OWNING YOUR DATA:
CONCEPTUALIZING PERSONAL INFORMATION

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Legal, Policy, and Ethical Considerations for Data Scientists

"Our philosophy is that people own their information and control who they share it with."

-Facebook[1]

MOTIVATION

Facebook makes a bold claim: we are the owners of our information. This is a seductive claim because we want it to be true. In the same public statement, Facebook says "there is no system today that enables me to share my email address with you and then simultaneously lets me control who you share it with."[2] In other words, when we share data with an individual, we lose an element of control. We no longer control how that individual shares the data. These two parts of Facebook's statement are at tension with one another. The first empowers individuals; they are in control. The first is an ideal towards which Facebook can choose to strive. The second part of the statement is a matter of practical reality. The second part reveals that we have little control because as soon as we share data we can no longer enforce what is done with it.

Traditionally, the idea of ownership is rooted in alienability.[3] An object is alienable when it is "transferable to another's ownership."[4] As a simple example, take my car. Because I own my car, I can sell it to another individual, give it to another individual, or even destroy it. I can transfer the car's ownership to another individual only because I own it. If I cannot transfer the ownership to another individual (perhaps, because I actually lease the car), then I do not actually own the car; the car is not mine. We cannot define ownership without alienability.

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[1] Kathy Chan, "On Facebook, People Own and Control Their Information," (16 February 2009): https://www.facebook.com/notes/facebook/on-facebook-people-own-and-control-their-information/54434097130

[2] Ibid.

[3] Anna Lauren Hoffmann, "You Are Your Information: Facebook and the Problem with Personal Information as Property," (19 May 2010) [Final Paper for LSCI 891].

[4] Merriam-Webster, http://www.merriam-webster.com/dictionary/alienable

Ownership is seductive precisely because it provides power and control. As an owner, I have power and control over the things I own. This is why Facebook's claim that users own and control their data is so seductive. It claims that we can control the information that we share throughout is social media site.

However, privacy advocates often claim just the opposite. Vera Bergelson, professor of law at Rutgers, argues that people "have lost all control over their personal information."[5] Her solution is simple: "individuals must secure control over their personal information by becoming its real owners."[6] According Bergelson, the problem is that we cannot control our personal information. The solution is enshrining personal information in property rights. Her proposed solution sounds similar to Facebook's claim that their users own and control their information. In this scenario, the privacy advocates and those accused of violating privacy are remarkably alike (at least in their stated goals). Both want the individual to consider personal information a form of personal property.

These approaches raise a number of questions: when did we lose our personal information? how did we acquire it in the first place? how can we get it back? who owns it now? Underlying all these questions and the claims by corporations and privacy advocates is a fundamental assumption. These questions and claims all assume that personal information is a thing to be owned. However, we should really be asking what are the actual consequences of "owning" our personal information and how can we more accurately conceptualize personal information to protect our privacy?

The conceptualization of personal information as property is rooted in improperly applied economic theory and results in serious privacy concerns. Other, non-property approaches to

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[5] Vera Bergelson, "It's Personal But Is It Mine? Toward Property Rights in Personal Information," *UC Davis Law Review,* Vol. 37, No. 379, (2003): 383.

[6] Ibid.

conceptualizing personal information better protect privacy but are often impractical. This paper will explore how we came to treat information as property, and then trace the repercussions of treating personal information as property. Then, it evaluates a diverse set of non-property based approaches to treating personal information. This paper assumes that access to an individual's personal information can lead to a loss of privacy. A discussion of why or how this loss of privacy occurs is out of the scope of this paper.

ROOTING OUT THE PROBLEM

As Anna Hoffmann, professor at UC Berkeley's School of Information, says, "it seems natural to assert that, to some extent, information about me is mine."[7] It is intuitive for individuals to consider their personal information as belonging to them. It is a simple concept to grasp because if anyone is going to own personal information, it should be the person about whom the information is about. This integrates well with our sense of justice. To assign the ownership to another by default would seem profoundly unfair.

Yet, why assign ownership in the first place? Julie Cohen, professor of law at Georgetown University, explains that "property talk is just how we talk about matters of great importance."[8] We assign ownership to personal information because we value it. It is as if we cannot see a thing of value pass without attempting to commodify it and assign it a value. This is a reasonable answer. It complements our discussion above about how ownership provides power and control. It is intuitive to suggest that we desire power and control over those things we value. Psychology studies confirm this intuition. Sarah Spiekermann and her colleagues, professors of economics at Vienna University, found that people develop "a psychology of

[7] Hoffman, 2010.

[8] Julie Cohen, "Examined Lives: Informational Privacy and the Subject as Object," *Stanford Law Review*, Vol. 52 (2000): 1379.

ownership towards their personal information," especially when they value it highly.[9] People are wired to desire ownership of valuable resources.

This answer provides a clean and simple solution to the question of why people think of personal information as property in the first place. However, there is another part to the answer, the influence of neoclassical economics. In 1991, Ronald Coase, a British economist, won the Nobel Prize for a revolutionary theorem concerning the problem of social cost. The theorem is summarized by the idea that perfect property rights will lead to the best possible outcome regardless of who has the property rights initially. Traditionally, Coase's theory is explained with a classic example of a paper mill and a fishery.[10]

The mill and the fishery both border the same stream. The mill releases pollutants into the stream that negatively impact the fishery's production. Before Coase, economists would have required the mill to pay damages to the fishery equal to harm caused by the pollutants. Instead, Coase argues "To avoid the harm to B [the fishery] would inflict harm on A [the paper mill]. The real question that has to be decided is: should A be allowed to harm B or should B be allowed to harm A?"[11] For Coase, requiring the mill to pay damages is a matter of perspective. The harm of not producing pollutants might be as great as the harm of operating a fishery in polluted waters.

Coase's radical solution is simply to assign the property rights to one party or the other. In one scenario, we assign the property rights to the mill. The fishery will pay the mill not to pollute if the fishery values access to clean water greater than the mill values the opportunity to pollute. In the other scenario, we assign the property rights to the fishery. If the mill values the opportunity to pollute greater than the fishery values access to clean water, then the mill will pay

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[9] Sarah Spiekermann, Jana Korunovska, and Christine Bauer, "Psychology of Ownership and Asset Defense," *Thirty Third International Conference on Information Systems*, (2012).

[10] Michael J. Gilligan, "Coase Theorem" in *Routledge Encyclopedia of International Political Economy: Entries A-F*, ed. R. J. Barry Jones, Taylor & Francis (2001): 170-1.

[11] Ronald Coase, "The Problem of Social Cost," *Journal of Law and Economics*, Vol 3 (October 1960).

the fishery for the right to pollute the water. In either scenario in which property rights were assigned, the stream goes to its highest valued use.[12]

The Coase theorem is a simple and elegant solution to a complex problem. Rather than draft complex regulation or engage in lengthy law suits, the theorem calls for simple assignments of property rights. Simply assigning property rights results in the best possible solution. It works especially well in complex situations with multiple parties. Coase's Nobel Prize winning theorem would appear to work well in the case of personal information as well. Access to personal information is often complex and involves multiple parties engaging over something that is not quite clear. To a naïve analyst, simply assigning clear property rights would solve the problem. With clear property rights, the personal information would go to its highest valued use.

PROBLEMS WITH THE PROPERTY RIGHTS APPROACH

Those concerned with personal privacy have tried promoting stricter ownership of personal information. Coase would argue that the initial assignment of property rights for personal information is arbitrary because barter will lead to the personal information going to its highest valued use. However, we still must make the first allocation even if the final outcome is the same.

Ali M. Al-Khouri, Director General of the Emirates Identity Authority, makes an argument for ownership from a perspective based in ownership of physical things. He argues that "when we speak about data ownership, we refer to the storage process."[13] When we consider the material world, we own those objects that are physically in our possession. Al-Khouri applies the same logic to personal information: those who own the location where the information is physically

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[12] Coase, 1960.

[13] Ali M. Al-Khouri, "Data Ownership: Who Owns 'My Data'?," *International Journal of Management & Information Technology*, Volume 2, No 1 (November 2012).

stored own the information. This naturally leads to the conclusion that “the ownership of data storage resides with the owner of the storage.”[14] Often individuals do not store their own data. Their information is stored on physical servers owned by corporations. This implies that corporations own the personal information.

However, even Al-Khouri seems uncomfortable with this initial assignment. He clarifies his argument with a question, “where does *true* ownership lie? [emphasis added]”[15] He answers that “the answer to this question is found in truth, veracity, and therefore verifiability…the source that can verify this data and confirm the veracity of the information is the 'True Owner' of the data.”[16] With these criteria, Al-Khouri would assign ownership for personal information to those who can verify its correctness. With this argument, Al-Khouri attempts to return the ownership to the individual, the “source.” While interesting, this argument requires a strong foundation in epistemological arguments. Lacking this foundation, the article raises more questions than it answers: what is truth, who decides what is true, is there an objective truth, etc.

Nonetheless, even if we assume that Al-Khouri’s argument withstands strong epistemological scrutiny, the argument still has concerning implications. We use the example of a genetic sequence to illustrate these concerns. A person’s genetic profile is one of an individual’s most intimate collections of personal information. Genetic information is a constant aspect of an individual from birth to death. It cannot be changed. The genetic information can provide familial information, medical information, ethnic information, and even personality information. Yet, few individuals can verify the correctness of their genetic profile. With Al-Khouri’s argument, the genetic information would then belong to the doctors and medical institutions that can verify the information. Failing to protect an individual’s genetic profile is a serious breach of privacy.

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[14] Ibid.

[15] Ibid.

[16] Ibid.

Where Al-Khouri makes an admirable attempt to create an argument for why individuals should own their data, other privacy advocates ignore this foundational reasoning and jump straight to the solution. David Lazarus, a journalist for the *Los Angeles Times*, simply "proposes a law explicitly declaring that a person's personal information belongs to that person, not to the companies it's shared with. Aside from whatever uses are required for routine order fulfillment, no use of anyone's information would be authorized without that person's upfront consent."[17] Lazarus proposes a simple property based solution. Personal information is the property of the individual. To use the information requires the explicit consent of the individual.

In article published in *The Guardian*, Neil Lawrence professor at the University of Sheffield, echoes Lazarus. He writes that "banks pay interest; perhaps we should be paid directly for the use of our personal data."[18] Banks pay individuals interest because they use an individual's money. The individual owns the money, and the banks pay the individual because they are using the individual's property. According to Lawrence, those who use an individual's personal information should pay for its use.

Lazarus and Lawrence make similar arguments. Both argue that the individual owns the personal information, and others can only access this data by gaining the individual's consent. With this approach, individuals can barter their personal information for some good or access to some service. In other words, individuals could agree to a Terms of Service agreement in which they gained access to some social network website in exchange for the social network having unfettered access their personal information. If we adopt the Lazarus and Lawrence approach, then corporations need to merely tack on a notice to their Terms of Service that claims the individual's data and all debate is over. This result returns us to the world in which we already

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[17] David Lazarus, "It's time to take ownership of our personal data," *Los Angeles Times* (6 April 2012).

[18] Neil Lawrence, "Beware the rise of the digital oligarchy," *Guardian* (5 March 2015).

live. Lazarus and Lawrence's recommendations would make little change to improve individuals' current levels of privacy.

Bergelson offers a slightly more nuanced, property based perspective. In her argument, there are two fundamental models to privacy protection. She argues that "the secrecy model is unable to address information privacy concerns arising out of the realities of a modern economy."[19] With the secrecy model of privacy protection, something is private when it is unknown by anyone else. Bergelson argues that this model is irrelevant in our modern times. Instead, she argues for a privacy based in the "control model," where "privacy [is] a form of power."[20] The privacy as control model does not seek to keep information from others. Rather, the model empowers the individual to choose the how information is shared and used. The difference between these two models is summarized succinctly by the difference between "how do we keep data from bad people?" and "How do we keep people from doing bad things with data?"[21]

Even with this nuance, Bergelson's reliance on a property based model[22] for personal information leads to problems. The property based model simply cannot account for the impact of personal information on the privacy of other individuals. In 2009, Carter Jernigan, a software engineer, and Behram F.T. Mistree, a doctoral student at Stanford University, published a study on sexual orientation at the Massachusetts Institute of Technology. They found that they were correctly able to identify the sexual orientation of individual students based on the publicly available information of their friends.[23] An individual's sexual orientation is a relatively private matter, especially if they choose not to reveal it publicly.

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[19] Bergelson, 2003: 401.

[20] Ibid.: 402.

[21] Joe Andrieu, "Beyond Data Ownership to Information Sharing" (21 January 2010). http://blog.joeandrieu.com/2010/01/21/beyond-data-ownership-to-information-sharing/

[22] Ibid.: 428.

[23] Carter Jernigan and Behram F.T. Mistree, "Gaydar: Facebook friendships expose sexual orientation," *First Monday*, Vol. 14, No. 10 (5 October 2009).

Bergelson's control model would not be able to protect the privacy of those individuals who attempted to keep their personal information private. Those individuals had explicitly chosen not to give up control over their information. However, their peers had willingly given up some control over their personal information. Because of their peers' choices, those individuals who had chosen not to give up control still lost control over their personal information. Bergelson's property based approach does not prove adequate to address all privacy concerns.

GOING BEYOND OWNERSHIP

The fact that a property based approach to personal information fails to address privacy concerns is not necessarily a failure in Coase's theorem. Perhaps, it is not the theorem that is faulty but its application. The theorem applies to those things which can be property. If personal information cannot be considered property, then the theorem becomes inapplicable.

Going beyond a property based discussion of personal information requires creativity. However, it is necessary because personal information is a lot more complicated than simple property. As Hoffmann notes, "personal information is constitutive of the person it reflects… In other words: you are your information."[24] Lawrence says the same thing slightly differently: "our personal data reflects our interests, our desires: it is a digital extension of our soul."[25] Personal information is complicated and messy. A property based understanding of it would fail to grasp its actual value to personhood.

Joe Andrieu, a technology blogger, describes the problem with bringing a property based perspective to personal information quite well. He says, "the term "ownership" simply brings too much baggage from the physical world, suggesting a win-lose, us-verses-them mentality that

[24] Hoffmann, 2010.

[25] Lawrence, 2015.

retards the development of rich, powerful services based on shared information."[26] While he writes more from a technology development perspective than a privacy perspective, his comment is nonetheless revealing. Andrieu is concerned with how technology development will be stunted if information becomes "owned" by individuals. By win-lose and baggage, Andrieu alludes to the concept of alienability. Ownership brings the idea of alienability with it. Alienability makes little sense in the context of personal information because personal information cannot be transferred, only shared.

Andrieu questions the concept of owning personal information given this lack of alienability. Andrieu writes that "in every instance where two parties interact, where we engage in some transaction with someone else, both parties are co-creating that information."[27] For example, by purchasing something from an online store, the order transaction information was created by two parties. In some ways, the information is "my" information because I created it by choosing to purchase from the online store. On the other hand, the information also belongs to the store because the store created it by choosing to sell to me. In this manner, we "co-create" the information.

This approach to owning personal information is a logical extension of classical philosophy. Hoffman summarizes John Locke's, an English philosopher of the 17th century, theory of ownership with the idea that "I also own the work performed by my hands, and through this work my natural right to property is extended to external objects."[28] In other words, by creating something, I gain ownership of it. Andrieu argues that if we take this approach, then all parties involved in the creation of personal information can claim ownership.

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[26] Andrieu.

[27] Ibid.

[28] Hoffmann.

To solve this problem, he suggests creating “a high quality, highly relevant, curated personal data store.”[29] With this data store, we could “share our information, on our terms.”[30] Andreiu noticeably avoids property language in his solution. Instead, he focuses on the control aspect. Individuals control access to and use of their personal data using a data store. The idea allows for technological development because third parties can get access to personal information. Third parties might even enjoy quicker and better development because the information may be of higher quality if it comes from a curated data store.

However, Andrieu’s plan lacks specificity. Who creates these personal data stores? Individuals already have difficulty navigating Facebook’s privacy settings. Is it realistic to expect individuals to personally curate a “highly relevant” data store? Also, who is drafting the agreements between the users of the data store and the individual? Many individuals would have difficulty composing legal agreements between themselves and the users of their personal information. The curated data store may provide a good means of protecting privacy in theory. In practice, many of the questions appear to be unanswered in Andrieu’s plan.

The data store approach attempts to continue the flow of personal information for technological development while protecting privacy. Other privacy advocates have suggested ending this flow of information all together. Jessica Litman, professor of law at the University of Michigan, describes one of her favorite approaches as the “opposite of the personal-data-as-property model.”[31] With this approach, “personal information could not be property, and it would be illegal to buy it or sell it.”[32] In refusing to classify personal information as property, Litman ends all trade in personal information.

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[29] Andrieu.

[30] Ibid.

[31] Jessica Litman, “Information Privacy/Information Property,” Stanford Law Review, Vol. 52 (2000): 1302.

[32] Ibid.

Cohen echoes Litman, arguing that property should be assigned “a nonexchange value; a prohibition on trade in “things” too closely intertwined with self.”[33] Cohen’s argument rests on the ideas discussed by Hoffmann and Lawrence above. Personal information is a matter of personhood. Just as we forbid the sale of people, we must similarly forbid the sale of personal information.

Cohen and Litman’s approach to ban trade in personal information is certainly a creative solution to the idea of personal information as property. However, it is also problematic. Not all privacy concerns arise from the trade of information. Sometimes a single entity having too much personal information or using that information in inappropriate ways is a privacy violation. For example, a social network might employ its users’ personal information to launch a targeted ad campaign. The ads might violate the privacy of the users, even if the advertising companies never saw the actual raw data. The ban on trade does not impact these serious privacy concerns. Additionally, the ban on trade of all personal information might hamper technological development. Technology development occurs in response to changes in information.

Litman also explores an expectations based approach. To illustrate the idea of expectations, Litman illustrates an example from retail stores: “when consumers give cashiers personal checks imprinted with their home addresses and phone numbers, they don’t expect that information to be extracted and used for any purpose beyond facilitating the payment.”[34] Individuals share information with expectations. When their expectations are violated, their privacy is violated. In an expectations based approach, we could protect people’s privacy through the tort system. Individuals could sue those who improperly used their personal information not for violating their property but for violating their expectations of privacy.

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[33] Cohen, 2000: 1384.

[34] Litman, 2000: 1307.

This approach is problematic because of its socio-economic consequences. In examining expectations based approaches, Bergelson provides an example of a homeless person who lives on the street and a rich man who lives in a mansion. The rich man would have very different expectations of privacy.[35] If we judge privacy against reasonable expectations then we are required to treat people with different reasonable expectations differently. This becomes especially problematic when the difference in expectations is split along socio-economic lines.

CONCLUSION

It is not uncommon for both corporations and privacy advocates to discuss personal information as if it were property. This discourse results from a desire to commodify that which is important to us and from the influence of neoclassical economic theory on modern thought. However, the approach of personal information as property has serious implications for privacy. The solutions that go beyond the property based approach are creative but often lack practical applicability. An appropriate approach to personal information requires an understanding of personal information intrinsic to the self while recognizing the important role of expectations. The result must be careful to treat all individuals with justice, regardless of their expectations, and at the same time further technology development.

[35] Bergelson, 2003: 415.

WORKS CITED

Al-Khouri, Ali M. “Data Ownership: Who Owns 'My Data’?” *International Journal of Management & Information Technology* Volume 2, No. 1 (November 2012).

Andrieu, Joe. “Beyond Data Ownership to Information Sharing.” (21 January 2010). http://blog.joeandrieu.com/2010/01/21/beyond-data-ownership-to-information-sharing/

Bergelson, Vera. “It’s Personal But Is It Mine? Toward Property Rights in Personal Information,” *UC Davis Law Review* Vol. 37, No. 379, (2003).

Chan, Kathy. “On Facebook, People Own and Control Their Information.” (16 February 2009). https://www.facebook.com/notes/facebook/on-facebook-people-own-and-control-their-information/54434097130

Coase, Ronald. “The Problem of Social Cost.” *Journal of Law and Economics* Vol 3 (October 1960).

Cohen, Julie. “Examined Lives: Informational Privacy and the Subject as Object.” *Stanford Law Review* Vol. 52 (2000).

Gilligan, Michael J. “Coase Theorem” in *Routledge Encyclopedia of International Political Economy: Entries A-F.* ed. R. J. Barry Jones. Taylor & Francis (2001).

Hoffmann, Anna Lauren. “You Are Your Information: Facebook and the Problem with Personal Information as Property.” (19 May 2010) [Final Paper for LSCI 891].

Jernigan, Carter and Behram F.T. Mistree. “Gaydar: Facebook friendships expose sexual orientation.” *First Monday* Vol. 14, No. 10 (5 October 2009).

Lawrence, Neil. “Beware the rise of the digital oligarchy.” *Guardian* (5 March 2015).

Lazarus, David. “It's time to take ownership of our personal data.” *Los Angeles Times* (6 April 2012).

Litman, Jessica. “Information Privacy/Information Property.” *Stanford Law Review* Vol. 52 (2000).

Merriam-Webster, http://www.merriam-webster.com/dictionary/alienable

Spiekermann, Sarah, Jana Korunovska, and Christine Bauer. “Psychology of Ownership and Asset Defense.” *Thirty Third International Conference on Information Systems* (2012).