

Internet Golpe in Chile

Duque, R. B. (2007). Global Internet Research: Internet Golpe in Chile in W. Shrum, K. Benson, W. Bijker & K. Brunstein's (eds), *Past, Present and Future of Research in the Information Society*. New York: Springer. Pp. 198 – 206.

This is a study of the relationship between scientific communication and productivity in Chilean science, focusing on the role of Internet adoption and use. The World Science Project's prior work in Africa has identified a "collaboration paradox" in the developing world: in resource-poor contexts, the high costs of collaboration may be greater than their benefits in terms of output.ⁱ While the Internet has been promoted as a technology that will change this relationship, our recent findings in Africa contradict this notion. However, it is not known whether this results from conditions peculiar to sub-Saharan Africa or is true more generally. In this paper, we present results from a recent video-graphic study of the Chilean scientific community and the role the Internet may or may not be having in shaping it. This study is framed by the 1964 U.S. Defense Department funded Project Camelot, an ambitious sociological investigation of the entire Chilean society to measure the capacity for revolution. This project failed to get authorization from the Chilean government, did not acquire solid collaborative links with local scholars and was subsequently terminated. Many charge, though, "results [were] achieved by other means" including CIA sponsored dissertations and through Peace Corp volunteers. Given the socio-political upheaval that occurred in Chile less than a decade later, the scholarly world recognized the sensitive nature of projects from abroad conducting social research within less developed regions.ⁱⁱ Our experience studying the Chilean scientific community is informed by the legacy of both Project Camelot and the Chilean dictatorship that followed.

Chile is an interesting case, since for most of its history it has had strong contact with the north. As one local scholar put it, "Everything in Chile comes from abroad". Its scientific community, though like many in the developing world, has been characterized as being isolated and having low productivity. The 1973 military overthrow, often referred to by locals as simply "El Golpe", may have added to these limitations. This could be due to the following factors: resource deficiencies in the years following the Golpe; loss of international collaboration, resulting from the world's displeasure towards the military take-over; whole disciplines and research programs that posed a threat to the new regime removed from University rosters; and the partial Diaspora of its scientific community who were forced into exile or left for better funding opportunities and prestige in the exterior. The Internet is a development project from abroad, much like democracy and neo-liberalism. Many hope this technology will elevate the Chilean scientific community as it continues to reconstruct since the end of the Pinochet dictatorship in 1989. Because Chile is a regional leader in economic performance and Internet access and use, it is assumed that this cyber-optimistic relationship will hold true. The World Science Project empirically investigates whether or not this assumption holds. The following reviews the sample for our video-graphic study, the methodology, analysis and our preliminary findings.

In the Field with Digital Video: Preliminary Findings

The project collaborated with three Chilean scholars located at the Universidad de Los Lagos in Puerto Montt, the Universidad de Concepcion, and the Universidad Catolica in Santiago. These scholars were instrumental in scheduling 28 digital video interviews with university researchers in three regions during June 2004. The subjects represented both natural and social sciences and included six female researchers. Ages ranged from mid twenties to early seventies:

the oldest had received his professional degree in the late 1950's while the youngest was completing his professional degree at the time of the interview. The videotaped interviews were semi structured and focused on four major areas of a respondent's career: (1) professional antecedents, (2) present projects, (3) managing professional networks, and (4) their Internet history and practice.

The preliminary analysis of the video interviews have distinguished three key thematic categories: (1) Career Paths: the legacy of dictatorship on professional careers and the importance of training abroad; (2) Scientific Practices and Institutional Pressures: the obstacles of transnational collaborations and the effects of requirements to publish in ISI high impact journals; (3) the Internet in Professional Lives: in managing professional networks, its benefits to research practices and outcomes, and its use in teaching.

Career Paths

A major theme in many of the interviews revolved around the legacy of dictatorship. Some scholars had been displaced as a result of the 1973 Golpe. They found their departments or institutes closed for an indeterminate time and were either demoted or firedⁱⁱⁱ: one researcher was imprisoned for up to eight months by the military junta. Others were exiled or emigrated to research centers and universities abroad in other Latin American nations, the United States, the UK and Canada. Some who stayed reinvented themselves in the private sector. One actually became a beef speculator for many years, before returning to academia in his later life. For those who found opportunities abroad, their career paths took a dramatic turn. Many pursued advanced degrees and found work in universities abroad or in multi-lateral organizations like the United Nations. For the ones who joined the UN, the work took them as far as Africa and as close to home as Central America. They mentioned that their training (for example in public administration or marine biology) in the developing context prepared them well for a career in the multi-lateral development sector. When asked if these unique opportunities in academic and career advancement abroad made up for the tragedy of leaving their homelands, no one offered an affirmative answer. They appreciated the experiences, but could not say if it was for the better or not.

The researchers I interviewed by definition did eventually find their way back to Chile to continue their careers. All had kept up contact with colleagues and family in Chile while abroad. All would make short visits to measure the situation in the country. A couple returned during the dictatorship, but then left after not being able to find steady work. But it was not until after the 1989 national plebiscite ending 17 years of dictatorship that they considered moving back for good. On their return, many found the research sector had dramatically changed. Using existing contacts, most of the subjects found positions in various departments and reported that their international experience was a formidable calling card. Now privatized, the rapidly expanding Chilean research sector provided ready employment as well.

The importance of training abroad is highlighted by the experiences of those who emigrated after the 1973 Golpe, but it is just as important in understanding the Chilean context for those who were trained over the last two decades. Chile has traditionally offered few doctoral degree programs.^{iv} As a result, the road to academic advancement is often through institutions abroad. With very little exception, most of the researchers I interviewed sought additional training in universities located in other Latin American nations, Europe, Canada and the United States. The importance of these experiences is both professional and intellectual. Professionally, training abroad enhances career profiles upon return to Chile. Intellectually, training abroad increases the exposure to literature and techniques that are in limited supply locally. As one scholar mentioned, "After my first degree, I had learned about all I was going to learn in this area locally. If I wanted to increase my understanding of my discipline, I needed to go abroad."

Most also mentioned the financial limitations of advanced training. Although the

recently trained scholars have enjoyed new local sources for funding, traditional sources were exclusively found abroad. Though most sought funds in the exterior, a few were supported by the Pinochet administration through Presidential Scholarships. Having completed a doctoral degree in Spain during the 1980s, one female subject eagerly admitted, "I am a Pinochet baby". For many, though, the resources available abroad do not always cover all expenses. Some maintained their salaries at their home universities throughout their study in the exterior. Those who did stay on salary say that it was the institutional obligation that motivated their return. But even those who did not have legal obligations say it was the moral obligation to return and help build local capacity. Also, some mentioned that family consideration brought them home, even though in many instances career opportunities abroad were much more lucrative.

Scientific Practices and Institutional Pressures

Another recurring theme was the importance of projects with collaborators abroad. This was especially emphasized in the natural sciences, since their orientation tended to focus on global relevance. The ability to share expertise and, in some instances, materials and funding, makes these collaborations very attractive. Chile has enjoyed much attention from research institutes in the exterior, especially in environmental sciences and astronomy. Institutes from Europe (Italy, Belgium, and Germany) have originated local bases in which many Chilean researchers had found training and career advancement. The 1973 Golpe severely reduced this kind of international collaboration. The end of dictatorship marked the return of global partners in research. Recently, the main obstacle to transnational collaboration is the Chilean funding structure. Researchers complained that its restrictive nature, basing funding on results, makes sharing monetary resources with collaborators in the exterior complicated. The experimental spirit of Chilean funding though, indicates that in the near future these kinds of limitations may be ironed out.

On an individual basis, the institutional requirement of publishing in ISI high impact journals for career advancement was a major pre-occupation. Many complained that there were few local or Latin American journals on this list, while others argued most of these kinds of journals are published in English only. This brought up two issues. One was the relevance of publishing in English, when local colleagues cannot read your work due to either limited subscription resources or lack of English proficiency. The other was the pressure away from local orientations of research to those that were "trendy" in the exterior. One social scientist admitted though that this ISI requirement at his university is flexible for some disciplines that are at a disadvantage such as the social sciences. Another poignantly reminded me that for the past decade he and his colleagues were so busy reconstructing their department after 20 years absence that conducting original research and publishing was simply not a priority. Now that institutional structures are beginning to recover, this researcher suggested that he can focus on intellectual advancement in the form of attending conferences, grant proposal writing and submitting papers for publication.

The Internet in Professional Lives

All of the researchers I interviewed had personal computers in their offices. All had had some experience with computers in their training and either had first used the Internet while studying abroad, or had adopted its use quickly after the technology had arrived within the Chilean research community about 1995.^y All had access to the Internet with a fast connection. All spoke of the importance of the technology in their work, especially in identifying and retrieving up-to-date information in their field. One researcher admitted, "You do not exist unless you are on the Internet." Another exclaimed, "Extraordinary... truly extraordinary!" A few of the older scholars regretted that they did not have access to this technology 30 years earlier. One

researcher even mentioned that during the tumultuous 1970s in Latin America he and other colleagues had much of their work (life's work) confiscated during the military take over of university campuses. The Internet, he mused, would have been helpful in backing up documents.

While the access, streamlining, and duplication of information attributes of the Internet are important to account for, what I was most interested in understanding was how the professional networks of this group of researchers were being shaped. Although one scholar mentioned that after the 1973 Golpe, email would have facilitating maintaining contact with exiled colleagues, it was unclear whether the Internet was resulting in something different from before. Most relevant to my study was whether contemporary Internet use diverted networks outward, from the interior toward the exterior. The quantitative phase of the study hopes to address this issue directly, but my digital video interviews were helpful in identifying the context of how this process might unfold. For example, my first interview with a marine zoologist suggested the functional equivalence nature of research and Internet technologies. Back in the 1960's this researcher managed his professional networks "the old fashion way" with pencil, paper, typewriter and postal stamps. Instead of digital archives, he had volumes of abstracts in his field catalogued at his university library, which listed the major scholars abroad. He routinely wrote to these scholars asking specific questions about their research and inquired about opportunities to collaborate with them. To his initial surprise, these world renowned scholars answered back and soon he was invited to go abroad to continue his education and share with his global discipline the work he was doing in Chile.

When the Internet was introduced, this veteran scholar simply translated to digital the same kinds of information searches and communications networking he had done in the pre-digital era. He admitted, "It is a wonderful tool that makes the duration between contacts shorter and information instantaneous", but he also cautioned about the overwhelming amount of irrelevant information on the net. He added that as a result of the Internet, the journal submission process has been saturated and that the crafts of writing and drawing (once important requirements in his field) were slowly fading in the digital age. Although early in his career, he had made substantial contacts in the exterior, this scholar returned to Chile in the mid-1970s and never went abroad again. Some of the contacts he had made came to visit and engage him in collaboration. But over time, his main contacts became local. In this case, this scholar was successful searching abroad for contacts before the Internet. The nature of his field and the local limitations demanded it. But after the Internet, his main digital objective was information searches. This leads me to consider that whether the Internet magnifies the networking process in the present might also be a function of particular fields and the local resource limitations researchers encounter today.

For the younger researchers who had studied abroad, Internet communication allowed them to maintain contact with key people and maintain access to the archive resources they enjoyed in the exterior. One scholar admitted that he frequently relied upon a colleague in the exterior to email him journals articles he could not acquire locally for lack of institutional resources. Another added that the ability to "google" a researcher and his website and either contact them directly or download posted works, was an exceptional advantage of this technology. Both these examples from the developing world also reveal that very often the Internet is being used to circumvent international intellectual property rights.

The Internet's positive impact on research practices was also highlighted in the conduct of professional lives and as a tool for research. Many echoed the obvious benefits mentioned above, the Internet's ability to circumvent local archives limitations and global knowledge access restrictions. In addition, they mentioned how convenient it was to share information with fellow scholars, register for conferences (local and international), submit journal articles electronically, and even the ability to contribute to ones field as a reviewer for a foreign journal. The latter case highlighted a latent consequence of acquiring a digital presence. One scholar said that he had been approached digitally by a foreign editor he had never personally met. The scholar imagined

his mentor abroad may have suggested his name, or the editor may have read a publication of his and thought him an able candidate to be a reviewer. The Internet, in effect, may have promoted the global reputation of this scholar without his knowledge.

One of the interview subjects had even employed the Internet as a methodology. An exiled scholar during the Pinochet years, he became interested in immigration patterns of professionals. When he returned to Chile in the early 1990's, he was interested in learning what had happened to other professionals like himself after the 1973 Golpe. He admitted that the chance of getting funding to travel all over the world to interview exiled professionals, within the Chilean funding environment of the mid 1990s, was remote. His field, sociology, was just reintroducing itself as a discipline. National research funds were limited even for high profile disciplines, let alone his. So he "had to turn to the Internet." At first, he searched online listserves of Chilean professionals abroad. He joined chat groups and documented these interchanges. He exposed himself to a few chat rooms as a researcher and was able to conduct at-length digital interviews about the experiences of these professionals in the exterior. From these interviews and with collaboration from his university's computer science department, he was able to construct a general online questionnaire; and from the listserves of professionals he had identified earlier in the investigation, he drew his sample. Over 400 Chilean professionals in 40 different nations completed the immigration survey he made available for a one month period online. He later experimented with chat versus email qualitative interview techniques with a subsample from earlier studies. He concluded that chat was by far more effective in recreating the intimacy of a face-to-face interview. Eventually, he added content analysis of online newspapers and websites to his 'Internet as methodology' toolbox. He is even considering adding 'webcam' to his chat sessions to deepen the experience. He concluded that for the social scientists in a developing nation, the Internet can be extraordinary because of its affordable cost and extensive reach.

This example above illustrates the transforming potential of the Internet in addressing global science asymmetries. A researcher in the United States for example exists within a research funding environment that could have supported an immigration study of exiled professionals abroad. Yet perhaps because the United States has not experienced an exiled Diaspora like that experienced in many developing nations over the past half century, this would not be a relevant question to ask. Paradoxically, this research question is relevant in the developing context, yet the resources are rarely available. In the case above, the Internet, as a cost effective methodological tool with global reach, closed the funding gap for this particular researcher. To lend perspective to this example of successfully employing Internet technologies in research, it is helpful to acknowledge that Chile enjoys a well-developed digital network that is supported by the wider society. It also helps that the population that this scholar was investigating was made up of professionals with advanced communication and information skills that lived in developed nations with superior Internet infrastructures. The same researcher in Burundi, for example, who was interested in Burundian refugees across Africa, may not enjoy the same success. Developmental context matters here.

To a lesser extent, some researchers mentioned the impacts on teaching as well. One benefit was the Internet's vast resource of material (images and texts) that augmented lecture presentations. Some also mentioned the benefits for students: to retrieve information for class projects. But this was balanced by the apprehension that this technology may facilitate plagiarism.

Generally, the Internet was of great assistance to this group of Chilean scholars. But many of them also admitted the liabilities of this technology that included too much information, relatively little Spanish language content, and the security risk of being connected. As one scholar pragmatically suggested, "The Internet magnifies the ongoing struggle between security and freedom that frames much of the world's concerns today." Another concern was too much dependence on the technology. A scholar who had worked for the majority of his professional

life in the pre-Internet era mentioned, “When the net is down, the halls get filled with researchers that do not know what to do anymore.” Fortunately, this occurred infrequently; yet it does foreshadow the potential risk of dependence to a technology like the Internet that is characterized by a fast paced innovative environment and generational interface glitches. Keeping up with upgrades and mutating digital threats is a major concern in resource poor regions.

Conclusion

This study of the Chilean scientific community and the Internet employed video-ethnographic methods. We were able to engage local scholars to adopt and facilitate the project in order to address some of the ethical issues mentioned in the literature. Twenty-eight researchers were video interviewed across both social and natural sciences in university departments located in three regions. Our preliminary findings highlight a variety of issues: the legacy of dictatorship on career paths, the obstacles for international collaborations, the pressure to publish in ISI high impact journals, and the impact of the Internet on professional lives and research practices. For researchers trained in the pre-digital era, the Internet functionally replaces the past technological modes used to conduct information searches and manage networks. One key advantage for those trained in the pre and post digital eras is the Internet’s ability to circumvent local resource limitations and global publication restrictions. The Internet also increases the visibility of this group of scholars as it perhaps makes them dependent on it as well. In one case though, the Internet allowed a local scholar to carry out an immigration study surveying over 400 Chilean professional expatriates across 40 different nations. This may have not been possible otherwise in a developing nation like Chile with little research funds to offer a study of this global scope. A quantitative face-to-face survey of over 300 Chilean researchers will follow this video ethnography. We hope that our observations and conclusions further the understanding of how the Internet may shape knowledge production in the developing world. Meanwhile, our project continues to consider the ethics of our presence as guests for science in distant lands.

ⁱ Duque, R. B., Marcus Ynalvez, R. Sooryamoorthy, Paul Mbatia, Dan-Bright Dzorgbo, and Wesley Shrum. 2005. “Collaboration Paradox: Scientific Productivity, the Internet, and Problems of Research in Developing Areas.” *Social Studies of Science* 34:1-31.

ⁱⁱ Horowitz, Irving Louis (1967) *The Rise and Fall of Project Camelot: Studies in the Relationship Between Social Science and Practical Politics*, ed. Cambridge MA: The M.I.T. Press.

ⁱⁱⁱ For example, the discipline of sociology ceased to exist between the years of 1973 and the early 1990s.

^{iv} Mullin, James and Robert M. Adam, Janet E. Halliwell, and Larry P. Milligen. 2000. *Science, Technology, and Innovation in Chile*. Ottawa, ON, Canada: International Development Research Centre.

^v REUNA, the Chilean IT institute, connected the university system with an intranet in 1986. It was one of the first networks in Latin America to hook up to the World Wide Web in the mid 1990s.