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Hyperembedded demand and uneven innovation: female labour in a male-dominated service industry

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In service industries, demand for a service is inseparable from demand for the kind of people seen as suitable for providing the service. The fusion of service and service provider implies that using a new kind of person to provide a service is a true innovation, and one that may meet resistance to the extent that it violates entrenched expectations of who providers should be.

One important example is women providing services once monopolised by men. This is a large-scale innovation, involving many people across many industries, part of the massive movement of women into paid employment that was one of the twentieth century's major labour-force trends. The innovation was a very uneven one, both within and between industries: sometimes men still control a kind of service, sometimes women have entered it but have been 'resegregated' into particular jobs defined or redefined as suitable for women (Reskin and Roos, 1990), sometimes women do jobs defined as men's work. To account for this variability I draw on one industry, the private security industry in Toronto, which usefully exemplifies overall trends. Security work was once done by men only, is still widely seen as work mostly done by and suited to men (e.g. Macan *et al.*, 1994), and is still done mainly by men in Toronto (Erickson, 1996). Though men dominate overall, the role of women varies widely from one part of security to another: women are sometimes absent, sometimes in jobs redefined as suitable for women, and sometimes in jobs very much defined as men's work.

I trace such variability of innovation to the complexity of the relational matrix within which innovation is embedded. The matrix includes several kinds of key actors: employers, service providers, potential employees, clients, and targets to whom service work is directed on behalf of clients. In reviewing research on gender segregation at work, Reskin (1993) calls for work on 'all labour market actors', noting that research often looks only at the supply side (employees and potential employees) or the demand side (employers) and rarely looks at clients. The work reported here is novel in considering clients, and in adding the very much neglected role of targets, and above all in looking at the interconnections among all these actors. Part

of the complexity and impact of the relational matrix lies in the actors involved, and in particular in whether or not there are targets for a service, since the presence of targets sets in motion certain processes favouring innovation at a greater rate than found in parts of the industry not in contact with service targets. Another part of the complexity and impact of the relational matrix lies in the fact that it is a connected matrix, with each part affected by what goes on in others. Events in just one part may block innovation in the rest, or, may trigger a spiral positive feedback fostering innovation.

Innovation varies with both real and perceived gender distributions and gender homophily within the matrix. Real gender distributions for key kinds of actors either limit or enable innovations. For example, employers can use female labour in innovative ways only to the extent that they have female service providers on hand or can recruit them from potential employees. Real homophily also shapes innovation, for example limiting it to the extent that predominantly male employers feel more comfortable with male employees or enhancing it to the extent that the growing number of female clients prove more receptive to female service providers. Previous research has begun work on homophily and noted both that it has effects and that these are not universal (Reskin, 1993); responses to men and women service providers seem to involve not only the responder's gender but other factors such as expectations about the appropriate gender of the provider of a particular service (Fischer *et al.*, 1997). The present study both extends this work and adds a relatively novel aspect, the vital importance of perceived gender distributions and gender homophily. For example, employers will be more eager to get female service providers if employers believe that women clients are becoming more numerous and prefer to be served by women; employer beliefs will thus open up new jobs for women even if the employers are not entirely correct.

Previous arguments have discussed how various kinds of economic processes are embedded in social relationships (Granovetter, 1985) or in networks of ties among a few kinds of key actors such as garment companies and firms which sew for them (Uzzi, 1996). But innovation as discussed in this chapter is more than merely embedded in a few kinds of ties. Since innovation depends on the complex feedbacks among different types of things – interconnected actors in the relational matrix, plus gender distributions and gender homophily real and perceived – it is hyperembedded. Hyperembedded demand for female labour generates highly variable demand, depending on local variations in the many interrelated demand factors. Thus there is no such thing as 'the' demand for women in security, but instead many different micro-climates of demand. Industries differ in the complexity and variability of their relational matrices, and hence in the extent to which they generate uneven demand for innovative forms of labour. I will end the chapter with some speculations about industry variations and their sources.

Women as innovation

The Toronto City directories of the nineteenth century listed some individuals in security occupations (watchmen) and from 1877 onward included advertisements for security firms. Wherever security personnel were identified as men or women, they were always men. However, by 1971 women were 7 per cent of the guards in Canada and 17 per cent of the investigators, and by 1991 they were 24 per cent of guards and 23 per cent of investigators (Campbell and Reingold, 1994). Thus it is innovative to use women at all in work that was so long done only by men and is still done mostly by men. Moreover, women service providers may change the nature of the service. Many industry informants (including men and women, employers and employees) claim that men and women do their jobs somewhat differently. The differences informants claim to see are in line with standard accounts of both gender socialisation and gender stereotypes in our society; for example, women are thought to be better at dealing with people, while men are thought to be stronger and more aggressive. To the extent that these perceptions are accurate, women do service work differently while 'doing gender' (West and Zimmerman, 1987). At the same time, they do service work in ways more consistent with the changing self-definition of the industry. Security leaders once defined their industry as protective services and emphasised masculinised virtues such as the physical strength, courage, and aggression of guards or investigators, or the physical strength and technical skills of alarm personnel. But more recently managers and owners give more weight to security as a service and emphasise the patience, courtesy, and other virtues of the service provider. These virtues overlap considerably with the stereotypical virtues of women, who in fact do the majority of service provision in lower-status industries other than security. Thus the growing use of women in security may ultimately be an adaptive innovation, bringing greater people skills into the security labour force.

The use of women service providers is a very unevenly distributed innovation. Use varies between firms, many having no women outside of (stereotypically feminine) clerical jobs. In 1994 I supervised a telephone survey of 208 security firms listed in the Yellow Pages, with a response rate of 94 per cent. Twenty-nine per cent reported that they had no women employees, and 60 per cent reported that they had no women in non-clerical jobs. Use varies by hierarchical level, with women more common at the bottom than the top. An earlier survey of people in the industry (partially reported in Erickson, 1996) found that women were 30 per cent of employees and supervisors but only 9 per cent of managers and 6 per cent of owners. Use varies by sector. In following up the 1996 telephone survey I found that hardware sector employees were divided among better jobs almost exclusively dominated by men and worse jobs increasingly held by women. The better job, alarm installation, was defined as suitable for men (because of their supposedly greater strength and technical skill) and had better pay and working conditions such as autonomy (Erickson, 1993). The worse job, alarm monitoring, was

defined as suitable for women (because it is office work calling for great patience in dealing with clients on the telephone). Though alarm monitors were once all men, the job is being redefined as women's work as more and more women do it. This sector of security thus exemplifies the standard description of 'resegregation' following the entry of women into men's work (Reskin and Roos, 1990). But the guard and investigation sector of the industry shows an entirely different pattern. Though investigation work is the better job (better paid, more autonomous, and more prestigious) the proportion of women investigators is at least as high as the proportion of women guards. Instead of varying by type of job, the use of women varies by the type of site, with women guards or investigators more often sent to work in settings where there are many women present.

Since I wanted to explore some complex and little-studied aspects of the entry of women into male-dominated labour markets, I conducted an intensive qualitative follow-up to the above-mentioned industry telephone survey of 1994. The two graduate students who conducted the phone survey (one male, Slobodan Drakulic, and one female, Patricia Albanese) identified firms that reported at least one woman in work at least somewhat innovative, that is, jobs other than clerical ones. They then sought out and interviewed both men and women in each of the major kinds of security work: owners, managers, alarm installers, alarm monitors, alarm sellers, guards, and investigators. A hundred and three respondents from thirty-three companies gave detailed discussions of work and gender in security. Since this was deliberately not a random sample, no inferential statistics will be reported. The goal is to use rich qualitative data to generate theory, more than to test particular propositions.

Matrices of multiple relevant types of actors

Discussions of demand often focus on ties among actors of one kind (such as the consumer networks through which demand for a new innovation diffuses) or between actors of two kinds (such as ties between producers and clients). But demand is not just embedded in ties among a limited set of actors; it is hyperembedded in matrices of ties among actors of several kinds. The matrix as a whole matters in at least two ways. First, a blockage in one part of the matrix can block innovation throughout it; or positive experience with innovation in one part can trigger related, supportive changes throughout. Both negative and positive network feedback spirals are possible, depending on the features of particular matrices as discussed below. Thus innovation will be necessarily uneven, self-reinforcing in some networks and blocked in others, within the 'same' industry. Second, actors within a matrix make decisions in terms of what they think is going on in all the other parts of the matrix. For example, a manager deciding whether to send a man or woman to guard a construction site will consider what men and women are already employed, whether more could be recruited, what the client would

think of a man or woman guard, and how potential troublemakers at the site will react to a male or female guard. The complexity of these calculations, and the variable nature of their inputs, again contribute to the heterogeneity of innovation.

There are several major types of actors in the Toronto security industry, as classified for the purposes of this chapter. Employers include both company owners and managers who have some responsibility for recruiting and assigning employees, and who thus make critical decisions about whether or not to use female labour at all or to use it in especially innovative ways. Providers directly provide services for clients. They guard premises, investigate problems, and sell, design, repair, install, or monitor security systems. In small firms, owners often spend part of their time as service providers themselves, so some spoke both as employers and as providers. Similarly, some managers who hire and fire also do some of the same work their employees do. We encouraged people to report on any kind of work they did. Managers are sometimes employers and sometimes do the work of providers, but do not overlap fully with either of these other groups, and deserve separate attention as a distinct and high-status group of employees. Clients buy and use security services. Targets are people other than clients toward whom services are aimed on the client's behalf. For example, a guard at a shopping mall has the mall management for a client, but also has a variety of targets: potential thieves to watch for, delinquents to eject, peaceful customers to assist. As will turn out to be critical in this analysis, some providers deal with targets directly, as the mall guard does, while other providers have only indirect and hypothetical targets. People working in the hardware sector provide physical security systems designed to detect and ward off intruders; no one may ever intrude, and even if they do, the hardware service provider will not encounter them. Thus relations between providers and targets are seen as critical in the guard and investigation sector but as a non-issue in the hardware sector. The presence or absence of this piece of the matrix has pivotal consequences for innovation, and is a major reason for the striking difference between the two sectors in the use of female labour. Finally, potential employees are the potential labour pool from whom new people might be recruited.

All relations among and between these kinds of actors are important parts of the relational matrix for innovation, but some of them are beyond the scope of my research. Since only people in the security industry were interviewed, I have direct information only about (1) employers and providers as reported by both, and (2) links between employers and providers on the one hand and clients, targets, and potential employers on the other, as reported from the industry side only. I can only conjecture about ties among clients, targets, and potential employees, though these are obviously important topics for future research.

Multiple processes and distributions

Innovation is hyperembedded not only in a complex matrix of ties among multiple actors, but in the distribution of women in each kind of actor role and in a complex set of related processes. Sometimes gender distribution can affect gender innovation quite directly through a simple process of limited supply. For example, if there are very few women potential employees with the electronic and construction skills needed for alarm installation, this alone can block the innovative use of women installers.

But other effects of gender distribution are more subtle. What matters is not only the actual gender distribution but the distribution as perceived by key actors. For example, women potential employees are more likely to seek or accept security jobs if they think there already are women in those jobs, which signals that the jobs are attainable and will include fellow women as potential supporters. Since some security jobs have more publicly visible gender distributions than others, their real gender distribution has stronger impacts on potential employees.

Another relevant process is homophily, or the tendency to feel more attracted to and comfortable with people who are similar in salient respects. Gender is always salient to some degree at work (Ridgeway, 1997) and social relations are more common and more comfortable between co-workers of the same gender (e.g. Ibarra, 1997). However, homophily does not rule all; people sometimes value service provided by someone of the same gender more, and may prefer to interact with a server of the same gender, especially if the interactions will be repeated, but they may also prefer service or be less critical of service provided by someone of the gender thought to be appropriate to that service (Fischer *et al.*, 1997). Thus we must consider whether women providers get more positive responses from women clients, whether men managers feel closer to men employee providers, and so on. To the extent that homophily affects work interactions and judgements, the innovative use of female labour will be more welcomed and successful where women workers deal with a higher proportion of fellow women among all the kinds of actors they must deal with.

Again perception matters as much as reality: important decisions get made in terms of what key actors believe about gender homophily among other actors. For example, employers often send women guards to sites with a high proportion of women, and men guards to sites with a high proportion of men, because employers believe that each gender can deal best with its own.

The planned itinerary

To explore the complex webs of ties among the several kinds of actors implicated in security work, I will begin with the nucleus of actors directly involved in the service contract: employers, providers, and clients. First I will discuss the simpler case, the hardware sector, where there are no direct targets. I will

describe the kinds of work done, the extent of innovative use of female labour as direct service providers, and how this is rooted in the web of ties among key actors. Then I will move to the guard and investigator sector to explain how the dynamics in matrices change when targets are also included among the actors. Then I will discuss managers in both sectors, since there is little difference between the sectors for managers but managers differ from more direct service providers at employee level such as monitors or guards. Finally I will move on to discuss potential employees and the impact of the rest of the matrix on recruitment from this pool of potential labour.

Employers, providers, and clients in the hardware sector

In the hardware sector the main kinds of providers are installers, monitors, and sellers. Installers work with a wide variety of security systems: home alarms, card access control systems, video surveillance systems, etc. Simpler systems do not require much strength or skill to install, and anyone (including women) can easily learn to install them. Installing the more complex systems calls for knowledge of some combination of electronics, computer hardware or software, cameras, and construction; installation may also call for some strength, as in carrying a heavy camera up a ladder. Since the installer works at the client's premises and explains the system to the client, installation work always requires good people skills and the ability to work autonomously. Thus the job includes traits our society sees as stereotypically masculine and feminine. When the more sophisticated systems are set off, they send electronic signals to a station where monitors will then check to see whether the alarm is a false alarm (as is true over 90 per cent of the time) and then either help to reset the system (if the alarm was false) or notify the appropriate emergency service such as the police. Monitors need to understand system technicalities well enough to advise clients over the phone, and also need to be patient and courteous with clients who are often demanding or rude. Thus this job also calls for a mix of feminised and masculinised traits. Sellers go to a client's home or place of business, explain what his or her company's systems can do and how to work them, and negotiate prices for services. Again this calls for both 'male' technical sophistication and bargaining and 'female' people skills.

Though the actual work in these three jobs is not overwhelmingly better suited to the stereotypical man or woman, the jobs are still strongly gendered. Almost all installers were men; we heard of half a dozen women installers, but could find only one woman who had worked as an installer recently and a couple who had done so in the past. Most sellers are men, though women are making inroads, and most monitors are women. As is often true, the jobs done by men or women are seen as more suitable for men or women respectively. Employers and providers held similar views: they reported that installation was either equally suitable for men and women ($n = 8$) or more suitable, sometimes much more suitable, for men ($n = 8$) while monitoring was either

equally suitable ($n = 4$) or more suited to women ($n = 4$). The perceptions of monitors are especially interesting in light of the historical fact that all nineteenth and early twentieth-century monitors in Toronto were men: prevailing ideas about men's and women's work are mutable.

Thus the innovative use of female labour is quite low in the hardware sector. Women have entered the sector, but have largely been directed into lower-status, lower-waged, office-based monitoring work which has been redefined as women's work. One manager described monitoring stations as 'pink-collar ghettos'. Men have retained control of virtually all the installation work and most of the selling work, both much better jobs and still defined as men's work. In a typical account of the sharp gender division, one respondent described installation as 'probably better suited to men; although a woman could do it, you are better off having a woman in an office on the phones'.

How is this gender segregation of work embedded in ties and processes? Both employers and providers observe the existing gender distribution within the industry; employers, providers, and clients all observe the gender distribution of work in similar jobs in the wider labour force (electronics, telephone-based client services, etc.). Work that men are doing seems to be naturally men's work, and work that women are doing seems to be naturally women's work (even if once done by men, like monitoring). Within the industry, homophily tends to underline this equation of the actual with the suitable. Almost all hardware employers are men (the few woman company owners are co-owners with their husbands) and most have selling and installation experience, but not monitoring experience. They can work comfortably with male installers and sellers and leave the monitoring to women. Perceived homophily also plays some part in employer-provider relations, since some employers explicitly questioned the ability of men and women to work well together as installers. Turning to ties to clients, homophily also has a conservative effect in that men clients sometimes impede women sellers. Several female sellers, but no male sellers, reported that some clients challenged their competence (male clients in all cases). For example, one saleswoman said, 'I've had weird cases, where I'll go to the home and the male, he'll say, oh, can't believe we've got a female doing this job ... they don't think females understand the technical side of things.' But by the same token, homophily offers a small opening for innovation from the client side, since a growing number of clients are women and women sellers do not report similar challenges from female clients. The opening is a small one because there are few women sellers, and essentially no women installers, for women clients to meet. These gender distributions and relations feed back into employer perceptions of what clients like. When employers were asked whether their clients preferred women or men as installers, nine said clients had no preference, three said clients preferred men, and four said they could not tell because they had never had a woman installer. And one added that clients prefer women in sales.

Thus the nucleus relational matrix in the hardware sector generally holds innovation back, though the rising tide of female clients opens up some

opportunities for female hardware sellers. Conventional patterns of use of female labour largely reproduce themselves in large part because the relational matrix does not include direct interaction with the targets of hardware services. Targets are the burglars or other undesired intruders who should be deterred or caught through the security systems after the sellers and installers are gone. Even monitors interact not directly with targets, but with systems, clients, and the emergency services that monitors call if necessary. The lack of any direct ties to targets, even potential ties, prevents a set of dynamics that can open unconventional jobs to women, as we shall see below for the guard and investigation sector.

Employers, providers, and clients in the guard and investigation sector

Security guards perform unskilled tasks such as patrolling buildings, writing reports, and being polite and helpful to any people they need to work with. Guards in most posts rarely if ever encounter a threatening person, and if they do, their orders are to stay out of trouble and contact the police or other emergency service. Thus employers and providers agree that the good guard has good interpersonal skills, good appearance, reliability, literacy and common sense – a description consistent with the stereotype of a low-status female service provider. Investigators have more varied, autonomous, and glamorous tasks: going under cover to look for criminals, checking possible frauds, tracking missing persons, and so on. Their work calls for a more mixed set of traits both masculinised (for example, the aggression and courage needed to arrest shoplifters who sometimes fight to get away) and feminised (for example, being good at getting information out of people by talking with them). Not only is investigation more masculine in its job description, but it is better work: better paid, higher in prestige, more independent, more interesting (Erickson, 1993).

Using women as guards or investigators is truly innovative. First, in the early history of the industry investigators and guards were always men. Second, these jobs include some features inconsistent with the female stereotype. Both guards and investigators run the risk of physical confrontations, and both sometimes have to act as agents of social control over suspected criminals, and moreover the people to be controlled are often men. (See McCaughey, 1997, on the perceived impossibility and impropriety of fighting women, and Heidensohn, 1992, on resistance to women in social control and policing roles.) These unfeminine aspects of work are especially prominent for investigators, while the lower-status guard job has some feminised components. Thus if investigators and guards were like installers and monitors, most investigators would be men and most guards would be women. But this is not so: the proportion of women in these jobs is similar and considerable. (As noted above, the Canadian census found about a quarter of the people in each job to be women.) The extensive penetration of women into these jobs is reflected in their perceived suitability. Thirteen employers and

providers agreed that investigation is in general equally suitable for men and women; twenty-one of twenty-four employers and providers agreed that guard work is in general equally suitable for men and women. Why is the innovative use of female labour so much more extensive and accepted in this sector than in the hardware sector?

Part of the answer lies in the self-reinforcing nature of the gender distribution: because many women have innovative work in this sector, many employers, providers and clients have learned from experience that women do such work and do it well, and thus are welcoming to additional use of women as guards and investigators. But this does not tell us how the female beachhead got started in the first place, or, in particular, what overcame the same resistance that women meet in the hardware sector. In both sectors, homophily largely works against the novel use of female labour. Employers are overwhelmingly men and they admit to feeling closer to their male than to their female employers. Men are a majority of all the provider roles in which women are innovative (sellers, installers, guards, investigators) and some women report trouble in being accepted as a member of work teams in which the other workers are usually all men. Men are still a majority of clients. Clients are also an obstacle to innovation because both male and female clients have less experience with female providers than do people in security itself, and hence less chance to learn to value this innovation. Notably, two in ten of our respondents report that men and women in their own companies treat them differently, but twice as many (four in ten) report that men and women clients treat them differently; gender is more of an issue for the less experienced outsiders. And of course in both sectors the major provider jobs were initially filled by men and hence defined as suitable for men.

To understand how such obstacles are gradually being overcome, we must turn to another kind of actor in the relational matrix: targets.

Guards, investigators, and their targets

Unlike hardware providers, all guards and investigators may have to deal directly with the targets of their work for clients, and many deal with targets frequently. When employers assign providers to a site populated mainly by women, they like to send women providers. The rationales given for this differ somewhat for guards and investigators but are equally persuasive in both cases.

In the case of guards, employers argue in part in terms of perceived homophily: women guards can feel more comfortable and work more effectively in 'women's' places than men can. Guards themselves agree. For example, a male guard said, 'It would not be nice for a man to walk into a woman's hospital.' Sometimes respondents express perceived homophily less directly by the way they describe sites suited to men or women guards, for example saying that men are better suited to working construction sites, well known to

be dominated by men. Employers also argue in terms of gender stereotypes: women should not be sent to any site where they may face the risk of physical assault (such as a solitary night patrol), but should be preferred for sites such as apartment buildings where most of the work is being polite and helpful to residents. Interestingly, the very strong feelings against exposing women to risk melt away when the effect of perceived homophily is strong. The most dangerous kind of guard post is in a hospital. Whereas most guards never get into a fight, hospital guards routinely have to struggle with deranged or criminal patients. Women guards face the same risks as men, risks which one woman guard describes as including 'getting your butt kicked, getting bitten, getting accidentally injected while trying to restrain someone'. Despite the risks, women guards are in demand for hospitals because many patients are women, who are thought to be better handled by fellow women.

Employers prefer women investigators for women's places in part for similar reasons of perceived homophily. For example, one employer told of a woman investigator who got valuable information at a day care centre, success which the employer attributed to her female ability to relate to female day care staff. But investigation includes another powerful reason: many investigators do their work covertly. They may pretend to be a shopper in order to detect shoplifters, they may pretend to be a warehouse worker to investigate losses, and so forth. Most employers and providers are convinced that successful undercover work requires blending in, that is, seeming to be a typical ordinary inhabitant of the social setting. Thus one female investigator said, 'Men look very conspicuous standing in a cosmetics section; men can hang around in hardware.'

There is a striking irony here: gendered thinking produces innovative job assignment that contradicts gendered thinking. Employers believe that social settings are dominated by one gender or the other, and they also believe that the people in these settings find anyone of the minority gender noticeably and suspiciously out of place. Precisely because employers perceive extensive gender segregation and gendered thinking, they assign women to 'women's' places to do very unwomanly work. For the same reasons, clients accept women guards and investigators for woman-dominated settings.

There is another irony: the same processes that produce innovative use of female labour also help to limit innovation. Since women work in settings dominated by women, while men work in settings dominated by men, there is gender segregation by work site even as gender segregation by occupation is overcome. And since women get to do their most innovative work, investigation, in part because they can be inconspicuous, they do the most innovative work the most invisibly.

Managers

To this point I have been emphasising managers as employers, as people who take part in the job assignments of service providers. But managers are also

employees; to what extent do women get innovative management jobs and why? The extent of innovation is limited. Above I noted that women are rarer among managers than among employees (9 per cent versus 30 per cent) according to my earlier survey of the Toronto industry as a whole. Not only is the use of women as managers limited, but women managers tend to be segregated into posts seen as more suitable for women. In the later qualitative study, company representatives of all firms with both men and women managers reported that the men and women were doing different kinds of managerial work. Most women managers are in support staff positions, not operational line positions. This reinforces traditional ideas about what women can or should do, and it also keeps the managerial work of women somewhat hidden, since support staff do much or all of their work within the firm.

Management is similar to hardware service provision in its low rate of use of innovative female labour; and it is also similar in that the work does not include direct interaction with service targets. Whether managers work in hardware, guard, or investigation companies, their managerial work as such involves only working with people in their firms and possibly with clients. Thus there is not innovative push to use women managers to deal with female targets. However, there is some push to use women managers to deal with women clients. Employers think this is true: when asked why the number of women in security has grown, many pointed to the rise of women among their clients. 'I think in some cases it might be an expectation of some of the clients. Where historically a lot of our clients were males, and a lot of our managers were males, there is a shift, it started in the client base.' And employers seem to be acting on this belief, matching women managers to women clients. When asked what percentage of the clients they dealt with were women, women managers reported 42 per cent female clients, while men managers reported 26 per cent. Further, security companies with more female clients have more female managers. Company representatives were asked, 'Please think of the people who make the final decision about whether to hire your company's services. What percentage of them are women?' When women are less than 30 per cent of client decision makers, fewer than 20 per cent of security managers are women; when women are 30 per cent or more of client decision makers, 33 per cent of security managers are women (based on reports from nineteen firms with fifty-seven managers).

As for non-managerial providers, the innovative use of female labour in management is in part a function of gender distribution (especially the extent of female clients) and in part a function of perceptions (notably the employers' belief that women managers suit women clients). And as for providers, innovative use of women managers is uneven, being higher in those companies that have more powerful women among their clients.

Potential employees

It is now time to add the final kind of actor, potential employees, to the relational matrix. Effects flow two ways here. If potential female employees do not try to enter security work, the innovative use of female labour is blocked; if female labour is not used or is not seen to be used, potential female employees are not attracted into the industry.

Some employers reported that they could not use as many women workers as they wanted to, because of problems in recruiting women. What factors reduce the supply of female labour? Only five informants lay the blame on the security industry itself, as in 'Women have a tough time getting into any industry ... security would be a tough one, unless you get into an office.' Twenty informants point to barriers on the labour supply side. The most commonly described barrier (named by eleven informants) is women's lack of interest in security work, whether security in general ('Women generally don't like getting into security') or specific features of security work (technology, hard physical labour, risk, low status, policing). Other supposed barriers include family commitments and lack of training for the better jobs that call for training.

Though informants are understandably reluctant to attribute labour supply blockages to themselves, the role of women employees in security must have some effect on the further supply of new women. If women do a kind of security work, and other women see them do it, this encourages potential women employees to apply for or let themselves be recruited to this kind of work. Above we saw that the ties among employers, providers, clients, and targets play a powerful role in shaping both the kinds of work that women do in security and the extent to which they are publicly visible in doing this work. Distribution and visibility then affect the influx of new female labour. To explore this connection in the relational matrix, I compared the reported proportions of women among employees in a kind of security job to reported proportions of women among applicants for these jobs over the previous year. Seven hardware companies reported no women installers (at the time of our interviews) and also no women among 120 applicants. Two companies with monitors, a majority of them women, reported a majority (seventeen to twenty-eight) of women among applicants. Eight companies employing a total of about 900 guards reported that 15 per cent were women, and the median reported percentage of women among applicants was 10 per cent. Ten firms reported that about 20 per cent of their 120 investigators were women, but only 10 per cent of their applicants were women. Fourteen companies with fifty-one managers (other than owners) reported that 25 per cent of the managers were women but only 5 per cent of nearly 200 applicants were women. Thus there is some overall correspondence between the proportion of women in a job and the proportion of women applying for it, but the proportion of woman applicants is low compared with women employees in two cases: investigators and managers. These are

the two kinds of work in which women are least visible, the investigators because they work covertly in the field and the managers because they work internally in the firm.

The companies in the 1996 qualitative study were deliberately chosen because they had some women in non-clerical security work, and hence these firms are not necessarily typical of the security industry in their gender distributions. Some of the mismatch between their gender distributions for current employees and for applicants may thus arise because potential employees are responding to signals from the industry as a whole, not just from these companies. The 1996 telephone survey of the whole industry showed that women were 5 per cent of the total staff of guard companies and 9 per cent of the total staff of investigation companies. These figures provide even more of a mismatch to the equal percentage of women applicants for guard and job positions than did the figures from the qualitative survey reported above. The earlier industry survey (Erickson, 1996) found that women were 9 per cent of managers overall, quite a bit less than the 25 per cent female among managers in the firms in the qualitative study, but still more than the 5 per cent female among applicants for management work. Thus potential employees may be reading signals from the whole industry, especially concerning management jobs, but they are also under-responding to the actual rate of female penetration into management and investigation work.

Spirals, dams, and uneven innovation

The ties in the relational matrix are not separate, but interlinked. Sometimes this provides the structural basis for a spiral of innovation, of increasing use and acceptance of female labour in 'men's work'. According to our informant stories, the spiral often starts with employers, who have the widest security experience of all the actors and thus are most likely to be aware of the advantages of employing women. The employer may meet with some initial resistance from clients, but can try to persuade the client to try the innovation in his or her own best interests. For example, one employer tells of a mall reluctant to use female security guards. 'So we found the biggest, meanest-looking female guard you could find. And she'd been in the military police for a good number of years, and hey, I wouldn't want to wrestle her.' These efforts may not always be successful; the same employer reported that he had no further problems with the mall, but other clients cancelled contracts when sent female guards. But some clients approve of the service the female providers give, the use of women workers grows, potential employees are encouraged to consider security work, and so on. Another employer accounted for the rise of women in security in terms of just such a spiral of positive feedbacks. 'Women came in and they did such a damn fine job, in many cases a better job. Somebody said, "We have a girl who did a great job, see if you can get us another girl." They had more opportunities and they have been able to prove themselves, and it goes on and on.'

At the same time, the interconnection of the matrix means that innovation can be blocked by a dam of resistance at any point. Clients sometimes refuse women security employees, even if they have seen them give good service. One woman investigator reported being sent to a site usually served by men, doing 'three or four hundred dollars' worth of arrests' (a good day's work), and then hearing that the client complain to her male colleagues the next day, 'What's this company doing, putting these goddamned women on my site?' Targets sometimes resist women service providers. For example, a woman guard reports that her male colleagues more easily move vagrants along: 'They just kind of look up at me and see I'm a woman, and try and go back to sleep.' Potential employees may not get interested, as in the complete absence of female applicants for installer jobs. Employers may be reluctant to hire women or to assign them to the more innovative positions.

Whether innovation gets dammed up or gets into a growth spiral depends on the many factors described above: the kind of work, the gender of clients, the visibility of innovative examples and so forth. Since these vary so much, so do the local outcomes, which range from no use of female labour at all (as in the many security companies with no women whatsoever) to extensive use of women in apparently men's work (as in the many female investigators doing risky undercover work).

Extensions and variations

Though this argument has been built on a case study of women in one industry, the same themes appear elsewhere. All of the kinds of actors in the relational matrix appear in some (though not necessarily all) other industries. Employers, clients, service providers, and potential employees are found in every service industry. Targets are not so universal but do appear in some services. Public relations firms work on targets such as the media on behalf of their clients, for example. Does the presence or absence of targets play as important a role in other industries as in security? All of the processes discussed here also appear in some though not necessarily all other services. Gender distributions, homophily, and perceived homophily are probably of general importance. The role of invisibility is more variable, and may seem at first to be peculiar to security and its opportunities for undercover work. But invisibility is a factor in other industries also. The poor visibility of women in management is not special to security; women managers are often in the internal housekeeping jobs such as human relations and accounting. Some other kinds of workers hide their work, like the restaurant reviewer who pretends to be an ordinary customer in the hope of getting a representative dining experience. And some workers openly do their work while hiding their identities, like the gay members of Toronto's notoriously homophobic financial district. Hiding the identity blocks information about innovation (in this case, that gays can be effective financial workers) just as much as hiding the work while displaying the identity.

Not only can the ideas in this chapter be explored in other industries, but they can be explored for other innovative forms of labour such as new immigrant groups trying to enter the mainstream economy. Ideally, future work will examine multiple identities. Even in this study of gender, it soon became clear that gender was not the only relevant identity. Sometimes other identities mattered more, as when women reported that they had had problems not because of their gender but instead because they were young or black. Sometimes gender could not be disentangled from other identities; for example, women have entered security recently, so on the average are younger and less experienced than the men in security.

How might the results found here differ in extensions to other industries? I speculate that there will be differences, and many of them will occur because of differences in the relational matrix. The structure of the security matrix is especially suited to production of the great variety of gender innovation. There are many security companies in Toronto (over 200). They have varied niches of different types, such as the family-run hardware company that installs alarms largely for members of the family's ethnic group, or the investigation company that checks possibly spurious claims for insurance companies, or the guard company that specialises in guard and dog teams. Security companies often do not have any contact with each other, so that news about innovation cannot flow freely around the industry. In an industry with a smaller number of more similar companies with better mutual surveillance, innovation might well be more uniform. While I could not examine the social structure of targets, clients, and potential employees directly in this study, it seems more than likely that such groups are even more diverse and disconnected than security companies. Other industries may deal with a smaller number of more unified and homogeneous actors in any of these categories. Potential employees may come from relatively standardised sources such as professional training programmes; there may be just a few powerful clients such as the top companies that top business service firms serve; even targets may be fewer and better connected than in security, as in the example above of public relations firms targeting media. Unity and homogeneity among any of these key kinds of actors may also encourage more uniform innovation.

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