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Real Time: Governing the Market After the Failure of Knowledge

Annelise Riles*

*Cornell University - School of Law

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Abstract

This paper presents an ethnographic account of the work of bureaucrats at the Bank of Japan, Japan's central bank, as they engaged in the construction of a "real time" payments system. The paper aims to consider certain shared dimensions of the knowledge practices of late modern anthropologists and economic planners and the special challenges these pose to the study of modern knowledge. In particular, the paper focuses on the effects of the attraction of "self-sustaining systems" consisting of "two sides." It concludes that one central challenge of new ethnographic subjects such as global financial markets is to find ways of ethnographically apprehending dimensions of modern knowledge that do not present themselves as steps or elements in the construction or destruction of systems, or as phenomena that can be seen from two sides.

Real Time:

Governing the Market After the Failure of Knowledge

Annelise Riles

Northwestern University

357 E. Chicago Avenue

Chicago, IL 60611

(312) 503-1018

a-riles@northwestern.edu

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In his work on the emergence of governmentality, Michel Foucault traced the roots of the modern style of regulation that we associate with the Weberian bureaucratic ideal to sixteenth century notions of "pastoralism"--a model of the state as a kind of father figure:

> The art of government [in the sixteenth century]… is essentially concerned with answering the question of how to introduce economy—that is to say, the correct manner of managing individuals, goods and wealth within the family (which a good father is expected to do in relation to his wife, children and servants) and of making the family fortunes prosper—how to introduce this meticulous attention of the father towards his family into the management of the state. (Foucault 1991a: 92).

In the centuries that followed, Foucault argued, economy as a manner of management was gradually transformed into economy as an autonomous field, and the model of government as fatherhood was abandoned. The economy as an autonomous sphere and a subject of government action was therefore a supreme accomplishment of the knowledge practice Foucault terms governmentality, an emblem of its efficacy. At the same time, Foucault was fascinated with the market's propensity to elude the knowledge that created it. Borrowing from Adam Smith, he argued that the powerful mystery of the market as "invisible hand" was that it remained invisible to the planner as much as to the market participant (Gordon 1991: 12).

Foucault's fascination with the power of knowledge and also its limits is paradigmatic of the response the market elucidates in social theory. Social theorists and anthropologists have been concerned to show how the invisible hand is the artifact of institutional work by drawing attention to the practices of those who self-consciously create and maintain the institutions that engender it (e.g. Callon 1998; Carruthers & Stinchcombe 1999; Maurer 1999; Leyshon and Thrift 1997; Sassen 1991). At the same time, we have been eager to demonstrate the limits of planning in the face of the powerful agency of this artifact of our own creation. Students of risk, for example, critique and sometimes even ridicule the efforts of scientists and planners to quantify, regulate or plan around what is taken to be the unplannable (Beck 1992; cf. Giddens 1991).[1]

One way social theorists make use of these two possibilities is to demonstrate again and again how systems (such as markets) perpetuate themselves by tearing themselves down only to build themselves up again. Michel Callon, for example, aims to show that the market is always emerging because it is always rebuilding itself in reaction to threats to its autonomy (Callon 1998; cf. Krugman 1996). The story of the self-correcting and self-perpetuating system, in other words, is always a three-part story of knowledge created, threatened, and recreated again. The flip side of this fascination with the self-perpetuating system, as Marshall Sahlins (1996) recently has shown with respect to both anthropological functionalism and neoclassical economic analysis, is a notion of needs as "pure materiality," something outside the system that renders it eternally necessary, as where society is a function of biological needs in functionalist ethnography, or markets are a function of needs for liquidity in neoclassical economics.[2]

What both of these impulses in the social theory of markets and their resolution in the image of the system share is an understanding of government as a matter of knowledge.[3] In this respect, the market is emblematic of the place of knowledge in late modern social theory more broadly—at once the symbol of the triumph of modern knowledge and also the monster of its own creation that threatens its demise.

Perhaps it is the presence of these two possibilities, two sides of the same project always available as responses or solutions to one another, that keeps us running in place. The problem with the seeming completeness of this logic, taken as a set, however, is that dimensions of governmentality that do not stand for either the triumph or the demise of knowledge become almost inaudible, despite their ubiquity (cf. Garfinkel 1984[1967]: 186-207). The corollary is that it is equally difficult to appreciate a theoretical position that is neither devoted to systematizing the seemingly unsystematizable nor to demonstrating how modern knowledge fails.

The social theorist's oscillation between the market as the artifact of knowledge and as evidence of its limits finds powerful expression in the events now shaping the financial world. In the aftermath of the Asian Financial Crisis and the consciousness of so-called "systemic risk" it amplified, the failure of the economic models that were the source of central bankers' expertise to offer useful predictions or fine-tuned policy solutions to recent market problems,[4] and current efforts by global banks to do away with the regulation and management of the market by state actors altogether[5] (e.g. Taylor 1998), the central bankers at the Bank of Japan who are the subjects of this paper were both amazed at what they imagined as their own creation—a global market of seemingly

infinite scale and complexity—and fearful of their own powerlessness vis a vis their creation.

In particular, these central bankers' sense of powerlessness took the form of a heightened awareness of the contradictions in their role as creators and guardians of the global market. In the last five years they had come under repeated attack from domestic and foreign media, politicians and academics for failing to maintain the proper bureaucratic distance from events in the market. Like Foucault's allusion to the pastoral father, these ideological calls for "freeing the invisible hand" (Porter & Takeuchi 1999: 77) associated the intimacy of the architects of the market and the market participants with a precapitalist past. I will explore the effects of the emergence of this intimacy as an object of critique with respect to a claim I repeatedly heard from the male executives of the banks the Bank of Japan was charged with regulating: "The Bank of Japan is our mother." Although some of these executives might at other moments have critiqued the Bank of Japan for its paternalism, this particular phrase was in no sense pejorative or cynical; on the contrary, it seemed to be meant in a kind of matter of fact way, as a shorthand means of giving me, the outside observer, an understanding of what was going on.

In many ways, Foucault's metaphor is highly appropriate to the government of the Japanese economy in the year 2000. Where what is at issue in the case of 16th century France is a particular understanding of market and politics, however, what is at issue in contemporary Japan is a particular notion of the household. The association of finance in particular with the household is so strong in Japan that in popular discourse the word "kitchen" (daidokoro) serves as shorthand for a firm's financial condition. Chie

Nakane's (1967) early critique of the application of structural functionalist kinship theory to Japanese kinship centered precisely on demonstrating that what mattered to her Japanese informants was not kinship as a set of analytical categories, but the household as an economic unit. At the time, the challenge this critique presented to anthropological imaginations of sociality as a matter of knowledge could not be heard, and so it was reduced to a banal footnote in the area studies literature.

Nor is it particularly provocative to describe the power of the central bank in the idiom of motherhood. It has been part of official state ideology since the Meiji period that mothers serve as managers of the household economy and motherhood has long been associated with economic productivity (Nolte & Hastings 1991: 171-2) and financial expertise such that men will often refer to their wives as "our minister of finance" (uchi no Okura Daijin). My own fieldwork among mothers in one upper middle-class suburb of Tokyo draws attention to the awesome power mothers derive within the household from their devotion to their managerial role imagined, as with Foucault's pastoralism, to concern economy in the widest sense of personal and corporate welfare and growth.

In a moment, I will focus on the problems the model of the planner/manager of the economy now faces and the consequences of its abandonment, with respect to one obscure but crucial corner of governmentality: the procedure by which funds are "cleared" from one party to the next as they circulate through the Japanese market. I want to begin by saying something about the way these issues made themselves available to me as an ethnographic "field", however.

In the late 1990s, in the aftermath of a number of "corruption scandals", in which Japanese bureaucrats were discovered to have accepted entertainment from their clients,

the Bank of Japan instituted a strict policy concerning contact between employees and outsiders. Henceforth, every meeting between a Bank of Japan official and an outsider would need to be cleared in advance with the manager of the division and documented. Since then, every year, a handful of Bank employees are dismissed from their powerful and high-prestige positions (cf. Koh 1989; McVeigh 1998: 78-80) for violating these rules and so it was no wonder that the employees of the Bank took this policy seriously. For the most part, we met on Bank premises in rooms designated especially for encounters between bank staff and outside guests. Every meeting's purpose had to be elaborated, approved and documented in advance.

The policy was perhaps the most visible response to the crisis of confidence in the bureaucracy's leadership of the economy that pervaded the media, the academy, the banks, and even the bureaucracy itself. It was also the outcome of a struggle between an older and younger generation of bureaucrats. Many Bank of Japan employees in their 40s or younger, the majority of whom had received some education in economics, law or government in the United States, criticized their seniors for what they saw as an outdated style of governance. In their view, accepting entertainment from clients represented a deviation from true bureaucratic practice, defined by the procurement and dissemination of knowledge on a "rational" basis. At the end of an evening at a local restaurant, after dividing the bill exactly down to the last yen, and then requesting a receipt from the restaurant demonstrating she had done so, Shimizu, a bank employee in her early 30s, defended the policy with a zeal that went beyond institutional allegiances. The policy was an inconvenience, she argued, but it kept things "objective". It was also the only way of countering the tendency of bureaucrats toward arrogance and hegemonic

behavior. This cult of rationality in the Weberian sense was one emblem of the "Western" orientation that younger bureaucrats proudly proclaimed (cf. Fife 1995; Dore 1999: 66). It was precisely this younger and mid-level generation of bureaucrats who therefore had an interest in meeting with a visiting American law professor such as myself.

At the time I worried that this policy and the ideology of rationality my informants admired in it rendered fieldwork impossible altogether. As Marilyn Strathern (1999) has argued, fieldwork is distinct from other genres of modern knowledge in the way the ethnographer makes him or herself available to enter into relations of others' choosing. To imagine that one enters into these relations in order to gain knowledge is to get things "back to front," Strathern insists; the relationship must be valued first and foremost for its own sake. Yet the Bank staff's draconian efforts to separate knowledge seemed to exclude the very device (relations) through which anthropological knowledge emerges. Yet the relations friends like Shimizu had in mind for me was a model of rationality, as something explicitly opposed to relationality, an experiment in mutual information exchange. Could the faith in the relations that produce ethnographic accounts be stretched to accommodate the repudiation of the relational model on which ethnography is predicated?

In order to make sense of my informants' turn to rationality it is necessary to understand that participants in the Tokyo financial market understand themselves as two sides. The first consists of those involved in the creation and maintenance of the institutions of the global financial markets. They can include regulators, central bankers, economists, legal scholars, or lawyers. These persons are proximate outsiders—they

exist at the threshold of a market they have enabled and protected, looking in. They face the "market participants" who act within the market and "make" it. Who is a market participant and who is a builder of the market varies from context to context; at one moment a bank executive might epitomize the market participant, while at another he or she might be imagined as an institution builder, for example.[6] What differentiates the two sides, then, is the kind of knowledge each engages in. The institution builder engages in systemic thinking—he or she plans (Nader 1996:2). The market participant, in contrast, engages in "logical" thinking—he or she follows rules (Miyazaki n.d.).

As numerous policy studies articles and anti-corruption reports have emphasized, Japanese bureaucrats in the postwar era have maintained elaborate "networks of contacts" with their classmates working in industry (Schaede 1995).[7] These relations are actively promoted by both industry and bureaucracy through the availability of research fellowships for employees of major banks at the Bank of Japan's research unit, or the practice of loaning BOJ employees to other ministries or lawyers specializing in regulatory matters to major banks. Senior Bank staff told me that one of the purposes of sending young bureaucrats to pursue master's degrees at elite American universities was to give them time to develop close friendships with the Japanese of their own age working in the private sector they would meet in America. The bureaucrats I knew regularly made use of these contacts in their work and expected their subordinates to do the same.

The Bank of Japan's policy on contact with outsiders, then, was intended to purify the act of planning from its social roots, now, in the wake of financial crises and criticisms of "Japanese capitalism," newly constructed as a problem. One of the

interesting dimensions of this project concerned the way the reform had been superimposed on prior practices. In the old system, bureaucrats also held formal encounters with their clients on office premises. Sometimes these meetings took place literally in front of the desk of the division manager, who sat at his desk pretending to read the newspaper, as his junior carefully executed the interview within his earshot. Usually on the night of the meeting, however, the clients would treat the junior bureaucrat to dinner (with his superior's tacit knowledge and approval), and after several rounds of drinks and conversations about a standard set of light topics, the conversation would turn back to the matter of that day. In that context, both sides would take pleasure in breaking through the boundaries of formality they had created for themselves earlier and "speaking in a straightforward way." Promises would be made that would serve as the basis of later action.[8] It was these later encounters that now had emerged as "corruption". What the new policy had done, then, was not so much transform the character of the formal encounter superceded by an informal one as to eliminate the second step. Encounters with clients now had the character of an unfinished ritual (McVeigh 1998: 3).

My fieldwork problem, then, had considerable practical salience for my informants as well. The more senior staff in particular complained about the constraints the policy had placed upon their work. Their task depended on gathering information, on knowing what was happening in the economy, on having a sense of problems and working out solutions before they mushroomed out of control, they lamented (cf. Pempel & Muramatsu 1995: 68). If they waited to address the banks' inadequate capitalization, or the absence of proper risk-management systems until everything had become public

and stock prices had plummeted, they would surely be blamed by the press, the public, the politicians, the other ministries, for failing to act quickly enough. On the other hand, since the institution of the new policy, the flow of information from industry to the central bank had been reduced to a trickle. "We don't know anything about the market anymore" one senior banker lamented to me.

the system and its risks

The payments system is the technology by which funds move from one party to another in the modern market economy. Every day, banks transfer through the Bank of Japan's payment system 157 trillion yen (approximately US$ 1.6 trillion) in more than 15,000 transactions (Bank of Japan 1997: 102) that represent the aggregate of millions of their clients' individual orders. (Figure 1) They do this by instructing the Bank of Japan to debit or credit the accounts each bank holds with the central bank through its electronic clearing system for large scale fund transfers known as BOJ NET.[9] (Figure 2) BOJ NET is administrated by the Bank of Japan's Payment Systems Division, and its head, Sato, a graduate of the University of Tokyo and Harvard's Kennedy School of Government.

At the time of my fieldwork, BOJ NET was a so-called "designated time net settlement" system (DTNS, or Designated Time). Banks accumulated obligations to one another throughout the day and then calculated the balance of who owed what to whom at one designated time each day. This netting mechanism was meant to be an innovation on simple individual transactions (Kaufman 1996: 826). From the system's users' point of view, it was far cheaper and more convenient to "net out" what each owed the other at regular intervals. In this sense, it is an example of a familiar story of progress through integration. But like all systems, it depended on coordination among its components (the

member banks). By participating in the clearing system, each bank implicitly agreed to extend credit to the others from the time a notice of payment was received until the time of the actual settlement. As one economist recently put it, this informal credit system served as the "lubricant of the financial system" (Folkerts-Landau, Garber and Schoenmaker 1997) since it allowed for smooth transactions in the absence of physical payment. The "advance" of designated time, as a system, then, had two dimensions. On the one hand, it represented conceptual sophistication—an understanding that net balances were functionally equivalent to the sum total of individual transactions. On the other hand, it represented a kind of social sophistication—cooperation in the service of a common good.

It will come as little surprise to anthropologists that the two sides here, systemic thought and relationality, would be artifacts of one another. The systems of functionalist anthropology, for example, were true for anthropologists only to the extent to which they claimed to reflect actual relations observed by the fieldworker. And so it will be no surprise that participants in the payment system had as much to say about the character of their relationship to the central bank as they did about the technicalities of their system. In referring to the Bank of Japan as "our mother," bankers sought to convey the intimate involvement of the Bank of Japan in the problems of Japanese banks and its willingness to share the burden of maturing Japanese financial institutions. They drew attention, in other words, to the way intimacy in the practice of government was not a precursor of modern planning as portrayed in Weberian ideal types and Foucauldian historical trajectories, but the necessary instantiation of it. If the metaphor drew attention to the mutual dependence of the systems planners constructed and the relations among

institutions the plans described, however, it also highlighted how relations between the central bank and its charges had become a problem—a subject of explicit critique. It was precisely this intimacy between knowledge and social relations that had recently been named ("corruption") and rendered apparent through its opposition to rationality.

As the feminist sociologist Ueno Chizuko (1994) has commented, the Japanese mother is the dominant figure in the Japanese household. Her dominance is both because of and in spite of her structurally weak position since the post-war invention of the role of full-time wife and mother (cf. Ueno 1988).[10] As implied by the mildly derogatory phrase *kyouiku mama* (education mama) the values at once cherished and feared in a mother are commitment, endurance, and single-mindedness about doing what it takes to see to the child's success.[11] Ueno comments that the mother's authority is always receding, for in encouraging her children to be different from and more successful than their father she is also encouraging them to leave her behind. For the mothers and sons I knew it was precisely this carefully maintained awareness that the relationship must become attenuated over time that rendered it continually new and strong. Because a son spends most of his life pulling away, he in effect always remains close. In the popular press, the effect of this continually unfinished withdrawal on the weak character of adult men is singled out as a social problem, the mazakon (mother complex).

The mother's ability to carve, out of a position of structural weakness, a kind of dominance that Ueno describes aptly captures the Central Bank's location in the market. The legal authority of bureaucrats to enforce their policies is surprisingly weak in Japan (Haley 1987). Hence, for the most part, Sato's authority depended on his ability to convince the heads of individual banks' treasury departments to comply with his policies.

I came to appreciate how the discourse of rationality central bankers adhered to so passionately and the model of relations it suggested served as a powerful source of moral authority in their consultations with market participants. To return to the fieldwork problem I raised at the outset, I came to appreciate how the formal exchanges and discussions of Western models of rationality I was drawn into represented a particular kind of speech act that literally constituted their authority.

It was no wonder, therefore, that charges of excessive meddling in the market and inappropriate contacts with market participants had shaken these bureaucrats' faith in their ability and authority to plan. Like the Japanese mother as portrayed by psychologists and journalists, the central bank had emerged as excessively concerned about the affairs of her charges, and incapable of letting go. This view, drawing on neo-classical economic theory, saw the government as the architect of a self-sustaining system which, once created, no longer had a place for its creator as participant. If the mother did not get out of the way, one could not expect market participants to take responsibility for their actions and hence to allow the system to evolve.

As they reflected on this criticism, the Payment Systems Division staff saw the point. They noticed that designated time created a risk that at some future point the failure of one financial institution could lead to large scale "systemic failure" because of the "domino effect" (e.g. Folkerts-Landau et. Al. 1996: 1) of one party's failure to meet its obligations in the context of a system of deeply interconnected market participants.[12] And this implicated the inappropriate intimacy of mothers and sons: In economic terms, the proper response to systemic risk was for each bank to make careful judgments about

how much credit it would extend to every other bank because if a bank actually failed during the course of the day, other banks would lose whatever the failed bank owed them.

But in practice, until 1995, the government had always stepped in to rescue failing banks, so that market participants did not take seriously the threat of losses associated with intraday credit (cf. Rochet and Tirole 1996: 735). This in turn made it difficult for the Bank of Japan to impose what the economic literature called "market discipline"—to exercise authority by *refusing to intervene* in moments of crisis. The children's awareness of the mother's presence had made them soft and also had weakened her authority. Designated Time, then, exposed a contradiction in central bankers' view of their task. On the one hand, as architects of the system, they wanted it to become self-sustaining. Moreover, as believers in bureaucratic rationality, they ached to assume their proper place on the sidelines. Yet their own commitment to the system precluded them from allowing the market to fail even as (according to their neo-classical economic theory) their benevolent intervention threatened the system's very vitality.

This crisis of confidence coincided with a series of financial devastating market shocks and bankruptcies. In 1997, the collapse of Asian markets and currencies had highlighted the powerlessness of national government to protect its own in the face of a global financial market and also the limits of economic knowledge as a predictive tool. Since 1995, the Bank of Japan had in fact allowed several Japanese banks to fail such that, as one Japanese commentator put it, "failure of financial institutions has become possible; this is the reverse side of the coin of liberalization" (Yoshii 1998: 207). As a result, Moody's, The American bond rating company, had dramatically downgraded the bonds of most Japanese banks and had even downgraded Japanese government bonds in

what bureaucrats took as a profound embarrassment (Dore 1997). What is important to appreciate here, therefore, is that precisely because knowledge was the source and method, as well as the artifact of these planners' power, economic "realities" were never entirely "outside" their thinking about their own systemic thought and its limits (Riles 2000). For the Payment Systems Division staff, for example, "systemic risk" in the payments system emerged as a result of the contemplation of the system (cf. Riles 2000; Stinchcombe n.d.); it was an effect of their particular approach to the market as an integrated and objectified whole (cf. Douglas and Wildavsky 1982). One could not expect the market participants who did not think in systemic terms to be aware of systemic risk. Conversely, the crisis in the market fostered anxious doubts among these bureaucrats about their own selfhood—their failure to live up to their model of selfless service, objectivity and rationality they professed.

real time

At the time of my fieldwork the Payment Systems Unit staff were planning a change to an entirely new kind of system known as "real time gross settlement" (RTGS or Real Time). As the name suggests, Real Time demanded that market participants cease to extend time to one another to fulfill their commitments—cease to act as if every transaction had a future. In the new system, each transaction would be settled individually, and in full at the moment the order to transfer funds was given (Bank of Japan 1998).[13] By fixing each market transaction as an independent moment that created its own rights and obligations, each transaction would be separated and accounted for in Real Time. From the point of view of the users of Real Time, likewise, the new procedure represented a far more costly and cumbersome way of clearing transactions.

Banks would now have to raise enough funds to pay their counterparties immediately, even though these counterparties might owe them equal or larger sums moments later. Yet to Sato and his colleagues, Real Time was to be the solution to all the anxieties I have described. Henceforth, it would not be necessary to "plan" for systemic crises in the payments system since Real Time would act as a kind of fuse to prevent the failure of one bank from causing the failure of another.

This conversion of planning of one kind of rationality (planning) into another (the Real Time machine) was achieved through a particular collusion of law and technology (cf. Callon 1998b). Real Time required a series of complex computer networks and programs and operators. But it was also a product of the notion that, as an American central banker put it, one could "substitute rules and other mechanisms to control customer risk-taking incentives". (Eisenbeis 1997: 48) The structure of the Division reflected this understanding: One team was devoted to computer systems issues such as the improving speed of data transfer real time clearing system, and another to legal issues such as working out the enforceability of collateralization agreements across borders.

As Sato continually reminded his colleagues, Real Time was a "global trend" (Johnson 1998: 47; cf. Drucker 1998: 77). Since the early 1990s, there had been numerous meetings of central bankers dedicated to the benefits of Real Time,[14] and Sato had first learned about Real Time at these meetings. He enjoyed the "club" of central bankers, as he called it; and was committed to spreading the values and ideas of what some have termed an emerging "epistemic community" of central bankers (Kapstein 1992) to Japan. In this sense, RTGS for him was part of the rationalization project that

he associated with the path to an advanced Western-style economy, like maintaining the proper distance from market participants.

Yet if Sato saw Real Time as one step in the rational *advancement* of government through knowledge, the arguments he and other central bankers deployed for Real Time highlighted theother side--the *powerlessness* of knowledge in the face of its creation: Systemic risk was ultimately incalculable, the proponents of Real Time asserted. [15] The problem was not simply one of computational complexity; some of the "risks" involved—the uncertainty over what law might apply to a particular bank failure or how that law would be interpreted, for example—were altogether unquantifiable.[16]

It is worth pausing for a moment to appreciate just how radical a move Real Time was. From the perspective of self-sustaining systems, one might expect the central bankers' discovery of systemic risk as an opportunity for government, an act of creating further "targets for intervention" (Castel 1991: 288). Anthropologists of ritual are accustomed to demonstrating how awareness of the risks of failure serves as the engine of a ritual's completion, for example (Herzfeld 1997; Keane 1997; Miyazaki 2000). Certainly, then, it would be reasonable to expect that the problem of risk would serve the central bankers who had discovered it as an invitation to a higher order or greater degree of planning. If systemic risk derived from the ability of risk to cross borders, for example, one could imagine regulators calling for a greater degree of coordination, a linkage of national systems. Or attention to the limits of calculability in predicting risk might call for a finer set of studies, a more developed set of economic models.

Yet Real Time represented not a perpetuation, but a kind of self-cannibalization of systemic thought. Where Designated Time was the outcome of a shared understanding

of the system—all the market participants shared an understanding of the circulation of funds through the market and agreed to net out their transactions and clear them at the end of the day—Real Time represented an unwinding of systemic thought, a going back to an earlier moment prior to the shared understanding of system of one for one exchange. Where Designated Time encouraged market participants to monitor one another since the failure of a bank could have consequences for all, Real Time instead encouraged what Sato termed "self responsibility."[17]

In other words, with Real Time, analysis stopped. It actually championed the failure of governmentality as it transformed a broad concept of systemic "risk" and accompanying systems and plans into millions of discrete and mundane units of rights and obligations.[18] Henceforth there would be no need for planning and hence, as I was repeatedly told, no risk. The move to Real Time would be the final act of policy that negated policy itself. It would resolve the problem entirely, provide absolute certainty *now*—in the now of each present moment of Real Time. As a regulatory strategy, therefore, "real time" was no time at all.

Yet so far I have not adequately captured Sato's motivation for this project. He confided that his greatest interest concerned the impact the change to Real Time might have on people in the market and on the relationship between market participants and the central bank. Sato reflected in vivid detail on how, under Designated Time, bankers could just sit in their offices smoking away until the time of settlement at the end of the day. Under the new system, however, every second would count, and they would be forced to become far more alert, efficient, and nimble in their thinking.

Sato was particularly interested in the changes Real Time would bring for what he called "the location of power in the market."[19] He had an almost utopian vision of the devolution of bank power that would accompany the end of knowledge.[20] He actively encouraged market participants to develop private solutions to clearing such as opening accounts with one another's banks to decrease their reliance on the central bank altogether. "Sometimes they say these issues should not be fixed as a market practice but through guidelines from the BOJ. But we refuse. We say, we're going to prepare a very flat table. And what kinds of plates and saucers you put on it is your own work."

In *Economy and Society,* Max Weber alludes to central banks' uses of procedural policies to assure its own control over the market as an example of what he terms domination (1966: 325). Yet Real Time was powerful in a different way. As Sato suggested, Real Time would at last make it possible for the central bank to withdraw from the system and therefore to exercise the power of "market discipline" precisely by tying its own hands. For Sato, moreover, Real Time meant that by replacing himself with a machine he could finally conform to his own model of rationality. By ending knowledge altogether he imagined that he could end the intimacy of the government as market creator and the governed as market participant. Anxious self-reflexive critique of his own place in the system would now become superfluous

needs

As planning for the move to Real Time reached its final stages, an executive of one of Japan's largest banks reflected on the status of the new payment system as follows:

The biggest problem is the central bank's role to provide liquidity during the daytime. They have 3 trillion yen in all the accounts put together. But 30 trillion yen is needed to keep this system going.

What emerged in the aftermath of the failure of system, then, was a *need*. Market participants needed liquidity to meet their obligations in Real Time.[21] This need also highlighted the difficulties the Bank of Japan would have to meet this need. It caused people like this executive to become aware of the Bank as an actor with needs of its own.

The ultimate effect of the Real Time project, then, was a move from an awareness of risk to an awareness of liquidity. A risk of future crisis was replaced with a present need. This emergent need also raised a new question to be answered, a new problem to be solved, a new space for the central bank to act: "We are prepared to supply intra-day overdraft to support RTGS," Sato repeatedly reminded me with a mixture of gravity and triumph. The Bank of Japan would loan funds to the users of its payment system so that they could meet their obligations to settle in Real Time.

In this respect, Sato's description of his task in the aftermath of Real Time evoked for me the "remaining close at hand" that I observed among Japanese mothers and children. The mothers I knew rarely commented on their role or even gave explicit advice to their children. They were far more focused on fulfilling concrete needs—providing the proper combination of vegetables at dinner, for example.[22] Like the Japanese mother described by Ueno, we might say, the Bank emerged as a silent provider of needs that drew its strength from a kind of explicit weakness coupled with the performance of awesome feats of providing the impossible but acutely necessary (here, liquidity) at the moment of need.

What was most difficult for me to understand, given all the bravado surrounding the rationalization of the system and the utopian vision of the devolution of government power it entailed, was that Sato ultimately expected the system to change very little as a result of the move to Real Time. "We decided to let the market participants go wherever they like," he said, "but we think they will make the right choices, they will settle in an acceptable zone." To my suggestion that once cut loose, the banks might go too far, Sato responded with skepticism. He could always create incentives for them to come back to the central bank's clearing system. And if nothing else, they would clear through the central bank some of the time because they needed bank notes, he surmised. The reference to actual physical bank notes was jarring in a world of electronic transfers and numbers on balance sheets. In fact, it was the first time in the course of my fieldwork that I had been made aware of how physical money entered the system. For the first time, Sato drew attention to very concrete sources and manifestations of governmental power over the market that remained inaccessible from the point of view of the logic of systems.

This returns us to the wider question: What kind of governing emerges after the failure of knowledge? How can anthropologists, who as Sahlins points out, work within the same intellectual traditions as the neoclassical economists I have described, apprehend what is indescribable within the existing vocabulary of fathers and systems—what, indeed, garners its power precisely from its inaccessibility to systemic thought? Put another way, what is the difference between the Foucauldian father and the Japanese mother, as I have elucidated her here?

The governor as father foreshadows modern governmentality in the way he enjoys an overarching perspective on the activities of the household—on the way he governs through knowledge. This is possible because for the father the world is already emerging as two sides—father and household, governor and governed.

The late modern knowledge that characterizes both the payments system I have described and the social theory of markets in which it is situated represent the flowering of this logic of two sides. We have traced the work that the two sides of modern knowledge—the triumphant and terrifying sides—do for both. We have seen how, in the case of the payments system, the institutions this knowledge propagated were imagined also to have two sides of their own—the market creators and the market participants—hence the problem of how to keep the two sides neatly separated. And we have seen how, in the discourse of risk and crisis, it became possible to imagine knowledge (plans, systems) and institutions as sides of one another such that a crisis in one was the cause and the effect of a crisis in the other. This is the engine of what Teubner and others have called the self-reflexive system; it was also the source of Sato's personal anxiety about his responsibility to make things rational.

In contrast, the mothers and sons I knew were intimate in a way that did not require, indeed was impervious to, articulation. They did not verbalize commitment to one another as Euro-American mothers and children routinely express "love". They constantly made demands on one another but these demands went unnoticed. Indeed, the very intimacy of the relationship—the impossibility of thinking of mothers and sons as two sides—obviated the entire discourse and practices of relationality that are so central to other dimensions of Japanese sociality. In a society in which relations are marked and

affirmed at regular intervals by exchanges of greeting cards and gifts, mothers and sons did not give each other gifts or send each other cards. Where most social relationships were often tricky to negotiate, such that one's actions could easily become the subject of others' critique, mothers and sons tolerated a seemingly infinite amount of violence and hostility from one another. In other words, relations between mothers and sons did not become the subject of their explicit contemplation—either affirmation or critique.[23] To put the point in the context of the theoretical problems of this paper, it would be impossible for mothers and sons to oscillate between amazement and fear of their relationship as we saw that central bankers oscillated between amazement and fear of the market as their creation, or again journalistic accounts of abstract and generalized relations of mothers and sons did. Mother and Son were not a self-sustaining system of two sides vulnerable to being destroyed and hence open to being rebuilt again. Hence their providing for one another's needs could coexist quite comfortably with their sincere beliefs and constant assertions that they had no relationship at all.

What is most difficult to grasp about the emergence of needs in the payment system, and Sato's satisfaction of those needs by providing liquidity, then, is that the logic of needs did not posit governor and governed as two sides.[24] For Sato, as for his clients, providing liquidity simply not become the subject of contemplation or objectification.[25] Hence it coexisted comfortably with his models of the system and his own ideas of the position of the rational subject, and was also impervious to critique.[26]

This example of the struggle of self-imagined architects of the capitalist economy with the concrete puzzles through which they confront the problem of how to rule after the failure of knowledge is evocative, I think, for the current anthropological moment.

Like the Bank of Japan bureaucrats I have described, our relationship to our knowledge oscillates between Foucauldian pastoralism, in which everything is known to ourselves as good natured governor, and an awareness that the unintended effects of our practices will come back to haunt us. We too live with the dual consequences of our objectifications.

To suggest that there are parallels between what "we" do and what "they" do, then, would be far too weak a statement. I have been describing fieldwork in our own categories. This is in part a consequence of the shifting balance of power between anthropologist and informant: in dictating the terms of our encounters as they did, my friends at the Bank of Japan were subtly but forcefully insisting on their equal place in the process of knowledge production. We could compare information and analyses as equal experts, but I was not to analyze them (in the way they imagine Westerners routinely to do).

This creates a problem, however, for how to create the distance that makes anthropological knowledge work. Let me put this another way. The material I have presented today is very much a part of our world; and yet it is also highly exotic. Unlike the exoticism that fueled earlier generations of anthropology, however, payment systems do not seem to invite anthropological reflection. They hide themselves not by their distance from our world, as the old exotics did, but by denying us the cues or hooks that engage our analytical imagination. They do not present themselves as "another side" to our problems. This is the hallmark of intimacy. As one Japanese son and anthropologist put it, upon hearing about my research, "the Mother is everywhere. There is nothing to say." Perhaps, it is time for an anthropology of the mundane. We need to begin to ask, what does it mean for a subject to engage our imagination or to remain inaccessible to it?

The example of this unnoticed fulfillment of needs after the failure of knowledge suggests that at this post-critical moment, places of non-interest, in which the subject precisely cannot become an object of reflection in existing terms, are by their nature difficult, but also full of promise.

Notes

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[1] In a recent book, for example, Lee Clarke has drawn attention to what he describes as "fantasy documents"—institutional documents that ostensibly plan for unquantifiable risks or extraordinary disasters, but whose real purpose is to serve as "rationality badges" that assure the institution, the public, and its various constituencies that in the event of a certain disaster, the institution would know how to act (Clarke 1999).

[2] Sahlins' point is neatly exemplified in traditional justifications for the liberal state grounded in a social contract to provide for basic needs (e.g. Walzer 1984).

[3] In the Weberian tradition, for example, it is "formal rationality" (Weber 1966) that enables the successful government of the market. Anthropologists have largely accepted this equation of government with knowledge and have therefore focused attention on the kind of knowledge at issue in acts of planning—the categories bureaucrats deploy (e.g. Herzfeld 1992; Hertzog 1999).

[4] As Robert Eisenbeis, director of research at the Federal Reserve in Atlanta put it:

> [S]ystems, instruments, and markets are evolving faster than the political entities can bring their various rules and regulations into harmony despite the many initiatives that have been undertaken. (Eisenbeis 1997: 50)

[5] There are calls for "new regulatory paradigms" in which the payments functions of central banks would be privatized, and the national boundaries of regulatory systems would be reimagined. In particular, during the period of my fieldwork, leading international banks were planning their own private settlement bank outside the scope of central bank authority altogether. This is a highly significant political development since central banks use the interest rate they charge on intraday credit to members to set monetary policy (Anonymous 1997).

[6] Bank executives often serve as semi-public figures; they represent industry on government committees and participate in drafting regulations and making policies. In this role they are expected to speak for industry as a whole and work together with bureaucrats on the larger systemic issues surrounding the market.

[7] Until recently, Japanese bureaucrats usually retired to pre-arranged positions at the titular head of private corporations from which they continued to serve as conduits between government and industry (Calder 1989).

[8] For the market, these conversations were so crucial that each bank or securities firm selected and trained particular employees with the sole responsibility of meeting with the employees of a particular ministry or the Bank of Japan on both a formal and informal basis (Schwartz 1998: 187).

[9] BOJ NET transfers funds and Japanese Government Bonds (JGB) from the accounts of 707 member institutions (as of 1998). It serves as a direct payment transfer system for large "wholesale" fund transfers and also as the final source of clearing for fund transfers between participants in the domestic retail payment system

(Zengin System) administered by the Japanese Bankers Association (Zenginkyo) as well as the Foreign Exchange Clearing System administered by the Tokyo Bankers Association. The following diagram expresses the mechanics of clearing in the foreign exchange market:

//Insert Figure 2 here//

[10] Unlike the middle-class American family defined by "horizontal intimacy founded on the romantic sexual intimacy of one man and one woman" (Fineman 1995: 145), as Nakane puts it, "the structure of the family is based on a central core, mother and children, to which husband (father) attaches" (Nakane 1995: 132).

[11] As Kathleen Uno has pointed out (Uno 1995), the image of the Japanese mother as devoted entirely to the education of her children obscures the variety of actual practices of motherhood in Japan including, in particular those of rural, working class and employed women.

[12] In November 1996, the Payments Systems Division circulated a document to member banks and government ministries. The document was a crucial building block in the creation of the policy, from the division members' point of view. The document focused on three problems. The first was "systemic risk" (shisutemikku risuku):

When there is an insufficient balance after netting it is unclear what particular transaction caused this problem because the payments are approached as a sum total. The assumption under this system is that all the banks that are expected to settle in a given day can meet their

obligations. If even one bank cannot make its payments, it is possible that the entire system would be halted (Bank of Japan 1996: 20-21).

A second problem concerned the impact of DTNS on the "self-responsibility" of market participants:

> When Bank A instructs BOJ to pay Bank B at 1:00 Bank B receives a notice that it is to receive a payment. It treats this as an assurance and may instruct BOJ to transfer those funds to another bank at 1:00. If [Bank A's] payment does not come through, there will be an insufficiency of funds [to cover the next transaction]. The assumption B makes is [in effect] a credit it gives A but it is not recognized or managed as a credit. (Bank of Japan 1996: 21)

The document also raised the issue of the international ramifications of Japan's continued reliance on what it depicted as an outmoded system:

> The world's national central banks, aiming at the reduction of systemic risk, are adopting RTGS as their own settlement systems….Unless we change our current reliance on fixed time settlement, the Japanese Yen will be left behind (Bank of Japan 1996: 21).

[13] RTGS went into operation on January 4, 2001.

[14] That is to say that central bankers were actively promoting RTGS as a global trend.

> The most important forum for such meetings has been the Bank for International Settlements. The following chart produced for the final report of one such meeting of central bankers makes the point in graphic terms:

//Insert Figure 3 here//

RTGS was first implemented by the American Federal Reserve in the aftermath of the many bank failures of the 1980s.

[15] As Laura Hein (1994) has shown, the application of economic models to further a goal of economic growth is a progressive position in Japan with roots in post-war anti-imperialism; hence the moral empowerment these bureaucrats find in their devotion to bureaucratic practice.

[16] As one central banker put it:

> At present, concern about such clearing and settlement systems stems from the sheer size of the potential losses rather than from a true understanding of well-articulated scenarios on how the risks would be played out. …Measuring and monitoring these interrelated exposures across the world, across different markets and time zones, is a truly daunting modeling and monitoring problem. It is made even more so by the dynamic and continual evolution of new instruments and markets (Eisenbeis 1997: 46-48).

In this sense, Real Time responded to the general distrust of bureaucrats' competence to tame the beast of the market through planning and regulation. Indeed, Real Time and the policy concerning contact with outsiders represented similar strategies of "risk minimization", ways of isolating off future dangers to themselves and the market rather than strategies of innovation (cf. Pempel & Muramatsu 1995: 71). Japanese bureaucrats had overcome devastating economic crises and popular distrust in economic planning before with a combination of faith in economic planning and intimate

association with the needs of market participants. This time, however, they drew attention to the limits of their own analytical agency.

[17] by requiring every market participant to post collateral for the full value of their transactions in advance.

Most economists looked askance on Real Time; to them, the question of who was initially to blame for systemic risk was the wrong question. Risk was something that could not help but be shared among all participants in the system. Formal economic modeling suggested that there were many benefits to net settlement over RTGS: Net settlement reduces "gridlock"—the possibility that each bank could not meet its demands until it received a payment from the other—creates credit constraints, and avoids trading delays (e.g. Kahn, Andrews & Roberds 1999; Angelini 1996). For precisely this reason, economists were deeply divided about the wisdom of RTGS (e.g. Vanhoose 1991).

[18] The Division's understanding of the natures and uses of law harked back to a classical mode of legal reasoning increasingly prevalent in the international financial sector. In this understanding, "rights" were ontologically coherent units independent of the institutions that enforced them. They were imagined to "vest" at the precise place and time in which the events that brought them into being occurred. In this case, the transfer of funds from one account to another in "real time" created a right to those funds held by the transferee at exactly the split second of the book entry.

[19] The advent of Real Time, for example, would eliminate a special class of money brokers known as "Tanshi," to whom the BOJ gave a monopoly in certain kinds of payments transactions in exchange for allowing the Bank to use them to manipulate short-term lending rates. Real Time meant the loss of an important source of leverage for the bank (Sato 1998).

[20] The initial chaos of Real Time would eventually give way to a deeper level of order guided by "market practice." Under RTGS, in which there is no settlement time, one may imagine that financial institutions' intraday liquidity may be destabilized because settlements are performed in no particular order during the period of time when the central bank's settlement service is available. … However, in practice, among market participants, a practice of aiming at a fixed period of time for particular kinds of transactions that are the objects of settlement can evolve and a certain order can be created. (For example, in the United States, settlements for federal funds transactions are concentrated during certain periods in the morning and the evening, while settlements for repo transactions involving Treasury bonds are concentrated during a certain period of time in the morning). Even if settlements are concentrated during a certain period of time the merits of RTGS will not be lost at all because [under RTGS] net balances are not calculated or settled at a particular time as in fixed time net settlement (Bank of Japan 1996: 10).

[21] JGB are traded on a "back to back" basis—each JGB is bought and sold 6 or 7 times each day. In a net system, one could trade freely and settle the transactions once

at the end of the day by determining at that point who the owner should be. In contrast, with RTGS, the JGB would have to move from one account to the next after each sale. Hence a purchaser would have to wait for its purchase to be settled or substitute another JGB in its possession, before it could complete the sale to a third party. Market participants complained that they would have difficulty locating the cash or JGB the system would require. One member of the Division drew the problem out for me as follows:

//Insert Figure 4 here//

The author of this diagram first drew the upper portion to depict a series of transactions in the market. Then he suggested that we "pull out" one singular transaction. When we did so, he stated, one could see a chain of sequenced transactions involving a singular JGB.

[22] Dorinne Kondo (1990) argues that the Japanese mother garners her strength not by making rules but by serving as a kind of model of self-sacrifice that inspires self-monitoring on the part of household members such that overt reproach or punishment becomes superfluous (cf. Allison 1996).

[23] This was the point of Nakane's critique of the application of the analytical categories of structural functional kinship theory to Japan.

[24] Although it would be possible for us, using our own systemic models, to imagine those needs as instantiating two sides (providor and providee) as the exchange literature has done, this analysis would not come to terms with the fact that for Sato,

providing liquidity did not implicate him in the new system—his role did become an object of reflection.

The association of the Bank of Japan with motherhood fits nicely with this view that after the destruction of relationality (analytical and personal) relations must be created again. One starts in the state of nature, discovers needs, nurtures them and in the process socializes the needy (Strathern 1992: 177).

[25] Contrast this position with the stance of the farmers described by Kelly who "sought to transform their daily lives through a language of rationalization without flatly denying the contours of the region's past, and have tried to keep alive certain of those traditions without falling prey to a cloying sentimentality (Kelly 1986: 614). For these farmers, there is an explicit struggle between rationality and tradition. In contrast, for the central bankers I have described, there is no struggle at the level of ideology—rationality is the clear winner.

[26] Consider, for example, a procedure devised by the Payment Systems Division staff for dealing with liquidity problems involving JGB. In this system, the JGB buyer's need for cash to pay the settler would be resolved in the following way: a buyer of JGB would "simultaneously" receive the JGB from the seller, pledge it to the BOJ as collateral for an intraday overdraft, receive the overdraft, and using these funds, pay the seller of the JGB as depicted in the diagram below (Bank of Japan 1998: 2):

//Insert Figure 5 here//

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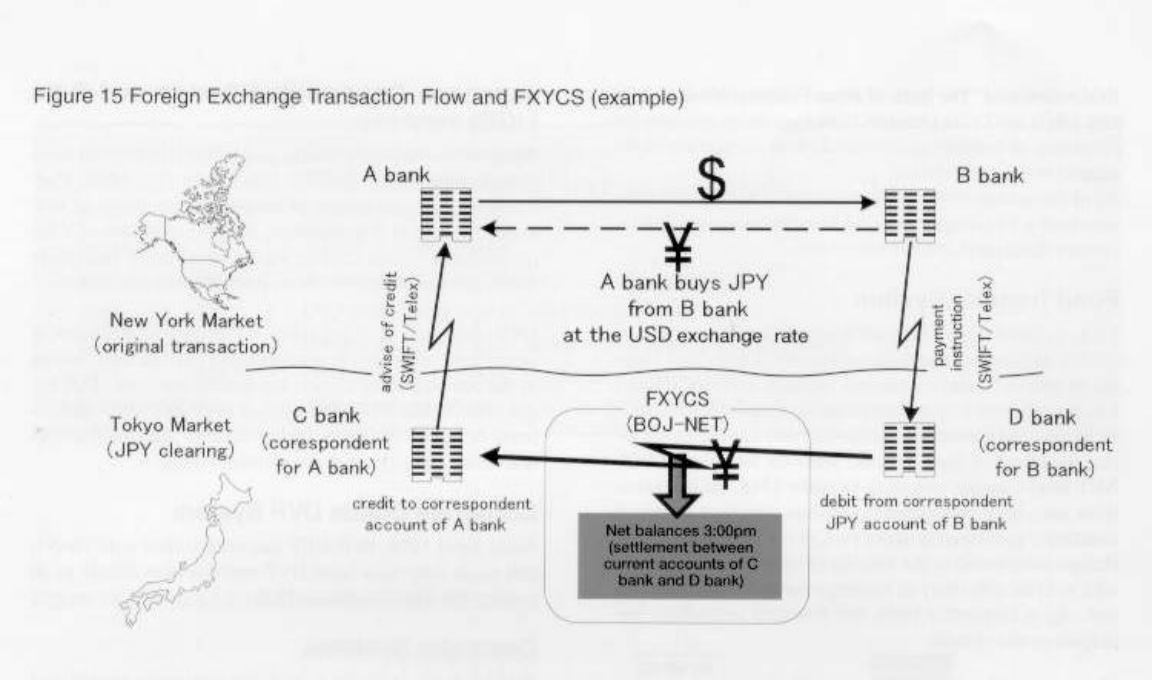

Figure 2. Foreign Exchange Transaction Flow and FXYCS (Japanese Bankers Association 2000: 9).

TABLE 1
Features of Selected Funds Transfer Systems

Country	System (Planned)	Type	Date	Central Bank Daylight Credit
Belgium	ELLIPS	RTGS	1996	Yes
Canada	IIPS	Net	1976	
	(LVTS)	Net	1997	
France	SAGITTAIRE	Net	1984	
	(TBF)	RTGS	1997	Yes
Germany	EIL-ZV	RTGS	1987	Yes
	EAF2	Net	1996	
Italy	BISS	RTGS	1989	
	(BI-REAL)	RTGS	1997	Yes
	ME	Net	1989	
	SIPS	Net	1989	
Japan	BOJ-NET	Net+RTGS	1988	No
	FEYCS	Net	1989	
Netherlands	FA	RTGS+Net	1985	
	(TOP)	(RTGS)	1997	Yes
Sweden	RIX	RTGS	1986	Yes
Switzerland	SIC	RTGS	1987	No
United Kingdom	CHAPS	RTGS	1984	Yes
United States	CHIPS	Net	1970	No
	Fedwire	RTGS	1918	Yes

Source: BIS (1997b).

Figure 3 Features of Selected Funds Transfer Systems

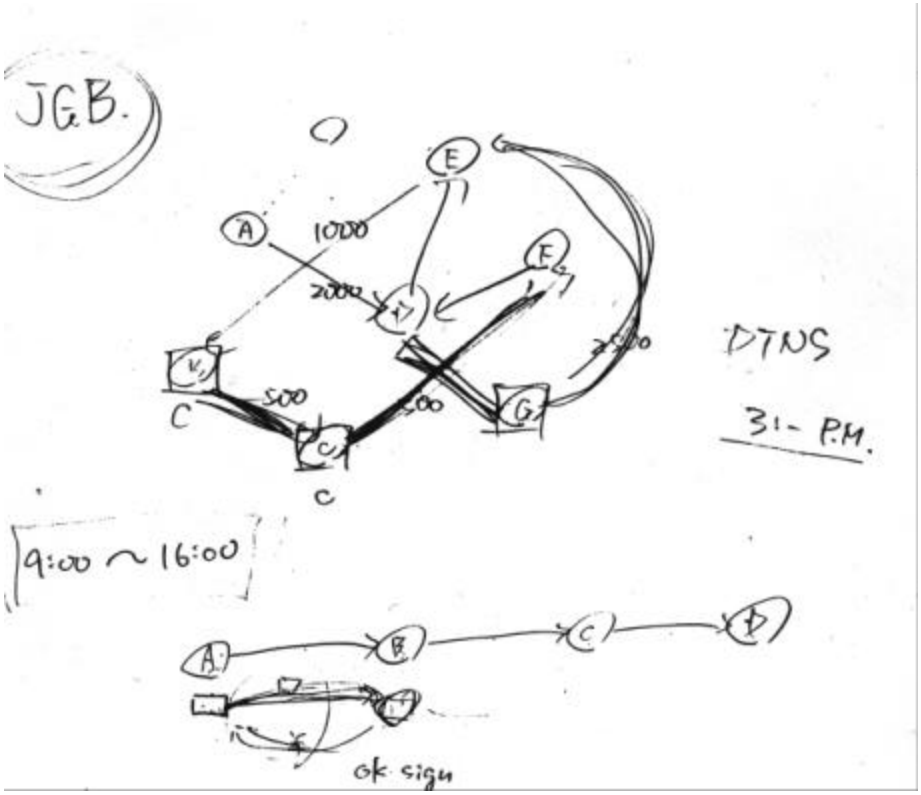

Figure 4.

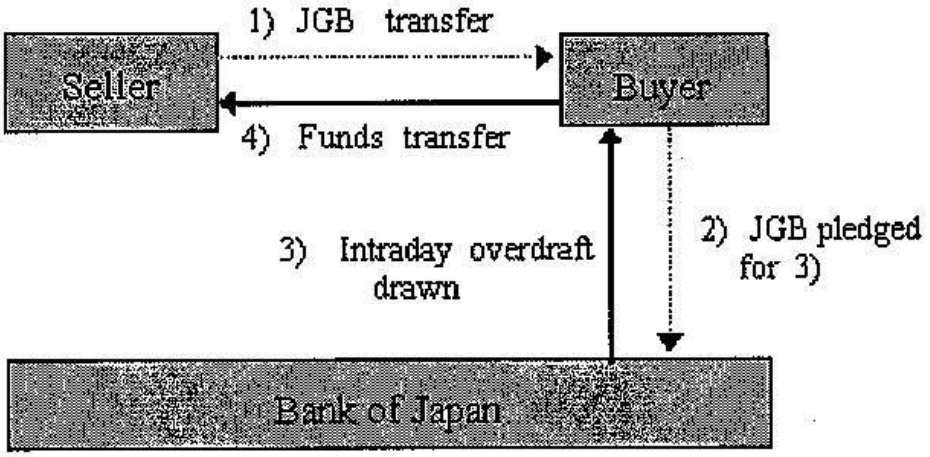

Figure 5.