make possible the identification of the collateral described. This section rejects any requirement that a description is insufficient unless it is exact and detailed (the so-called "serial number" test).

The description will be more problematic when the human materials have not yet been harvested at the time the security interest attaches. It would seem wholly within the letter and spirit of section 9-110 and its Official Comment to permit a description of the type and quantity of the human material to be used as collateral. For example, the following description would seem adequate: “One pint of Type O blood to be withdrawn from Debtor.” Indeed, because a person’s blood type does not change and the blood would have to be withdrawn from the debtor, it might be sufficient to simply say, “One pint of Debtor’s blood.” Arrangements regarding the conditions surrounding the withdrawal of the blood could be specified elsewhere in the security agreement, as could requirements for storage and care during the time the debtor has to redeem the collateral.

Technical problems with the adequacy of the description of unharvested human materials could arise from the fact that human materials are, with the exception of ova, in a constant state of replenishment. Blood cells die and are replaced every second. The body creates blood to replace that which is routinely lost through minor scrapes and accidents, such as a cut while shaving, or naturally, as through menses. Sperm are generated continuously. Thus, the particular blood, sperm, and semen which an individual possesses at the moment a security interest attaches undoubtedly will have changed between the time a security interest attaches and the time a secured party might wish to pos-

105. The same level of specificity would be appropriate for ova (i.e., “three unfertilized ova to be withdrawn from the debtor”) or sperm (i.e., “one vial of semen to be provided by the debtor”).

106. Statements regarding the condition of human materials should be stated in the security agreement, but need not be stated in the description. For example, the secured party would require that the blood be free of contamination by disease or chemical substances, such as penicillin, to which recipients might be allergic. For other types of human materials, such as sperm and ova, the security agreement might specify certain requirements, such as motility of sperm or undamaged ova.

107. The maximum number of ova possessed by a woman is determined by the time of her birth and decreases over time until menopause. See Natalie Angier, Woman: An Intimate Geography 15-16 (1999).

108. See, e.g., Tallerico, supra note 3, at 665 (noting that blood and semen are “replenishable bodily materials”).

109. See, e.g., Bernard M. Dickens, The Control of Living Body Materials, 27 U. TORONTO L.J. 142, 155 (1977) (explaining how long it takes for blood and its components to be replaced by the body after donation); Tallerico, supra note 3, at 665 (same).

110. See, e.g., Dickens, supra note 109, at 163 (noting that blood is lost through “unfortunate accident[s]”).

111. See Angier, supra note 107, at 15-16.
sess the collateral. In a sense, the collateral will have been "after acquired."

Three solutions to this problem exist. First, the parties should be deemed to have knowledge of basic biology and to have intended to mean the collateral as it exists at the time the secured party seeks to possess it. Thus, "one pint of Debtor's blood," should be read to have the common-sense meaning, "one pint of Debtor's blood at some future time when it is withdrawn from the Debtor's body." This solution makes for the best policy from the twin perspectives of simplifying the law governing commercial transactions and "permit[ting] the continued expansion of commercial practice[ through . . . agreement of the parties[.]]" To ensure that this common sense solution prevails, the current UCC section regarding the after-acquired property clause could be amended to include the italicized language, as follows:

(1) Except as provided in subsection (2), a security agreement may provide that any or all obligations covered by the security agreement are to be secured by after-acquired collateral. Security agreements which provide for a security interest in unharvested human materials shall be interpreted to include the specified type of human material at the time it is harvested from the debtor.

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112. Section 9-204 states in relevant part:

(1) Except as provided in subsection (2), a security agreement may provide that any or all obligations covered by the security agreement are to be secured by after-acquired collateral.

(2) No security interest attaches under an after-acquired property clause to consumer goods other than accessions (Section 9-314) when given as additional security unless the debtor acquires rights in them within ten days after the secured party gives value.

U.C.C. § 9-204(1)-(2) (1972). The Revised Article 9 also permits after-acquired property clauses, and states in relevant part:

(a) . . . Except as otherwise provided in subsection (b), a security agreement may create or provide for a security interest in after-acquired collateral.

(b) . . . A security interest does not attach under a term constituting an after-acquired property clause to:

(1) consumer goods, other than an accession when given as additional security, unless the debtor acquires rights in them within 10 days after [sic] the secured party gives value; or

(2) a commercial tort claim.

Revised U.C.C. § 9-204(a)-(b) (1999).

113. U.C.C. § 1-102(2)(b). Section 1-102 states in relevant part: "(2) Underlying purposes and policies of this Act are (a) to simplify, clarify and modernize the law governing commercial transactions; [and] (b) to permit the continued expansion of commercial practices through custom, usage and agreement of the parties." U.C.C. § 1-102(2)(a)-(b).

114. U.C.C. § 9-204(1) (italics represent the author's suggested modifications). The Revised Article 9 section on after-acquired property clauses should be modified to include the italicized
The next best solution is to analogize human materials to inventory and accounts and rely on the cases which have implied an "after-acquired property clause" into the security agreement.  In these cases, courts have relied on the reasonable assumption that because the collateral is in a continuous state of, at best, replenishment, and, at worst, change, it is reasonable to infer that the secured party intended to take, and the debtor intended to give, a security interest in the inventory and accounts owned at the time the security interest attached, as well as those which were acquired thereafter. It may be argued that this solution carries case law further down the slippery slope of bad policy by increasing the uncertainty about these situations in which after-acquired property will be subject to a security interest despite the absence of an after-acquired property clause in the security agreement. In the abstract, this may be true; however, given the unique nature of human materials, it is difficult to contemplate how case law, which would judicially write in an after-acquired property clause when the collateral is human materials, could be extended.

The third solution is to require that the security agreement contain an after-acquired property clause. However, the requirement of an after-acquired property clause would raise the specter of the debtor as vampire. Imagine the jokes with which the following description would meet: "One pint of Debtor's blood, now owned or hereafter acquired."

C. Some Miscellaneous Issues Regarding Security Agreements

In his classic treatise on the law of secured transactions, Barkley Clark seeks to assist practitioners by including a section entitled, "Typical Clauses in a Security Agreement." This section is a must read for any professor, student, or attorney. Several of the clauses war-

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language, as follows:

(a) . . . Except as otherwise provided in subsection (b), a security agreement may create or provide for a security interest in after-acquired collateral. Security agreements which provide for a security interest in unharvested human materials shall be interpreted to include the specified type of human material at the time it is harvested from the debtor. Revised U.C.C. § 9-204(a) (italics represent the author's suggested modifications).

115. See generally CLARK, supra note 37, ¶ 2.02[3][a] & n.84 (discussing after-acquired property clauses and cases in which after-acquired property clauses have been "implied as a matter of the parties' intent").

116. The debtor's health is of obvious concern to the secured party, particularly if the debtor is in declining health. If possible, the secured party should protect itself by taking a security interest in harvested human material.

117. See CLARK, supra note 37, ¶ 2.02[3][a] & n.84.

118. Id. ¶ 2.02[5].
rant special mention in the context of the use of human materials as collateral.

Clark suggests that a security agreement “includ[e] a promise to provide additional collateral upon request.”119 Although he does not explain the rationale for this clause, it most likely arises from section 1-208’s discussion of the ability of the parties to include “[a] term providing that one party or his successor in interest may accelerate payment or performance or require collateral or additional collateral ‘at will’ or ‘when he deems himself insecure.””120 Although the prudent secured party may include such a term, with one, limited exception, public policy ought not to permit such terms when the additional collateral is human material. When the collateral consists of harvested blood, public policy is not offended by requiring an additional pint of harvested blood to be provided as collateral if the market value of blood falls. No invasion of the person is required and blood has been treated more-or-less like a commodity since it first could be stored. However, because they implicate reproductive matters, the secured party ought not to be able to require the debtor to provide additional collected gametes. Further, because the collection of human materials, particularly ova, requires invasive or personal procedures, the secured party ought not to be able to require the debtor to provide additional, unharvested human material as collateral. The preferred alternatives would be either to work out an agreement to overcollateralize the loan initially or to require the debtor to provide some other type of additional collateral to support the secured transaction.

Clark also suggests “a covenant against unauthorized sale or other alienation of the collateral.”121 When the human materials have been harvested and are in the secured party’s possession, this clause is not required as any purchaser would take subject to the secured party’s security interest. When the human material is uncollected, this clause seems both unnecessary and contrary to public policy. First, human materials

120. U.C.C. § 1-208 (1972). Section 1-208 states in full:
A term providing that one party or his successor in interest may accelerate payment or performance or require collateral or additional collateral “at will” or “when he deems himself insecure” or in words of similar import shall be construed to mean that he shall have power to do so only if he in good faith believes that the prospect of payment or performance is impaired. The burden of establishing lack of good faith is on the party against whom the power has been exercised.

Id.
are essentially inexhaustible.\textsuperscript{122} Even when viewed over the course of a relatively short period, say six months, the body can provide a significant amount of new blood.\textsuperscript{123} The alienation of blood, either by sale or by attachment of a security interest, should not adversely affect the ability of the initial secured party to harvest collateral in the event of default on the agreement. Further, the number of ova possessed by a healthy woman and the amount of semen\textsuperscript{124} which can be produced by a healthy man are, for all practical purposes, inexhaustible.

Second, because it involves matters of reproduction, a clause which banned the gratuitous alienation of gametes likely would be unenforceable as against public policy. Rather, the security agreement should include "[a] clause permitting the debtor to use, commingle, or dispose of the collateral and its proceeds without accounting to the secured party.\textsuperscript{125}

Third, at least in the short-term, pregnancy would limit (for blood) and eliminate (for ova) the ability to harvest human materials. Public policy undoubtedly would strike down any clause which seeks to restrict a woman’s right to become pregnant or to require that a pregnant woman obtain an abortion. On the other hand, public policy should not be offended by a provision in the security agreement which requires the debtor to notify the secured party of a pregnancy and, in the event of default, to provide the collateral at the earliest time at which the debtor’s own doctor certifies the debtor as medically fit to provide the collateral.

\textsuperscript{122} See, e.g., Dickens supra note 109, at 155 (stating that “the human body may, over a short term, be treated as an instrument producing blood, bone marrow, semen, and comparable materials capable of therapeutic employment in others”).

\textsuperscript{123} See, e.g., id. (explaining how long it takes for blood and its components to be replaced by the body after donation); Tallerico, supra note 3, at 665 (same).

\textsuperscript{124} See, e.g., ANGLER, supra note 107, at 15 (stating “men can sprout new sperm throughout their lives”).

\textsuperscript{125} CLARK, supra note 37, § 2.02[5]6. Section 9-205 states:

A security interest is not invalid or fraudulent against creditors by reason of liberty in the debtor to use, commingle or dispose of all or part of the collateral (including returned or repossessed goods) or to collect or compromise accounts or chattel paper, or to accept the return of goods or make repossessions, or to use, commingle or dispose of proceeds, or by reason of the failure of the secured party to require the debtor to account for proceeds or replace collateral. This section does not relax the requirements of possession where perfection of a security interest depends upon possession of the collateral by the secured party or by a bailee.

\textsuperscript{125} U.C.C. § 9-205.
IV. PERFECTION

All secured parties wish to have a perfected security interest in order to increase their chances of having priority over competing third-party claims to the collateral.\(^{126}\) Perfection of an attached security interest occurs "when all of the applicable steps required for perfection have been taken."\(^{127}\) Assuming human materials are classified as goods, they may be perfected either by filing or possession.

A. Perfection by Filing

Section 9-302 provides the general rule and states, in relevant part, that "[a] financing statement must be filed to perfect all security interests" which do not fall within the subsequent list of exclusions.\(^{128}\) The contents of a legally sufficient financing statement are set forth in section 9-402(1), which provides in relevant part:

A financing statement is sufficient if it gives the names of the debtor and the secured party, is signed by the debtor, gives an address of the secured party from which information concerning the security interest may be obtained, gives a mailing address of the debtor and contains a statement indicating the types, or describing the items, of collateral. . . . A copy of the security agreement is sufficient as a financing statement if it contains the above information and is signed by the debtor.\(^{129}\)

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\(^{126}\) See U.C.C. § 9-203. As section 9-203 indicates, the attachment of the security interest makes it enforceable against the debtor; see, e.g., id. § 9-203(2) ("A security interest attaches when it becomes enforceable against the debtor with respect to the collateral."); see generally CLARK, supra note 37, § 2.05 (discussing the advantages which perfection confers against third parties).

\(^{127}\) U.C.C. § 9-303(1). Revised Article 9 states in relevant part:

(a) . . . Except as otherwise provided in this section and Section 9-309, a security interest is perfected if it has attached and all of the applicable requirements for perfection in Sections 9-310 through 9-316 have been satisfied. A security interest is perfected when it attaches if the applicable requirements are satisfied before the security interest attaches.


\(^{128}\) U.C.C. § 9-302(1). Similar language appears in Revised Article 9, which states in relevant part: "Except as otherwise provided in subsection (b) and Section 9-312(b), a financing statement must be filed to perfect all security interests and agricultural liens." Revised U.C.C. § 9-310(a).

\(^{129}\) U.C.C. § 9-402(1); see generally CLARK, supra note 37, § 2.09 (providing, with examples, a discussion of the contents and forms of financing statements); see also Revised U.C.C. § 9-502(a) ("Subject to subsection (b) [relating to real-property-related financing statements], a financing statement is sufficient only if it: (1) provides the name of the debtor; (2) provides the name of the secured party or a representative of the secured party; and (3) indicates the collateral covered by the financing statement.").
The description of the collateral need not be specific, and it is governed by section 9-110. Any financing statement which provides a description of the collateral which is sufficient to meet the standard for the security agreement will meet the requirements of section 9-402(1).

Privacy is the chief concern raised by financing statements, which must be kept for public inspection. The financing statement is considered to be filed upon "[p]resentation for filing of a financing statement and tender of the filing fee or acceptance of the statement by the filing officer . . . ." With exceptions, which are not relevant here, "a filing officer shall mark each [financing] statement with a file number and . . . shall hold the statement or a microfilm or other photographic copy thereof for public inspection. In addition the filing officer shall index the statement according to the name of the debtor." Although minimal notoriety and stigma may result from providing blood as collateral, the same may not be true for ova and semen. With
computerized filing systems on the increase, and a corresponding increase in the availability of information via computerized database services and credit services, there is a legitimate concern that highly private information could become public, particularly if the financing statement remains on the record long after the underlying obligation has been fulfilled.\textsuperscript{133} Several possible methods might be used to protect privacy.

First, the law could be rewritten to provide for a special filing section when the collateral is human materials. While the filing officer would be permitted to release information concerning the existence of a financing statement indexed under the debtor's name, the filing officer would not be permitted to release a description of the collateral. An interested party would be required to contact the debtor directly.

Second, the law could be rewritten to provide for a requirement that a termination statement routinely be filed by the secured party whenever there is no outstanding secured obligation and no commitment to make advances, incur obligations or otherwise give value. Under the current version of the Code for non-consumer goods, upon written demand by the debtor, the secured party must send the debtor a termination statement for each filing officer with whom a financing statement was filed; the debtor is then required to file the financing statement.\textsuperscript{134} On the other hand, for consumer goods, upon written demand by the debtor, the secured party must file "for each filing officer with whom the financing statement was filed, a termination statement to the effect that he no longer claims a security interest under the financing statement, which shall be identified by file number."\textsuperscript{135} When human materials are used as the collateral, the secured party should be required automatically to file a termination statement whenever there is no outstanding secured obligation and no commitment to make advances, incur obligations or otherwise give value. This solution would clear the record as soon as possible. The law also could be rewritten to remove

\begin{footnotesize}
\begin{enumerate}
\item The existence of the financing statement may continue beyond the period of the financing statement's lapse as an operation of law. Section 9-403(3) provides in relevant part that "Unless a statute on disposition of public records provides otherwise, the filing officer may remove a lapsed statement from the files and destroy it immediately if he has retained a microfilm or other photographic record, or in other cases after one year after the lapse." U.C.C. § 9-403(3); see also Revised U.C.C. § 9-522 (providing two alternatives, each of which requires that "[t]he filing office shall maintain a record of the information provided in a filed financing statement for at least one year after the effectiveness of the financing statement has lapsed").
\item See U.C.C. § 9-404 cmt. 1; CLARK, supra note 37, ¶ 12.01(1) n.4. For a general discussion of termination statements, see CLARK, supra note 37, ¶ 2.15[2].
\item U.C.C. § 9-404(1).
\end{enumerate}
\end{footnotesize}
the requirement that financing statements dealing with human materials be kept on record for one year beyond their effectiveness.

B. Perfection by Possession

Although filing a financing statement is the default mechanism for perfecting a security interest, a filing is not needed to perfect "a security interest in collateral in possession of the secured party under Section 9-305."136

An issue frequently arises concerning whether a secured party is in possession of collateral which is not directly in the secured party's hands.137 Section 9-305 provides:

A security interest in ... goods ... may be perfected by the secured party's taking possession of the collateral. If such collateral other than goods covered by a negotiable document is held by a bailee, the secured party is deemed to have possession from the time the bailee receives notification of the secured party's interest.138

136. *Id.* § 9-302(1)(a). The Revised Article 9 also provides a similar exception to filing when goods are possessed by the secured party. See Revised U.C.C. §§ 9-310, -313. Revised Article 9 section 9-313, Official Comment 2 states: "As under the common law of pledge, no filing is required by this Article to perfect a security interest if the secured party takes possession of the collateral. See Section 9-310(b)(6)." Revised U.C.C. § 9-313 cmt. 2. Revised Article 9 section 9-310(b)(6) states: "The filing of a financing statement is not necessary to perfect a security interest: ... (6) in collateral in the secured party’s possession under Section 9-313." Revised U.C.C § 9-310(b)(6).


138. U.C.C. § 9-305. Revised Article 9 provides for perfection by possession in section 9-313, which states in relevant part:

(a) ... Except as otherwise provided in subsection (b), a secured party may perfect a security interest in ... goods ... by taking possession of the collateral. ....

(c) ... With respect to collateral other than certificated securities and goods covered by a document, a secured party takes possession of collateral in the possession of a person other than the debtor, the secured party, or a lessee of the collateral from the debtor in the ordinary course of the debtor’s business, when:

(1) the person in possession authenticates a record acknowledging that it holds possession of the collateral for the secured party’s benefit; or

(2) the person takes possession of the collateral after having authenticated a record acknowledging that it will hold possession of collateral for the secured party’s benefit.

(d) ... If perfection of a security interest depends upon possession of the collateral by a secured party, perfection occurs no earlier than the time the secured party takes
Section 9-305, Official Comment 2 amplifies the Code provision by stating: "Possession may be by the secured party himself or by an agent on his behalf: it is of course clear, however, that the debtor or a person controlled by him cannot qualify as such an agent for the secured party."\(^{125}\)

possession and continues only while the secured party retains possession.

\[
\begin{align*}
(f) & \ldots \text{A person in possession of collateral is not required to acknowledge that it holds possession for a secured party's benefit.} \\
(g) & \ldots \text{If a person acknowledges that it holds possession for the secured party's benefit:} \\
(1) & \text{the acknowledgment is effective under subsection (c) \ldots even if the acknowledgment violates the rights of a debtor; and} \\
(2) & \text{unless the person otherwise agrees or law other than this article otherwise provides, the person does not owe any duty to the secured party and is not required to confirm the acknowledgment to another person.} \\
(h) & \ldots \text{A secured party having possession of collateral does not relinquish possession by delivering the collateral to a person other than the debtor or a lessee of the collateral from the debtor in the ordinary course of the debtor's business if the person was instructed before the delivery or is instructed contemporaneously with the delivery:} \\
(1) & \text{to hold possession of the collateral for the secured party's benefit; or} \\
(2) & \text{to redeliver the collateral to the secured party.} \\
(i) & \ldots \text{A secured party does not relinquish possession, even if a delivery under subsection (h) violates the rights of a debtor. A person to which collateral is delivered under subsection (h) does not owe any duty to the secured party and is not required to confirm the delivery to another person unless the person otherwise agrees or law other than this article otherwise provides.}
\end{align*}
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Revised U.C.C. § 9-313.

139. U.C.C. § 9-305 cmt. 2; see also U.C.C. § 9-205 (stating in relevant part: "This section does not relax the requirements of possession where perfection of a security interest depends upon possession of the collateral by the secured party or by a bailee").

The last sentence is added to make clear that the section does not mean that the holder of an unfiled security interest, whose perfection depends on possession of the collateral by the secured party or by a bailee (such as a field warehouseman), can allow the debtor access to and control over the goods without thereby losing his perfected interest. The common law rules on the degree and extent of possession which are necessary to perfect a pledge interest or to constitute a valid field warehouse are not relaxed by this or any other section of this Article.

U.C.C. § 9-205 cmt. 6.

A security interest in goods in the possession of a bailee other than one who has issued a negotiable document therefor is perfected by issuance of a document in the name of the secured party or by the bailee's receipt of notification of the secured party's interest or by filing as to the goods.

U.C.C. § 9-304(3). Revised Article 9 section 9-313, Official Comment 3 speaks to the issue of possession and states:

This section does not define "possession." In determining whether a particular person has possession, the principles of agency apply. For example, if the collateral clearly is in possession of an agent of the secured party for the purposes of possessing on behalf of the secured party, and if the agent is not also an agent of the debtor, the secured party has taken actual possession without the need to rely on a third-party acknowl-
A situation in which a blood bank or similar entity holds the human materials subject only to the control of the secured party (such as with a dual-key system) certainly should meet this requirement. In addition, case law suggests that the blood bank or similar entity may hold the collateral as an escrow agent pursuant to an agreement which limits the secured party's rights so long as the debtor does not have control over the collateral. Many of the evidentiary concerns relating to the specific collateral which is the subject of an agreement, as well as the privacy concerns which result from filing, could be resolved if possession were the only permissible method of perfection. Although these concerns are legitimate, the problems with requiring possession by perfection are numerous. First, if perfection is by possession only, it would require a woman to undergo a painful and invasive procedure to procure collateral which the debtor undoubtedly hopes will never be needed. It may be that this type of collateral should be by possession (if the woman so desires) or filing. The procedures which must be undergone to donate blood and sperm might prove mildly painful or embarrassing, respectfully, but pale in comparison with the harvesting of ova; therefore, possession might be the preferred method of perfection for these two forms of human materials. However, because the amount of harvested collateral may be only a small portion of the total collateral, filing is required if the extension of credit is to proceed with dispatch.
IV. PRIORITY AGAINST THIRD PARTIES

This Article assumes the secured party has sought to maximize its priority against a third party by perfecting its security interest in the collateral. If the secured party has perfected its security interest, the current incarnation of the Code provides the general priority rule that “[c]onflicting security interests rank according to priority in time of filing or perfection.”

If the secured party has not perfected its security interest, section 9-312(5)(b) provides the general rule that “[s]o long as conflicting security interests are unperfected, the first to attach has priority.” In addition, if the secured party has not perfected its security interest, section 9-301 specifies individuals and entities to whom the holder of an unperfected security interest is subordinate.

141. The attachment of a security interest provides the secured party with the ability to enforce the security interest against the debtor. See U.C.C. § 9-203; Revised U.C.C. § 9-203.

142. For a thorough description of priority issues, see CLARK, supra note 37, 3.01-.14. Of particular interest are paragraphs 3.01-.03, .08.

143. U.C.C. § 9-312 (5)(a). Section 9-312(5) states in relevant part:

In all cases not governed by other rules stated in this section (including cases of purchase money security interests which do not qualify for the special priorities set forth in subsections (3) and (4) of this section), priority between conflicting security interests in the same collateral shall be determined according to the following rules:

(a) Conflicting security interests rank according to priority in time of filing or perfection. Priority dates from the time a filing is first made covering the collateral or the time the security interest is first perfected, whichever is earlier, provided that there is no period thereafter when there is neither filing nor perfection.

(b) So long as conflicting security interests are unperfected, the first to attach has priority.

Revised Article 9 has similar provisions:

(a) . . . Except as otherwise provided in this section [in subsections dealing with proceeds and supporting obligations and first-to-file priority for certain collateral], priority among conflicting security interests and agricultural liens in the same collateral is determined according to the following rules:

(1) Conflicting perfected security interests and agricultural liens rank according to priority in time of filing or perfection. Priority dates from the earlier of the time a filing covering the collateral is first made or the security interest or agricultural lien is first perfected, whichever is earlier, provided that there is no period thereafter when there is neither filing nor perfection.

(2) A perfected security interest or agricultural lien has priority over a conflicting unperfected security interest or agricultural lien.

(3) The first security interest or agricultural lien to attach or become effective has priority if conflicting security interests and agricultural liens are unperfected.

Revised U.C.C. § 9-322(a); see generally CLARK, supra note 37, ¶ 3.08(1) (dealing generally with the rule); id. ¶ 3.08(2) (dealing generally with the relation back of future advances).

144. U.C.C. § 9-312(5)(b).

145. See id. § 9-301; see also Revised U.C.C. §§ 9-317, -102, -323 (containing analogous provisions); see generally CLARK, supra note 37, ¶ 3.03 (discussing section 9-301 and “the fate of
There are, of course, numerous other priority sections. A short stint in the real world or a quick perusal of any treatise on secured transactions will convince the reader that pathological and bizarre fact circumstances might be concocted to test the impact of these sections. If the secured party does its homework and maintains control over its collateral, the other priority sections and the pathological and bizarre situations will be irrelevant.

V. DEFAULT

Default is a problematic area:

When a debtor is in default under a security agreement, a secured party has the rights and remedies provided in [Part 5 of Article 9] and [with certain limitations] those provided in the security agreement. He may reduce his claim to judgment, foreclose or otherwise enforce the security interest by any available judicial procedure.146

These rights are cumulative, although only one recovery is permitted.147 For the most part, default-related issues will not be affected by the atypical nature of human materials as collateral. This section of the Article discusses only those unique default-related issues raised by the use of human materials as collateral.

A. Events of Default

Because "default" is not a defined term, most parties define default in the security agreement.148 Clark states that "[a]lthough the circum-

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146. U.C.C. § 9-501(1). Revised Article 9 contains some modifications to the current default scheme under Part 5 of Article 9, but a full discussion of these changes exceeds the scope of this Article. Revised Article 9 provides in relevant part:

(a) ... After default, a secured party has the rights provided in this part and, except as otherwise provided in Section 9-602 [on waiver and variance of rights and duties], those provided by agreement of the parties. A secured party:

(1) may reduce a claim to judgment, foreclose, or otherwise enforce the claim, security interest, or agricultural lien by any available judicial procedure; and

(2) if the collateral is documents, may proceed either as to the documents or as to the goods they cover.

Revised U.C.C. § 9-601(a).

147. See U.C.C. § 9-501(1) (stating in relevant part that "[t]he rights and remedies referred to in this subsection are cumulative"). Revised Article 9 provides that "[t]he rights under subsections (a) and (b) are cumulative and may be exercised simultaneously." Revised U.C.C. § 9-601(c).

148. See, e.g., U.C.C. § 9-501(1) ("When a debtor is in default under a security agreement . . . ."); CLARK, supra note 37, ¶ 4.02[1] ("When is the debtor in default? Article 9 contains no definition of this critical term, but allows it to be defined by the parties in the security agree-
stances that trigger default vary according to the type of transaction involved, most security agreement forms contain at least [a common list of] events of default." The list provided by Clark includes several events of default which may prove problematic with human materials as collateral.

One suggested event of default is the "[s]ale of the collateral (except in ordinary course) without the creditor's prior written consent." A related clause suggests an event of default might be when there is "[l]oss . . . or destruction of the collateral." Although unarticulated, the twin concerns seem to involve both the depletion of the collateral and the change of location of the collateral. With harvested human materials in the possession of the secured party, this should not be problematic.

With respect to unharvested human materials, hypothetical problems arise due to accidents (blood loss), natural processes (loss of blood and ova through menstruation), and use of sperm (and sometimes, an ovum) in sexual activity. However, because the human materials are renewable (blood and sperm) or of essentially unlimited supply (ova), there should not be any particular concern about depletion of the collateral. Further, the natural loss of ova and blood through menstruation and the use of ova and sperm in natural reproductive activity raise issues which would likely result in any contractual constraint being either patently unenforceable (menstruation), practically unenforceable, or void as against public policy.

Clark also includes a clause stating that an event of default would occur by the debtor's "[f]ailure to allow the creditor to inspect the collateral upon demand at any reasonable time." Although unarticulated, the twin concerns seem to involve both the protection of collateral by ensuring that it is being kept in proper condition and the ability to inventory the collateral, perhaps for yearly accounting purposes. With harvested collateral, this should not be problematic because the collateral would be kept under the control of the secured party. With unharvested collateral, this would be problematic in theory. However, because the collateral is renewable (blood and sperm) or of essentially unlimited

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149. CLARK, supra note 37, ¶ 4.02[1].
150. Id. ¶ 4.02[1]6.
151. Id. ¶ 4.02[1]10.
152. Id. ¶ 4.02[1]8.

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supply (ova), there should not be any particular concern about depletion of the collateral. Further, it may be taken as a given that as long as the individual is alive and has not experienced a major change in health that the debtor possesses the collateral in the same state as when the security interest attached to it.

**B. Insecurity and Acceleration Clauses**

Security agreements typically include both an acceleration clause and an insecurity clause. An acceleration clause is a practical device by which the entire outstanding obligation becomes due and owing upon the occurrence of one or more of the stated events of default. This permits the secured party to collect the entire outstanding debt at one time, rather than waiting for it to become due in (usually) monthly installments, each of which would need to be sued upon. As long as the underlying event of default is reasonable, objectively determinable, and within the control of the debtor, there is no reason not to permit an acceleration clause in a security agreement involving human materials as collateral.

The use of an insecurity clause raises significant concerns, particularly when gametes serve as collateral. An insecurity clause permits the secured party to declare the debt in default and accelerate the debt "in the event that [the secured party] in good faith believes that the prospect of payment, performance, or realization on the collateral is impaired..." The standard for determining "good faith" is subjective, that is, "honesty in fact." As Clark indicates:

> Since "good faith" is defined as "honesty in fact," this presumably means that the secured party can call the debt upon any honest feeling of insecurity about the prospect of repayment or realization on the collateral. The test is subjective: pure heart, empty head. However, the

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153. See generally id. ¶ 4.02[2] (discussing general principles involving enforcing insecurity and acceleration clauses).

154. Id. Section 1-208 of the UCC provides as follows: A term providing that one party or his successor in interest may accelerate payment or performance or require collateral or additional collateral “at will” or “when he deems himself insecure” or in words of similar import shall be construed to mean that he shall have power to do so only if he in good faith believes that the prospect of payment or performance is impaired. The burden of establishing lack of good faith is on the party against whom the power has been exercised. U.C.C. § 1-208 (1972).

155. See U.C.C. § 1-201(19) (“Good faith’ means honesty in fact in the conduct or transaction concerned.”). For a more expansive reading of good faith, one which may be more protective of the debtor, see Permanent Editorial Board Commentary No. 10.
courts sometimes say that the creditor must have "reasonable cause" to accelerate, thus suggesting an objective test, and there are some decisions that invalidate an insecurity-acceleration clause because of bad faith or estoppel, poor drafting of the security agreement, or outright failure to include an insecurity-acceleration clause. On the other hand, there are numerous decisions upholding the use of insecurity-acceleration provisions. Moreover, the burden of proving lack of good faith is on the debtor, a difficult burden to shoulder.\textsuperscript{156}

Little reason exists to change the existing law as it applies to blood. Once again, however, the case of gametes presents different issues. By agreeing to the secured arrangement, the debtor clearly understood that his or her gametes would be used as collateral. However, the personal nature of the collateral, invoking as it certainly does the specter of reproduction, should, at a minimum, cause the court to scrutinize the invocation of the insecurity clause. At least in this limited situation, a court should err on the side of an objective test in which the secured party should have the burden of proving that the facts which gave rise to the insecurity clause being exercised would have caused a commercially reasonable secured party to have acted in a similar manner.

C. Taking Possession of the Collateral\textsuperscript{157}

Secured parties are likely to prefer that they possess the collateral at the time of a default. Although a secured party has the right to take possession of the collateral after default, this right is subject to significant limitations. Section 9-503 provides in relevant part:

Unless otherwise agreed a secured party has on default the right to take possession of the collateral. In taking possession a secured party may proceed without judicial process if this can be done without breach of the peace or may proceed by action. If the security agreement so provides the secured party may require the debtor to assemble the collateral and make it available to the secured party at a place to be designated by the secured party which is reasonably convenient to both parties.\textsuperscript{158}

\begin{footnotesize}
\begin{enumerate}
\item[156.] CLARK, supra note 37, § 4.02[2][a] (footnotes omitted). For a general discussion of the insecurity clause-acceleration clause issue, see id. § 4.02[2].
\item[157.] For a general discussion of obtaining possession pursuant to section 9-503, see id. § 4.05.
\item[158.] U.C.C. § 9-503. Revised Article 9 contains similar language and provides in relevant part:
\begin{enumerate}
\item After default, a secured party:
\item may take possession of the collateral; and
\end{enumerate}
\end{enumerate}
\end{footnotesize}
Everyone should readily agree that under any reasonable interpretation of "breach of the peace," such a breach would occur if the secured party attempted to harvest the collateral without the debtor's consent and cooperation. An initial examination of section 9-503 would appear to provide a secured party with two remedies in the event the debtor fails to cooperate.

First, the section authorizes the secured party to take possession of the collateral despite a breach of the peace if the possession is effectuated under color of "judicial process." Undoubtedly the drafters of the Code were contemplating taking possession of the type of collateral which normally forms the basis of commercial transactions and which is located in the debtor's home, in the debtor's place of business, or with some third party. The drafters probably did not even contemplate the situation in which a ring that served as collateral was swallowed by the debtor; the drafters doubtless would have been aghast at the suggestion that with judicial process the secured party could have the debtors hauled off to surgery, or even force-fed a high fiber diet. It is reasonable to conclude that they did not consider, and would not have found to be reasonable, the forced collection of any form of human material.

Second, the secured party may seek some support in the requirement that "if the security agreement so provides the secured party may...

(2) without removal, may render equipment unusable and dispose of collateral on a debtor's premises ....

(b) ... A secured party may proceed under subsection (a):
(1) pursuant to judicial process; or
(2) without judicial process, if it proceeds without breach of the peace.


159. For a general discussion of breaches of the peace, see CLARK, supra note 37, ¶ 4.05[2][b]. Official Comment 3 to Revised Article 9 section 9-609 provides some insight into the nature of the breach of the peace when it states:

Subsection (b) permits a secured party to proceed under this section without judicial process if it does so "without breach of the peace." Although former Section 9-503 placed the same condition on a secured party's right to take possession of collateral, subsection (b) extends the condition to the right provided in subsection (a)(2) as well. Like former Section 9-503, this section does not define or explain the conduct that will constitute a breach of the peace, leaving that matter for continuing development by the courts. In considering whether a secured party has engaged in a breach of the peace, however, courts should hold the secured party responsible for the actions of others taken on the secured party's behalf, including independent contractors engaged by the secured party to take possession of collateral.

This section does not authorize a secured party who repossesses without judicial process to utilize the assistance of a law-enforcement officer. A number of cases have held that a repossessing secured party's use of a law-enforcement officer without benefit of judicial process constituted a failure to comply with former Section 9-503.

Revised U.C.C. § 9-609 cmt. 3.
require the debtor to assemble the collateral and make it available to the secured party at a place to be designated by the secured party which is reasonably convenient to both parties.\textsuperscript{160} Assuming the debtor cooperates, this is not a problem. However, should the debtor refuse to cooperate, the secured party is unlikely to obtain specific performance of the contract. The secured party will be required to litigate the claim to judgment and proceed against other collateral.

The secured party should remember that once it gains possession of the collateral it is bound by the requirements of section 9-207, which requires that the "secured party must use reasonable care in the custody and preservation of collateral in his possession."\textsuperscript{161}

D. Disposition of Collateral

The heart of a security interest is the secured party's ability to dispose of the collateral in the event of the debtor's default. The debtor is protected by notification requirements and by the secured party's obli-

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160. U.C.C. § 9-503. Revised Article 9 provides that "[i]f so agreed, and in any event after default, a secured party may require the debtor to assemble the collateral and make it available to the secured party at a place to be designated by the secured party which is reasonably convenient to both parties." Revised U.C.C. § 9-609(c); see generally CLARK, supra note 37, ¶4.05[3] (discussing the ability to require the debtor to assemble collateral).

161. U.C.C. § 9-207(1). Section 9-207 states:

1. A secured party must use reasonable care in the custody and preservation of collateral in his possession. In the case of an instrument or chattel paper reasonable care includes taking necessary steps to preserve rights against prior parties unless otherwise agreed.

2. Unless otherwise agreed, when collateral is in the secured party's possession
   (a) reasonable expenses (including the cost of any insurance and payment of taxes or other charges) incurred in the custody, preservation, use or operation of the collateral are chargeable to the debtor and are secured by the collateral;
   (b) the risk of accidental loss or damage is on the debtor to the extent of any deficiency in any effective insurance coverage;
   (c) the secured party may hold as additional security any increase or profits (except money) received from the collateral, but money so received, unless remitted to the debtor, shall be applied in reduction of the secured obligation;
   (d) the secured party must keep the collateral identifiable but fungible collateral may be commingled;
   (e) the secured party may repledge the collateral upon terms which do not impair the debtor's right to redeem it.

3. A secured party is liable for any loss caused by his failure to meet any obligation imposed by the preceding subsections but does not lose his security interest.

4. A secured party may use or operate the collateral for the purpose of preserving the collateral or its value or pursuant to the order of a court of appropriate jurisdiction or, except in the case of consumer goods, in the manner and to the extent provided in the security agreement.

\textit{Id.} § 9-207.
gation to proceed in a “commercially reasonable” manner. There is no reason to alter the basic structure for disposition set forth in the Code. Several issues unique to human materials as collateral are discussed in this section.

1. Costs

Section 9-504(1) provides for the order in which the funds collected as a result of the disposition of collateral will be applied. Funds first shall go to “the reasonable expenses of retaking, holding, preparing for sale or lease, selling, leasing and the like and, to the extent provided for in the agreement and not prohibited by law, the reasonable attorneys’ fees and legal expenses incurred by the secured party.” In the cases of blood and sperm, the costs should be minimal. On the other hand, should the debtor consent, the costs of the process by which an ovum or several ova are collected can be substantial. Indeed, the costs may be significant enough to require the collection of an additional ovum for sale or some other arrangement to ensure the costs are covered. This fact should be discussed prior to entering into the secured arrangement and should be explicitly recognized in the security agreement, particularly if an additional ovum is to be harvested.

2. Notice of Disposition

With limited exceptions, a debtor is entitled to notice of disposition of the collateral. Section 9-504(3) states in relevant part:

Unless collateral is perishable or threatens to decline speedily in value or is of a type customarily sold on a recognized market, reasonable notification of the time and place of any public sale or reasonable notification of the time after which any private sale or other intended disposition is to be made shall be sent by the secured party to the debtor,

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163. U.C.C. § 9-504(1)(a). Revised Article 9 provides:

(a) . . . A secured party shall apply or pay over for application the cash proceeds of disposition in the following order to:

(1) the reasonable expenses of retaking, holding, preparing for disposition, processing, and disposing, and, to the extent provided for by agreement and not prohibited by law, reasonable attorney’s fees and legal expenses incurred by the secured party[.]

Revised U.C.C. § 9-615(a)(1).

164. See U.C.C. § 9-504(3).
if he has not signed after default a statement renouncing or modifying his right to notification of sale.\textsuperscript{165}

Blood may be perishable and is frequently sold on what approximates a recognized market, although, of course, these are situation-specific determinations. Therefore, no compelling reason exists to modify the current situation when blood serves as the collateral.

Gametes usually would be frozen and, therefore, would not be perishable. In addition, the phrase “decline speedily in value” normally would refer to a situation involving stock or a commodity where the stock or commodity’s value was declining quickly in the relevant market. Again, this is unlikely to occur with gametes. Even so, the public policy concerns raised by the use of gametes as collateral should cause this exception to be removed. Notification should be required in order to permit substitution of collateral or rejection of the specific purchaser as long as it is not unreasonable.

Section 9-504(3) should be modified to add the following language:

\begin{quote}
When the collateral is human materials, reasonable notification of the time and place of any public sale or reasonable notification of the time after which private sale or other intended disposition is to be made shall be sent by the secured party to the debtor. This right may not be waived by the debtor.\textsuperscript{166}
\end{quote}

3. Public or Private Proceedings

Section 9-504 provides that the “[d]isposition of the collateral may be by public or private proceedings and may be made by way of one or more contracts.”\textsuperscript{167} Although biological, blood has no special attributes which should cause it to be treated differently than other forms of collateral. On the other hand, several aspects of the sale of gametes warrant discussion in Part V.D.4 and V.D.5.

\textsuperscript{165} U.C.C. § 9-504(3); see also Revised U.C.C. §§ 9-610 to -611, -624 (dealing with, but expanding upon, the requirements set forth in the current section 9-504(3)).

\textsuperscript{166} Because of the structure of Revised Article 9, there is not a single subsection which deals with all the legal points discussed in section 9-504(3), as revised. The best solution appears to be to provide a new section 9-611(f) to Revised Article 9, which would read as follows:

(f) Notwithstanding any other section of this Article, when the collateral is human material, reasonable notification of the time and place of any public sale or reasonable notification of the time after which private sale or other intended disposition is to be made shall be sent by the secured party to the debtor. This right may not be waived by the debtor.

\textsuperscript{167} U.C.C. § 9-504(3).
4. Privacy

With a sale of typical collateral, the debtor’s identity may become public as a result of the sale’s location (e.g., the debtor’s place of business) or the collateral’s nature (e.g., an automobile with the debtor’s name on the title which was signed over to the secured party or a stock certificate issued in the debtor’s name). Apart from the embarrassment of the debtor’s default, there is no particular stigma associated with the sale of regular forms of collateral. This may not be the case with the sale of gametes. Therefore, every reasonable measure should be taken to protect the specific identity of the debtor.

Sales should be through fertility clinics, sperm banks, or egg banks. If the law requires the debtor’s name to be revealed, confidentiality agreements ought to be signed. However, the debtor’s name usually will not be required to sell sperm or ova; only descriptions of relevant characteristics (health, education level, any special athletic and artistic talent, and the like) and a photograph of the debtor (without name attached) normally are required.

5. Nature of Sale—Debtor’s Perspective

Many sales of ova and sperm are conducted only after the donor has contact with, or at least some knowledge about the characteristics of, the recipient. Even when the gametes are collateral, the debtor may desire the peace of mind of knowing the debtor’s biological child will be raised in a “good home” or in a home in which the child will be raised with the religious or other cultural heritage of the debtor. Even in the absence of empirical data, it may be argued that in the normal market the debtor’s peace of mind reduces the debtor’s “cost” of parting with the human material. Therefore, private sales are to be preferred, with the debtor having a reasonable ability to veto the sale.

Certain aspects of the disposition of collateral (such as the sale of an ovum from a person from one race to a person of another race) may be influenced by the law of a state, such as the laws governing interracial adoption. Further, a large number of scenarios can be imagined in which the debtor would or would not want to have involvement in the disposition of the collateral. The preferred mechanism is to let the parties make whatever reasonable contractual arrangements they wish to make. However, the burden should be on the secured party to demon-

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168. For example, state law may provide that the name of the donor appear on sealed records in case the donor’s identity needs to be determined by a biological child for medical reasons.

169. These issues are far beyond the scope of this Article.
strate that the arrangements were not the result of undue pressure on its part.

E. Redemption of the Collateral

A debtor is permitted a limited right to redeem collateral. Section 9-506 states:

At any time before the secured party has disposed of collateral or entered into a contract for its disposition under Section 9-504 or before the obligation has been discharged under Section 9-505(2) the debtor or any other secured party may unless otherwise agreed in writing after default redeem the collateral by tendering fulfillment of all obligations secured by the collateral as well as the expenses reasonably incurred by the secured party in retaking, holding and preparing the collateral for disposition, in arranging for the sale, and to the extent provided in the agreement and not prohibited by law, his reasonable attorneys' fees and legal expenses.

The right to redemption balances the interests of the debtor and the secured party. The right to redeem the collateral permits the debtor, if she can, to reclaim the collateral if the item of collateral is particularly important to her. The rules surrounding the right to redeem the collateral protect the secured party by requiring that the debtor tender fulfillment of all obligations secured by the collateral as well as the expenses reasonably incurred by the secured party in retaking, holding and preparing the collateral for disposition, in arranging for the sale, and to the extent provided in the agreement and not prohibited by law, his reasonable attorneys' fees and legal expenses.

With respect to "regular" collateral, the current section seems a fair tradeoff between these two rights.

When dealing with gametes, however, the debtor may decide that she does not want to produce a biological child. Therefore, the right to redeem should be expanded in the case of gametes to include the right to redeem if the debtor can substitute other collateral of equivalent value. Section 9-506 should be amended to include the language which is set forth in italics:

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170. See U.C.C. § 9-506.
171. Id.; see also Revised U.C.C. §§ 9-623 to -624 (providing for essentially the same rules regarding redemption).
172. U.C.C. § 9-506.
SECURITY INTERESTS IN HUMAN MATERIALS

At any time before the secured party has disposed of collateral or entered into a contract for its disposition under Section 9-504 or before the obligation has been discharged under Section 9-505(2) the debtor or any other secured party may unless otherwise agreed in writing after default redeem the collateral by tendering fulfillment of all obligations secured by the collateral as well as the expenses reasonably incurred by the secured party in retaking, holding and preparing the collateral for disposition, in arranging for the sale, and to the extent provided in the agreement and not prohibited by law, his reasonable attorneys’ fees and legal expenses or by substituting other collateral of such quality and in such quantity as to be equivalent to this amount.\(^{173}\)

F. Acceptance of the Collateral in Discharge of the Obligation

A secured party in possession may, after default, propose to retain the collateral in satisfaction of the obligation. This action may assist the secured party by ensuring that it does not become subject to claims by the debtor that the secured party did not proceed in a commercially unreasonable manner with respect to other required notices and the disposition of the collateral. Section 9-505(2), which deals with the non-consumer good collateral which would be the subject of such matters, should be amended to include the italicized language:

Written notice of such proposal shall be sent to the debtor if he has not signed after default a statement renouncing or modifying his rights under this subsection; provided, however, that when the collateral is human material the debtor may not waive notice of such proposal and shall be entitled to such written notice. In the case of consumer goods no other notice need be given. In other cases notice shall be sent to any other secured party from whom the secured party has received (before sending his notice to the debtor or before the debtor’s renunciation of his rights) written notice of a claim of an interest in the collateral. If the secured party receives objection in writing from a person entitled to receive notification within twenty-one days after the notice was sent, the secured party must dispose of the collateral under Section 9-504. In the absence of such written objection the secured party may retain the collateral in satisfaction of the debtor’s obligation.\(^{174}\)

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173. U.C.C. § 9-506 (italics represent the author’s suggested modification). Revised Article 9 section 9-623 and 9-624 (providing for essentially the same rules regarding redemption) should be amended to provide for the same result.

174. U.C.C. § 9-505(2) (italics represent the author’s suggested modification); see also Revised U.C.C. §§ 9-620 to -622 (providing analogous provisions). The sections should be modified to reflect the amendment set forth in the text.
There is no reason to remove the secured party's ability to take the collateral in satisfaction of the debt. By taking the collateral in satisfaction of the debt and cutting off any claims that it did not proceed in a commercially reasonable manner, it may promote commerce. However, the debtor should have the right to receive notice and to object. For example, if the debtor gave a security interest in six ova, but she believes the debt may be satisfied by the commercially reasonable disposition of four ova, she would have a legitimate reason to want to limit the number of biological children she produces to four. Even if she had signed a written waiver, she should have the right to control the reproductive process by objecting at a later date to the secured party's desire to retain, and presumably sell, all six ova.

VI. CONCLUSION

Recent advances in medicine and technology have made real the ability of human materials to serve as collateral in a secured transaction, and such use of human materials is not forbidden by statute. The current Article 9 and the Revised Article 9 are written in a manner which would permit—with some uncertainty regarding certain issues—the use of human materials as collateral. In order to alleviate the problems which exist in the current and revised versions of Article 9, this Article has set forth a number of specific statutory revisions and a number of policy alternatives which would make the statutory structure more amenable to the use of human materials as collateral. Ultimately, however, it remains a matter of public policy for state legislatures and the courts as to whether they wish to permit human materials to serve in that role.