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The Gift Exchange in the Social Networks of Silicon Valley

Michel Ferrary

Social networks influence the transfer of goods between economic actors¹ and represent an institutional model equivalent to the market or to the organization.² Two models are currently used to explain the nature of these exchanges of goods: the neoclassical model of Arm's-Length Exchange³ and the model of Power Relationships.⁴ An exchange is a social behavior through which material or immaterial goods such as information, symbols, or prestige are transmitted.⁵ It is a voluntary act made by individuals who are motivated by the economic, symbolic, and social benefits that they gain from this exchange.⁶ However, the understanding of exchanges through an analysis of either Arm's-Length Exchanges or Power Relationships alone does not enable us to comprehend the nature and dynamics of the circulation of goods. An analysis of exchanges in Silicon Valley demonstrates that it is the nature of the goods exchanged as well as the density of social networks which make Gift Exchanges the principal explanation of the circulation of goods.⁷ This perspective is supported by researchers who have constructed a theory of socialized exchange using research from anthropologist Marcel Mauss.⁸ Certain researchers have attempted to elaborate a new paradigm in social sciences, considering the gift as a total social phenomenon that is at the origin of all exchanges.⁹ The objective here is not to assert that one method of exchange (Arm's-Length, Power Relationships, or Gift Exchange) is the generalized method of exchange but that the degree of socialization and the nature of the good exchanged determine the dominant method that explains the circulation of goods. From a theoretical point of view, each institution is dominated by a method of exchange: the market by Arm's-Length transactions, the organization by Power Relationships, and social networks by the Gift Exchange.

Silicon Valley provides a useful research sample because numerous researchers agree that the region is an exemplary model of the industrial network.¹⁰

The region's dynamic activity derives from the concentration of independent economic actors who are holders of complementary resources (70% of companies have fewer than 10 salaried workers and 85% have fewer than 100).¹¹ The industrial configuration is close to ideal for pure and perfect competition because no economic actor is in a monopolistic position. Nearby are prestigious universities (Stanford, Berkeley) providing high-quality labor and research, major research laboratories (SRI, Xerox/PARC), large companies (Hewlett-Packard, Intel, Cisco, Oracle), and numerous service industries (venture capitalists, lawyers, accountants, investment banks, headhunters).

However, Silicon Valley should not be understood as simply an accumulation of resources, but as a multitude of social networks that assure an optimal diffusion of information between complementary economic agents. A study comparing 9 high-tech parks throughout the world demonstrated that the specific characteristic of Silicon Valley is the presence of numerous venture capitalists.¹² For this reason, the present analysis of the circulation of information as an economic good comes from understanding the exchanges between venture capitalists and other economic actors. From a methodological point of view, our research focused on interviews with numerous economic actors (14 venture capitalists, 17 entrepreneurs, 9 managers from large information technology companies, 4 Stanford professors, 2 lawyers, one headhunter, one chartered accountant, and one public relations consultant). The objective was to accomplish a methodological triangulation¹³ by reconstructing case studies of companies that involved these actors in order to comprehend the logic of the relationships.

The Venture Capitalist's Role in the Industrial Networks of Silicon Valley

Silicon Valley's Central Actors in Its Industrial Networks

A venture capitalist's firm is based on a partnership that includes two to fifteen members. It collects funds from institutions (banks, insurance firms, large companies, and universities) and from wealthy individual investors for sums ranging up to 1.5 billion dollars. It invests these sums by providing start-up capital for firms in their infancy stage. The venture capitalist's recompense is directly related to the plus-values realized from its investments when it goes public or when the firm is sold to a large company (the venture capital firm charges between twenty and thirty percent of the plus-values). In 1999, San Francisco's 135 venture capitalist firms realized 1,776 rounds of funding in high-tech firms for a total amount of over \$19 billion; in 2000 they realized 2,254 rounds for \$35 billion, in 2001 they realized 1,142 rounds for \$13 billion; and in 2002 they realized 772 rounds for \$7 billion.¹⁴ From 1999 to 2000, the Internet bubble blurred the traditional VC activities by increasing the

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number of VC firms and the amount of money that poured into Silicon Valley.¹⁵ In our research, we focused on the practices of established venture capital firms created in the 1970s (e.g., Kleiner Perkins Caufield & Byers (KPCB), Sequoia Capital, Mayfield Fund, Atlas Venture, and Sofinnova Partners) because they are more embedded in Silicon Valley social networks than new VC firms. This embeddedness is a primary condition for a reciprocal gift exchange.

When making an investment, a venture capitalist must analyze three forms of risk: the market risk (establishing potential clients for the product or service), the technological risk (evaluating that the technologies or concepts are well developed and not threatened by potential competitors), and the management risk (evaluating the entrepreneur's technical and human competencies to develop the new firm).¹⁶ Very often, venture capitalists have both engineering and management training as well as professional experience in a high-tech firm. Therefore, they have the competencies necessary to evaluate various projects. Nevertheless, to complete their analysis, they mobilize their social networks to collect information on the three forms of risk. These exchanges of information are informal and are often based on interpersonal relationships between individuals. This method of functioning permits rapid decision making. It is not rare to see a venture capitalist decide after only one week to invest \$2 million in the start-up of a new firm.

Status varies among venture capitalists.¹⁷ This status is linked to the reputation of the firms they have financed as well as their own profitability. Silicon Valley's most reputable venture capital firms include Sequoia Capital (which financed Apple, Cisco, Yahoo, and Google), Kleiner Perkins Caufield & Byers (Sun, Amazon.com, and AOL), Mayfield Fund (Compaq, Silicon Graphics, and Tandem), Accel Partner (Redback), Benchmark Capital (eBay), and Menlo Venture (Ascend). Their reputation permits these firms to attract the best projects, to raise the biggest funds, and to induce other economic agents to collaborate with them. The rest of the venture capitalist firms are reduced to financing projects rejected by their higher status colleagues.

Venture capitalists are crucial to Silicon Valley because they attract projects for the creation of new firms as well as evaluate and finance these firms. They are often present during a firm's creation and share privileged relations with the entrepreneurs.¹⁸ This situation provides the venture capitalist with excellent information about the new firm. Silicon Valley's venture capitalists have four functions: they finance capital for start-ups, they evaluate projects for other economic actors of the region, they provide expertise for the creation and development of a firm to the entrepreneurs they finance, and they serve as the central coordinator for all the economic actors involved during a firm's infancy stage (e.g., jurists, headhunters, industrial groups, investment banks). Although Schumpeter made the entrepreneur out to be the innovator capable of directing the resources around an innovative project in Silicon Valley, this role is actually assumed by the venture capitalist.¹⁹ The entrepreneur, having rarely created many different firms, simply does not have the accumulated knowledge and

experience of a venture capitalist firm, which usually finances between five and twenty projects a year.

The Reasons for the Central Role Played by Venture Capitalists within the Industrial Networks of Silicon Valley

The search for profitable start-ups drives venture capitalists to invest in the management of such firms in order to accelerate the maturation of the innovation that will permit the firm to be introduced to the public market or be sold to an industrial group. Hellman and Puri studied 173 new firms and demonstrated that being financed by a venture capitalist constituted an acceleration factor for the firms' development.²⁰ Apart from their shareholder status, venture capitalists sit on the board of directors of the firms that they finance and, depending on the firm's development stage, they mobilize their networks to bring the firm adequate resources.²¹ In the initial phases, they intervene in recruitment as well as in the choice of law firms, public relations advisors, and accountants.²² As KPCB Associate Bernie Lacroute explains:

"When we invest in a firm, we intervene in the process of recruitment of its managers. We know the people from the new technology sector well. The firms that we finance have access to several headhunters, we provide names to the latter, and we participate in the recruitment committee. We play on KPCB's prestige to convince the managers we want to recruit for our start-ups."

Lastly, venture capitalists serve as intermediaries with large industrial groups willing to buy out the firms or with investment banks when it is time for the firm to go public. X. Casanova, creator of Fireclick, explains:

"The fact that we were financed by Atlas Venture and Menlo Venture, two highly reputable venture capitalist firms within Silicon Valley, permitted us to come into contact with other firms they financed, enabling us to consider future partnerships. Without them, we would not have been able to come into contact with these firms."

When a big name venture capital firm decides to invest in a project, it sends a signal of the validity of the project to the entire community and permits the entrepreneurs to attract the best service providers, suppliers, or potential partners. As Paul G., a very reputable headhunter, recognizes:

"I only accept to work on three or four recruitment missions at the same time. Meanwhile, I receive 40 to 60 propositions per month. The first thing I do when making my choice is to study who are the venture capitalists that have financed the firm. If the name is reputable, I accept; if not, I decline the proposition."

Certain entrepreneurs have venture capital firms participate in their project not only to obtain their financial aid but also to have access to their social networks. For example, M. Border, the creator of Webvan, was wealthy enough to finance his own firm and J. Walker, the founder of Priceline, did not require financing because his company generated sufficient profits. Nevertheless, both got involved with the venture capitalist firm Benchmark. The explicit reason is

that through this association they had access to Benchmark's social network partners, notably to aid in the recruitment of high-quality managers.²³

Venture capitalists transfer a part of the evaluation of risk to the members of their networks. The density of the social networks in Silicon Valley supports such construction of reputations.²⁴ Reputation becomes an economic asset that individuals choose to preserve when refusing individuals access to their networks for projects that they deem unreliable.

Venture capitalists centralize the projects sent to them by other members of the network, evaluate their potential, and mobilize the resources necessary for the development of these projects. The regularity of relations between economic actors stabilizes the networks of service providers. This stability favors mutual learning of complementary actors and encourages mutual confidence, which reinforces the efficiency of the network. These social networks provide a means to diffuse information and give access to resources more efficiently than the market can.²⁵ Being excluded from these social networks is thus a handicap for an economic agent. While venture capitalists are at the heart of innovation in Silicon Valley, they remain extremely dependant on the other economic actors involved in the life cycle of companies.

The Limits of Social Exchange Theories in Their Application towards the Comprehension of Networks

The Theory of Arm's-Length Exchange and the Industrial Networks of Silicon Valley

The division of labor that characterizes developed economies is a factor of economic efficiency and increased productivity. The specialization of economic actors raises the question of their coordination and the exchange of their respective production. Economists have defined the market's competitive mechanisms as the most efficient method for the circulation of goods within a monetary economy.²⁶

The ideal type of Arm's-Length Exchange is a de-socialized exchange where the social environment of economic actors does not intervene;²⁷ at the moment of exchange, the good and the monetary compensation for the good are clearly defined and all forms of uncertainty are excluded, either through standardization of the product or by definition of a complete contract. The exchange is reciprocal and is freely consented to by opportunistic economic actors.²⁸ The legal institutions as well as the state protect the freedom to make contracts and guarantee the realization of these contracts.

This model has received much criticism, which has driven economists to evolve the model's method of analysis.²⁹ From a theoretical point of view, economic exchange is supported by implicit contracts,³⁰ the learning effects of past exchanges permit the reduction of transaction costs,³¹ and future transactions are taken into account through the optimization of agents in repeated game theory.³² Finally, taking into account the effects of reputation, the exchange is

socialized through an inter-individual exchange that will modify the nature of exchanges with other economic actors.³³ The economic sociology approach views the individual as a *homo oeconomicus* who optimizes his profits without seeking symbolic or psychological retribution. In this view, there is no type of good that cannot be valued monetarily and transacted on the market. While most economists prefer to include all types of exchanges in the economic sphere,³⁴ the economic sociology approach affirms that not all types of exchanges can be described as strictly economic exchanges.³⁵ Furthermore, it is the very existence of non-economic exchanges that makes purely economic exchanges possible. Understanding networks as purely economic phenomena betrays the definitions of economic sociology for which “an economic action cannot be separated from the approbation of status, of sociality, and of power.”³⁶ “Economic action is a form of social action; economic action is situated socially and the economic institutions are social constructions.”³⁷ When observing Silicon Valley, one could be led to believe that the opportunism of economic actors and the mechanisms of competitive markets are the variables that control the circulation of information. Information is a good that can be purchased and its exchange formalized through contracts. When creating an enterprise, the entrepreneur presents a project, raises funds in exchange for participation in his capital, pays lawyers for all legal procedures, rents the services of headhunters to recruit labor, and sub-contracts certain activities to service providers (accountants, public relations, web site creators). In the same way, a venture capitalist who evaluates risk can buy market studies and sector analyses from specialized companies (Forrester, Jupiter, IDC) and can also rent the services of experts to analyze technologies.

However, an analysis of the circulation of information within Silicon Valley demonstrates that Arm’s-Length Exchange explains only a small number of the exchanges. A great deal of information is transferred informally between economic actors where neither a contract nor financial compensation is present. For example, when Eric A. (partner in the venture capital firm Atlas venture) collected information to help evaluate the project of the three creators of Fireclick, little of it was acquired through Arm’s-Length relations. To help validate the market potential for the product, he contacted three personal contacts (the manager of a firm who is married to one of his friends; the technical director of a firm who had worked in the same company as him in the past; and an engineer whom he knew because he had almost recruited him into his venture capital firm). These persons provided him with information in an informal manner without Arm’s-Length transactions. In order to evaluate the entrepreneurs, he contacted their referees (past professors). Here again, the professors provided the information without monetary compensation. In the same way, the person who knew the three entrepreneurs because he had studied with them at one point gave private information to Eric A. because he belonged to the board of directors of his firm. In the evaluation of the project, the only information acquired in an Arm’s-Length Exchange was the consulting contract that Eric A. concluded with a Stanford professor to examine the firm’s technology. The exchange was Arm’s-Length because the services provided were stated in a contract and payment was received. Nevertheless, the exchange was socially

embedded due to the personal connection that Eric A. had with the professor since it is what led him to use the professor as a consultant.

The Theory of Arm's-Length Exchange has limitations for the understanding of the true nature of exchanges between economic actors of Silicon Valley, notably because all goods exchanged are not merchandisable in the sense that their circulation cannot be transited via the market with a commercial contract and a monetary counter-payment. There are three reasons for this: one cannot buy trust,³⁸ gifts cannot be merchandized (by convention the market does not exist; people do not sell information about their friends, nor does the journalist pay the CEO who gives him an interview),³⁹ and the law prohibits it (for example an engineer is held to silence by his employer and is therefore unable to sell his knowledge as a consultant). However, considering this information as unmarketable does not mean that it does not circulate between economic actors. There is, thus, a dynamic of circulation of goods other than Arm's-Length Exchanges.

The Role of Power Relationships in Exchanges between Actors in Silicon Valley

Sociologists such as R. Burt analyze social networks in terms of Power Relationships,⁴⁰ where one economic actor (who possesses a resource) will have power over another (who desires this resource). A stricter definition of the notion of power sees the capacity of an actor to oblige another to act in a way which the latter had not originally intended or wanted.⁴¹ In this case, the Power Relationship is highlighted by the fact that an individual can only obtain resources from another if this other can provide something of equivalent value. Pressure such as physical threat or negative sanctions, is applied to conquer resistance.⁴² There is, *a priori*, a conflict of interest between the actors of the Power Relationship, and if this conflict results in the exchange of goods, the exchange is necessarily one of negative sum. An exchange in the environment of a Power Relationship is necessarily asymmetric and is not reciprocal because "the terms of the exchange are more favorable for one of the parties present."⁴³ According to Blau,⁴⁴ a relationship of interdependence between individuals leading to reciprocal exchange is absent in a Power Relationship. As indicated by Crozier and Friedberg: "If A and B possess equivalent assets and therefore the exchange is equal, there is no reason to consider that one of the persons finds themselves in a Power Relationship with regard to the other."⁴⁵

A stable and durable relationship cannot be constructed within a Power Relationship because the weaker agent in the exchange will constantly try to free himself from this relationship. It is relatively easy to flee the exchange in the context of an Arm's-Length Exchange encompassed by commercial law. A supplier can always sell his goods to another client, even if the absence of specific assets can reduce flexibility.⁴⁶ The multitude of service providers within Silicon Valley means that none of them has a monopoly of power that would enable them to impose dependency. The large number of lawyers, venture capitalists, chartered accountants, and so on ensures that each economic actor can

change partners if the conditions of the exchange are deemed unbalanced. The Power Relationship is particularly useful for understanding the circulation of information within organizations because the rationalization of systems leads to the creation of internal “monopolies” which are responsible for situations of power (for example, a director of accounting will be obliged to resort to the services of the IT director for the purchase of new computers and will not be able to choose his own supplier).⁴⁷

Given the speed of information circulation among the social networks of Silicon Valley, anyone choosing to use his power to impose an unequal exchange would soon suffer from a bad reputation and alienation amongst fellow economic actors. The social network is an informal structure where actors cannot resort to organizational rules as a source of power.⁴⁸ These actors are free to accept or refuse what is proposed to them. When an actor accepts an exchange that appears to be asymmetric, it is in the hope that the short-term loss will be made up for by long-term gains.

This does not mean that there is an absence of power relationships within Silicon Valley. Microsoft’s antitrust litigation demonstrated that it abused its monopolistic power (more than 90 percent of PC’s use Windows) to forcefully acquire technologies developed by small enterprises.⁴⁹ However, Power Relationships are not a sufficient explanation for how most information circulates among economic actors of Silicon Valley.

In Silicon Valley, an economic actor does not acquire information simply because he has the power to take it without giving anything in return. He acquires information because he is capable of exchange. No supplier would provide goods if they anticipated receiving nothing in return. Stability amongst independent service providers is a signal that exchanges cannot be founded on Power Relationships but rather on reciprocity.⁵⁰ Certain venture capitalists always work with the same lawyers and investment banks. The leaders of each category work together, creating a more prosperous network of resources (for example, the venture capitalist KPCB; the Wilson law firm of Sonsini, Goodrich and Rosati; and Goldman Sachs regularly collaborate to service the same companies). Thus to optimize their individual resources, the only actors permitted to enter the network are holders of complementary and equivalent resources that are useful for other members of the community.

Under these circumstances, neither the Arm’s-Length Exchange, which is reciprocal yet does not permit the exchange of all types of goods, nor the Power Relationship, whose asymmetric nature renders it unstable, can explain the nature and dynamic of exchanges between the economic actors of Silicon Valley.

Toward a Theory of Exchange in Socio-Economic Networks: Gift Exchange Theory

The Principles of Gift Exchange

The Nature of Gift Exchange

The understanding of exchanges through a theory of Gift Exchange enables us to grasp the interaction between economic and non-economic exchanges, while preserving the hypothesis of opportunism as an explanation for the behavior of individuals. As Mauss underlines, “almost always such services have taken form of the gift, the present generously given even when, in the gesture accompanying the transaction, there is only a polite fiction, formalism, and social deceit, and when really there is obligation and economic self-interest.”⁵¹ The individual exchanges goods out of interest not only for economic goods, but also psychological and symbolic “goods.”

Because the exchange is socialized, the transfer of economic goods is accompanied by symbolic and social exchanges. The networks are multifunctional. They have economic, psychological, and sociological functions. These three forms of exchange overlap more or less according to the form superimposed by the networks. Purely mercantile relationships cannot explain these networks. The nature of the exchanges is more complex—both in the nature of good exchanged and in its social dimensions—than in Arm’s-Length Exchanges. In Melanesian tribes, Mauss describes: “what they exchange is not solely property and wealth, movable and immovable goods, and things economically useful. In particular, such exchanges are acts of politeness: banquets, rituals, military services, women, children, dances, festivals, and fairs, in which economic transaction is only one element, and in which the passing on of wealth is only one feature of a much more general and enduring contract.”⁵² It is possible to define four types of exchange depending on the degree of socialization of the exchange, the contractual form, as well as the terms and the nature of payment.

- *The pure Arm’s-Length Exchange*—The buyer and the seller use the market to signal their desire to transact. To provide payment for the purchased good (product, service, or information), the buyer makes use of a financial medium (money order, check, or letter of credit). The exchange is instantaneously completed according to the terms of the formal contract, which alleviates all forms of uncertainty. For example, an entrepreneur who wants to purchase some computers will randomly select five suppliers, solicit them, and make his selection according to the price and quality of service. The interpersonal dimension will not necessarily intervene in the exchange. Generally, the exchange of standardized goods (airplane tickets, newspapers, cars, stock) can be realized through de-personalized exchange mediums.
- *An Arm’s-Length Exchange that is socially determined*—The buyer and the seller make use of their social networks to signal their intent to exchange and discuss their offers and demands. The method of payment for the

purchased product is also financial, and the exchange is completed instantaneously. For example, when an entrepreneur is seeking a lawyer, he consults with a venture capitalist during a board meeting. The latter will put him in touch with a lawyer with whom he regularly works. There will be a commercial contract between the entrepreneur and the lawyer, however, their relationship is the product of their common social network.

- *The Gift/Counter-Gift of economic goods*—The buyer and the seller make use of their networks to signal their desire to transact and discuss their offers and demands. The Gift Exchange is an implicit contract between the economic actors and allows the exchange of information that is not merchandisable. Due to its implicit nature, the contract must be socialized to be secured. There are two reasons for calling it a “gift/counter-gift.” The first is that the compensation for the good exchanged is not financial but constitutes another economic good (almost like a barter type of exchange). The second is that the gift is not reciprocated by immediate compensation, but by a deferred form of compensation whose nature is not specified at the moment of exchange. The relation is not formalized. The contract is uncertain and implicit. For example, an entrepreneur who wants to recruit a commercial director speaks with her venture capitalist, who puts her in contact with a potential candidate. In this case, she will have created an implicit obligation towards her venture capitalist. For his part, the venture capitalist made the gift because he anticipates that eventually she will be able to make a counter-gift. As another example, a lawyer will give a free consultation to a person he has coffee with every morning, and in compensation she will recommend the lawyer to the legal director of her firm.
- *The Gift/Counter-Gift of non-economic goods (symbolic, psychological)*—Economic actors are also individuals with non-economic aspirations revealing psychological and/or social recognition needs that are satisfied through exchanges with other individuals.⁵³ This is the case when the “good” exchanged requires no financial compensation. In Silicon Valley, for example, an entrepreneur will invite a lawyer onto his board of directors, while the lawyer will invite the same entrepreneur for a round of golf. A venture capitalist will accept an interview from a Stanford University researcher because he is proud to arouse scientific interest, and in return the researcher will obtain the necessary information to complete her project.

An Arm’s-Length Exchange can bring about a gift of economic goods, which itself can bring a counter-gift of non-economic goods. When economic exchanges are connected to non-economic exchanges, they are referred to as socially embedded exchanges. In a pure market, only the first form of exchange exists; in a dense social network, the four types of exchange intermingle through multiple exchanges. The analysis of the gift economy within social networks does not exclude Arm’s-Length Exchange altogether. It includes merchant

exchange within a larger ensemble. Arm's-Length Exchange and Gift Exchange may co-exist. There can be a form of gift (a counter-gift) behind an Arm's-Length Exchange. For example, an economic actor accepts to buy or to sell a product at a stated price to a particular person (while he could have made the same transaction with somebody else at the same price) because he desires to enter into the logic of gift/counter-gift with this particular person.

What is being paid for in an exchange is also a form of symbolic recompense. In this way, an entrepreneur will boast that John Doerr (the "legendary" associate of KPCB) called him to inquire about an individual who submitted a project. While John Doerr obtained information of strong economic value, the entrepreneur who provided him with this information received immediate symbolic retribution (the prestige to have been solicited by John Doerr) and an implicit medium-term credit (he will be able to ask John Doerr to return his gift in the form of an interview when he creates a new company).

In an Arm's-Length Exchange, there is a financial counterpart that is defined at the moment of the exchange. It is synchronous and the actors are not preoccupied with their future relations. In the Gift Exchange, the exchange is diachronous and rarely financial. The one who provides the gift anticipates that the other will one day provide the counter-gift in one form or another. The contract is implicit and uncertain because the provider takes the risk of not receiving a counter-gift.

The Dynamic of the Gift Exchange

Often the analysis of networks demonstrates that they are founded in ethnic communities (25 percent of California's residents are immigrants).⁵⁴ The Silicon Valley example seems to validate that networks are often established on ethnic bases.⁵⁵ However, this condition alone does not suffice. For a network to be established, there must be an interest amongst individuals to exchange. To be admitted into a network, one must possess a resource that is of interest for the members of the network.

Numerous European companies have failed in their attempts to establish themselves in Silicon Valley because they did not furnish the resources required to workers they placed in the region.⁵⁶ In their strategy to infiltrate innovative networks in order to update old technologies, corporations can contribute several specific complementary resources. They can introduce a necessary market for the development of a firm; they can provide privileged access to a technology (for example, Intel provides firms that it finances exclusive access to its latest microprocessor six months before marketing it to the public so that they can develop software that will use this microprocessor); or they can buy out a firm.

One condition for initiating exchange is to possess a resource that the other party wants to obtain and for which it is ready to provide a counterpart. The network of economic actors can be built on the basis of existing social networks (university, entrepreneurial, or ethnic) and can also carry its own dynamic when the economic actors retain the resources necessary to initiate exchange. Once the individual possesses the resources necessary to exchange

with the members of the network he wants to penetrate, he has to make a gift of it to establish a durable relationship. In Silicon Valley, individuals are more likely to enter into this dynamic because they are all interdependent. An informal accountability is held, and if the gift is not reciprocated, the exchange dynamic is interrupted. Because information itself is not marketable, all given information establishes credit for the provider, which can only be erased by a counter-gift.

One of the principles of the Gift Exchange is that the gift is never free, it always incurs a counter-gift. Mauss states: "Gifts circulate, as we have seen in Melanesia and Polynesia, with the certainty that they will be reciprocated. Their 'surety' lies in the quality of the thing given, which itself is that surety. But in every possible form of society it is in the nature of a gift to impose an obligatory time limit."⁵⁷ If we refer to Mauss' anthropological approach, in gift exchange, the individual wanting to receive is forced to give prematurely and the one who receives is obliged to give back. The person who gives is not certain of the capabilities of the other to give back, nor how or when the gift will be returned. However, the individual who is incapable of rendering a gift will be excluded from future exchanges by all the members of the community constituting the network. What could appear as a "free" gift, because it does not lead to immediate compensation, might in fact be payment for an ulterior gift. The gratuity is illusory because the gift is embedded in a more complex reciprocal exchange system.⁵⁸ The nature of the counter-gift is not defined, it may be economic or not. The terms of the counter-gift are not fixed, except that the donator will not provide a new gift until the counter-gift has been received.

The initial gift is an important stake, and refusal of the initial gift marks the refusal to initiate the dynamic of exchange because "the institution of 'total services' does not merely carry with it the obligation to reciprocate presents received. It also supposes two other obligations that are just as important: the obligation, on the one hand, to give presents, and on the other, to receive them. To refuse a gift, to fail to invite, just as to refuse to accept, is tantamount to declaring war; it is to reject the bond of alliance and commonality."⁵⁹ To penetrate the networks of Silicon Valley, new arrivals will have to give to current members in order to instill an obligation to render. However, as in the Melanesian tribes, it is always possible to refuse the initial gift thus signifying refusal to exchange with the one who makes the gift because "an acknowledged position in the hierarchy, and victories in previous potlatches, allow one to refuse an invitation, or even, when present at a potlatch, to refuse a gift without war ensuing. It is why one addresses particular care to his guests; because if they refuse the offer, it would mean that they manifest themselves as superior."⁶⁰ By refusing the gift, the receiver avoids having to give a counter-gift, and thereby avoids the dynamic of exchange.

Alain A., associate with a second-rank venture capitalist firm explains how he created relations with a first-rate venture capital firm:

"All venture capitalists with low status want to establish relations with the dominant venture capitalists of Silicon Valley (KPCB, Sequoia Capital, Mayfield),

notably to recuperate projects that are directed towards them but that they do not have time to analyze. To establish this relation one must first offer them something. I financed Phone.com from its creation. When the time came to realize the final round of financing before the company's introduction to the stock market, instead of endorsing the finance entirely on my own thus keeping all the plus-value, I proposed to the associates of Sequoia Capital to participate in this final round. The introduction was going to be a great success guaranteeing high profitability. Sequoia could have refused the offer because they knew that by accepting it, they would engage themselves to render me a future service. They accepted and realized an important plus-value. Since then, I work regularly with them, they send me projects and sometimes invite me to syndications of finance they put in place for a company."

Sometimes, the gift dynamic is reversed. The venture capitalists, knowing they dispose of resources that other economic actors want to access, will oblige the others to make the first gift. For example, a venture capitalist can contact a headhunter who she does not know to acquire information about an entrepreneur without having to pay monetary compensation. The solicited headhunter will agree to make the first gift by giving the information because he knows that he is obliging the venture capitalist to render him the gift in the future (invitation to chair a board of directors, recruitment mission). The reasoning held by the headhunter is anticipated by the venture capitalist and explains her behavior.

The Density of Exchange Networks and the Nature of Goods Exchanged Make Gift Exchange the Optimal Mode of Coordination for Economic Actors

The uncertainty that comes with exchanged goods calls the Arm's-Length regulation into question and drives economic actors to focus their judgment of the suppliers.⁶¹ The good will not be worth what is supplied. Even if the standardization of individual competencies (notably from graduates) decreases the uncertainty of the producers, it remains that an evaluation based on interpersonal relationships has greater validity.⁶² This evaluation is supported by the plurality of socio-economic exchanges. Such non-economic exchanges embed the economic exchange relationship in a social environment of greater density and modify the nature of exchange. Such exchanges develop from Arm's-Length Exchange towards Gift Exchange, resulting in exchanges that would not be possible in a purely Arm's-Length context.

Due to the uncertain nature of exchanged information within Silicon Valley, economic actors socialize these economic exchanges. When the socialization of the exchange is not economically justified, the economic actors do not socialize them. For example, the venture capitalist does not socialize with his newspaper vendor or his airline ticket provider. On the other hand, he will regularly socialize with the entrepreneurs he finances, (and with journalists, university professors, and so on) because there exists a reciprocal economic interest in socializing. Observation of the French community in Silicon Valley confirms

this. The French involved in the creation of start-ups (entrepreneurs, venture capitalists, lawyers) have different methods of socialization compared to French expatriates working in the region for a limited amount of time and with no wish to create their own enterprise. Frenchmen in the first category have, as their final objective, uniting Frenchmen who wish to conduct business in the region. In locally organized soccer matches, one can find many salaried Frenchmen who work for French companies in the region. In this case, the exchanges are essentially non-economic, or if they are it is only incidental (information on visas, schools for children). There are no explicit underlying economic thoughts within these exchanges and anyone wanting to use these meetings with such an intention would be rejected from the group. In the first group, socialization has a final economic objective, while in the second case, socialization arises out of its own dynamic (to find oneself amongst countrymen).

Venture capitalists will socialize their economic relations with the entrepreneurs and service providers with whom they are likely to collaborate. For example, Sequoia Capital institutionalizes durable relations with service providers (jurists, headhunters, and public relations persons) by inviting them to participate in investment funds and also by inviting them to dinners where all the partners exchange information. KPCB organizes a ski trip to Aspen each year with all the general managers they have financed. The objective of these gatherings is to secure alliances and to exchange information. More generally, venture capitalists frequently organize dinners and cocktails where everyone is invited with their husbands and wives. This socialization fosters information gathering: the behavior of an individual toward their spouse can be very revealing as to their management behavior. Being invited to these social gatherings constitutes a form of symbolic recompense. This socialization heightens the costs of treachery by increasing both economic and symbolic costs (losing recognition from friends, not being invited to any more social events organized by the network). These socialization rights are not free, they aim to install the conditions for social ostracism. The incapacity to render a gift is publicly recognized and brings into question the confidence that the community holds towards the individual. This can lead to weakened social status and exclusion from exchanges within the community. This reputation phenomenon is possible to the extent that the individual is strongly socialized. No to be able to render the gift marks the end of the exchanges. For example, three entrepreneurs—having benefited from informal help from several persons when creating their company—decided to give stock to some of these persons in compensation for their aid. On the other hand, they refused to attribute stock to persons whom they considered not to have contributed enough to justify stock attribution. This refusal marked the end of economic and social exchanges with those persons and influenced future exchanges with the networks to which they belong.

The socialization of economic actors assures that the non-rendering of a gift is sanctioned within social networks. The problem posed by game theory finds its answer in the socialization of agents.⁶³ A weakly socialized economic actor will be able to optimize a short-term exchange because not to render the

gift will not hamper her reputation and she will always be able to find another exchange partner. However, once the actor is strongly socialized, any opportunistic behavior will be known by all, and the individual will not be able to exchange with members of the network. It is because it is socialized that Gift Exchange is a stable exchange. Cheating in the exchange can be heavily sanctioned by social means.⁶⁴

Contract law secures merchant exchange but not gift exchange because of the latter's implicit nature. It is socialization that secures gift exchange by creating a reputation effect. Within Silicon Valley, numerous public social or semi-private events contribute to the socialization of economic agents: conferences, trade shows, associations, or boards of directors. These are institutionalized social areas where everyone acquires information "for free" and where reputations are founded on a network member's capacity to render gifts and to conform to the implicit rules of the community.

The dynamic of the socialization of economic exchange to produce a total social phenomenon can vary from an economic relationship that is extended to a non-economic one, or from a non-economic relationship that is extended to an economic one. Belonging to a common social network can be pre-existent to or independent from the exchange (for example two university graduates from the same university do not know that they will exchange together ten years later) or the network can be voluntarily constructed in anticipation of future exchanges. In all cases, for the economic actors of Silicon Valley, professional spheres are grouped. Time being a rare resource,⁶⁵ individuals donate their time providing information to those who can render service, and professional and private networks are thus combined. On the other hand, economic actors who refuse to enter into interpersonal relationships are excluded, because by implicitly de-socializing themselves, they cut themselves off from the circulation areas where information is transmitted. This is because they inspire distrust by refusing to socialize. The standard for Gift Exchange is a total exchange where one cannot separate economic and non-economic exchanges.

The frequency of economic interactions as well as the density of social relations allow for the elimination of uncertainty through anticipation of an individual's behavior.⁶⁶ The repetition of relationships creates confidence, which allows information exchanges that would be impossible in a purely market relationship. For example, no one will "sell" information to an investor about somebody being dishonest or alcoholic. However, it is possible to acquire this information through an informal relationship. Alain Azan, associate from the venture capital firm Sofinnova, said:

"When analyzing an investment project, I give great importance to the quality of entrepreneurs. I mobilize my networks to obtain, informally, information on their personality, their past, their experiences...If ever I am unable to acquire this information through this bias, I prefer to back off from investing because not knowing about the entrepreneur's personality constitutes too big a risk."

Socialization becomes a necessary condition for gift exchange and to refuse this socialization leads to exclusion from economic exchange. As in

Melanesian societies, it is social coercion that guarantees the reciprocity of the exchange.⁶⁷ Social constraints can only be exerted to the extent that the information is public. Because of this, economic agents realize their exchanges in public to provide maximum exposure. The social density of Silicon Valley, the permanent use of new technologies, and the specialized press (*Red Herring*, *Upside*, *The Industrial Standard*) ensure the public circulation of information on individual's behavior.

Conclusion: The Virtuous Circle of the Socialization of the Exchange of Uncertain Goods between Inter-dependant Agents

Social sciences have demonstrated that the circulation of economic goods can be determined by different mechanisms of exchange: the Arm's-Length transaction, the Power Relationship, or the Gift Exchange. Each mechanism constitutes a dominant form within three respective areas, which are the market, the organization, and the network. Analysis of the functioning of the social networks of Silicon Valley demonstrates that in exchange relations between economic actors who are legally independent yet economically interdependent, Gift Exchange shows itself to be the most efficient and stable form of exchange. This efficiency is due to the intrinsic uncertainty of information exchanged by economic actors. Because of its uncertain nature, some types of information cannot be transmitted by Arm's-Length Exchange. The economic actors therefore use modalities specific to the exchanges. The complex nature of goods exchanged renders necessary the social embeddedness of the actors. This may be based, for example, on a pre-existing link from having worked in the same firm, or coming from the same university or ethnic background. These conditions help, yet are not sufficient to stabilize the socio-economic networks. The individuals must be interdependent and possess complementary resources.

However, Gift Exchange cannot constitute a generalized theory of exchange. First, the inherent uncertainty of the nature of information places the emphasis on the person emitting this information. Secondly, it is the strong socialization of economic actors and their interdependence that modify their optimization behavior. Power Relationships as well as Arm's-Length Relationships are more likely when the economic actors do not belong to a common social network and are less interdependent on an economic level. The uncertainty justifies coordination through networking;⁶⁸ therefore, once the exchange is certain, the network has no more economic justification. A de-socialization of economic exchange will occur and the individual's networks will only fill social and psychological needs.

The enforcement of Gift Exchange as an informal reciprocal exchange depends on its embeddedness in a strong community. Exchanges in ethnic communities,⁶⁹ professional communities,⁷⁰ or local communities⁷¹ are based on the Gift Exchange's principals. The de-socialization of individuals due to urbanization reduces the informal creation of Gift Exchanges and instead necessitates a reliance on the more formal and legal structures of economic exchanges.⁷²

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professor from Stanford who created the firm Silicon Graphics. Taking advantage of the entrepreneur's inexperience, the venture capitalist obtained a larger than standard share of the company's capital. When the firm went public, the venture capitalist was the only one who really increased his wealth. Jim Clark then created another firm, Netscape, and refused to be financed by Glen Mueller. Also, Jim Clark, a recognized figure within Silicon Valley, outlined the greediness of venture capitalists (it is he who in a book popularized the term "vulture capitalist"). The consequences for Glen Mueller proved enormous. On one hand, several entrepreneurs refused to be financed through the Mayfield Fund and his associates reprimanded him for not having invested in Netscape, which seemed to be a promising firm. On April 4, 1994, when Netscape was officially created, Glen Mueller committed suicide [D. Kaplan, *The Silicon Boys and Their Valley of Dreams* (New York, NY: William Morrow, 1999), p. 243]; this was a direct result of his rejection from the social networks of Silicon Valley which satisfied his economic, social, and psychological needs.

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