

The computerized office: Emotions, gender, and technology in Latin America, 1980–2000

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Introduction

Ten years ago, screens were objects that raised curiosity. Today they are considered as common as telephones or typewriters. ... In public and private administration, banks, insurance companies, telephone exchanges, travel agencies, these electronic devices are used as a work tool. ... The enthusiasm of the supporters of cathodic screens is counterbalanced by the protest of female users – it is generally women who operate them – and male users.¹

This was how a report on the “era of the screens” published in 1984 in the magazine of the Colombian Association of Computer Users (ACUC) started. Screens had become common in Colombia during the computerization of office work and provoked emotions ranging from curiosity and enthusiasm to fear and rage. The author of the report described screen work as an activity mainly realized by female office workers.

In this chapter, I analyze the interplay of emotions, gender roles, and technology during the rise of the computerized office between 1980 and 2000 in Latin America. I argue that the 1980s were a period of transition and uncertainty, regarding technological choices, communication, and gender roles. Firms, as well as specialized magazines for secretaries, office technology and computer science, established an emotional repertoire for computer use. This repertoire included desirable emotions such as curiosity or joy and undesirable emotions such as insecurity or fear.² At the same time, different emotional communities formed at the workplace in response to work experiences, information policy of the firms, and prevalent technological visions. However, these communities could not always express their emotions openly, especially when their feelings clashed with official emotional repertoires. This imbalance is reflected in the sources. Historical documents from firm archives and professional magazines primarily cover uplifting emotions and only occasionally pro-

1 Translation from Spanish. “La era de las pantallas,” *ACUC noticias*, January–February 1984, 34.

2 On emotions in prescriptive literature see: Stearns, “Prescriptive Literature.”

vide insight into the conflicts employees experienced when their feelings contradicted the promoted repertoire. One important medium for transmitting desirable emotions and gender roles were advertisements. In the 1980s, computer firms used efficiency and technical performance as selling points in their advertising.³ They introduced computers either as powerful technical tools or as talented co-workers with human traits. As for gender, the ads mostly assigned traditional roles to male executives and female secretaries.

In the 1980s and 1990s, the office became an important space of reflection on the future of work and communication. Drawings, photos, caricatures, and workflow diagrams formed a significant element of these predictions and also defined gender roles in office work. Historians Simone Müller and Heidi Tworek have suggested the “imagined use” as an important part of technological development. In periods when office technologies were only used by a small minority, other employees already imagined their use based on their personal observation, advertisements, or cultural representations.⁴ These imaginations generated emotional reactions to computers even before their use in the workplace.

The rise of the computerized office was a global process, although temporalities were uneven. Often technological change occurred more slowly than enthusiastic experts had predicted. From the 1980s onward, transnational contact zones emerged where experts, equipment producers, and professional organizations shared knowledge but also struggled over technological choices, power, and future office work.⁵ In that sense, the negotiations over office technologies were also sites of emotional encounters.⁶ In this article, I focus on professional magazines, advertisements, and multinational enterprise as contact zones.

Magazines for office technologies and informatics promoted computerized devices throughout Latin America. Historians of technology have argued for analyzing the role of mediators in between production and use, such as consumer organizations or business associations. They recommend the concept of “mediation junction” to describe spaces where consumers, producers, and mediators interact.⁷ I will utilize magazines about office technology as an important mediation junction since they provide a forum where experts, producers of office equipment, and executives debated the application of new office technologies. In promoting

3 Matt and Fernandez, “Technology and Feeling,” 219.

4 Müller and Tworek, “Imagined Use”; Gardey, “Mechanizing Writing and Photographing the Word.”

5 Prieto-Nañez, “Postcolonial Histories of Computing”; Philip et al., “Postcolonial Computing.”

6 In historical research, the term has been used for cross-cultural negotiations of emotions, but I also consider it useful for interactions between humans and technology. See Gammerl et al., “Introduction.”

7 Oldenziel et al., “Europe’s Mediation Junction”; de Schot and de la Bruhèze, “The Mediated Design of Products.”

computers with enthusiasm but also considering fear, the magazines established an emotional repertoire that influenced office workers' and executives' interactions with computers. Prominent in this repertoire were pride, joy, trust, and fear, while other emotions seldom show up. Nevertheless, rage and frustration were also commonly observed, either as reactions to technological challenges or as a result of dependency on imported equipment.

For multinational enterprises, computerization offered the chance to integrate firms technologically and increase headquarters' control over overseas subsidiaries. Taking the German multinational firm Merck as an example, I demonstrate how technological heterogeneity at the firm's various locations challenged the headquarters' desire for standardization and provoked emotional conflicts in a period of organizational restructuring. The chemical and pharmaceutical company had subsidiaries in Latin America from the 1930s, but it increased investments in Asia due to the 1980s debt crisis in Latin America.⁸ Throughout the enterprise, the introduction of digital technologies occurred more slowly than experts had initially predicted. Meanwhile, executives and IT specialists struggled to make technological choices and to define standard software. At some points, the headquarters was hesitant, while individual departments introduced certain programs on their own, which increased technological heterogeneity.⁹ Throughout the 1990s, however, the firm expanded and professionalized its IT expertise to ensure global communication with subsidiaries and customers.

In the next section, I discuss how global power structures shaped emotional reactions to computers and software in Latin America. Then, I analyze how firms promoted hardware and software adapted to local needs. Next, I demonstrate that computerization in the 1980s destabilized office work and gender roles. The subsequent section deals with contemporary imaginations of human–computer interactions. Finally, I show how visions of the networked office coincided with disconnections in office communication between the 1980s and the early twenty-first century. In addition to documents from Merck company archives and the firm's staff magazines, this chapter relies on advertisements in Mexican and Colombian newspapers as well as secretaries and computer science magazines from Colombia and Paraguay.

The rise of the computerized office in Latin America

The computerization of office work in Latin America occurred in a period of debt crisis and political transition. It is likely that the speed of the introduction of computers

8 Burhop et al., *Merck*, 263–64, 456–57.

9 "Connect bleibt Rückgrat der Bürokommunikation," *Merck informiert*, July 18, 1996, 4.

varied between large and small countries and large and small firms, but no systematic research has been done so far. From the 1950s to the 1970s, the American giant IBM had dominated the Latin American market for computing.¹⁰ This was met with resistance by elites rallying for more technological independence and student movements opposing the introduction of IBM mainframes at universities in the 1970s. Critics bemoaned the high leasing rates for outdated equipment as well as the missing adaptation to Spanish language or unstable energy supply. The only Latin American country that built up a significant computer industry of its own was Brazil.¹¹ Other countries, among them Colombia, rather perceived the software business as a chance to compete with foreign companies and take part in a prosperous economic activity. Regional experts argued for stronger Latin American cooperation in informatics. In 1984, an international conference on informatics and sovereignty took place in Cali, Colombia, organized by the Intergovernmental Bureau for Informatics (IBI).¹² Hence, in the context of projects for technological autonomy, the choice of computers and software became a political matter.

Emotional reactions to digital technologies were influenced by global power structures.¹³ In Latin American countries, the dominance of large computer firms from the Global North provoked rage and frustration. For example, in Mexico, the National Chamber of Electronic Industries and Electronic Communication (Caniece) denounced the exorbitant prices of foreign multinationals. Mexican consumers paid prices 50% higher than on the US market for computers in 1985. Mexican politicians warned that the country risked losing sovereignty by becoming dependent on the import of spare parts for computers. Therefore, they argued that Mexico needed to enhance its capacities in informatics and promote the development of domestic computer technology.¹⁴ In Colombia, similar concerns existed. In 1984, the local firm Diselec produced a microcomputer with only 30% imported parts to send out a “Yes, we can” message to the national public.¹⁵ Latin American elites used the fear of external dependency to argue for national computer industries

10 Cortada, *IBM*, 294–98; Cortada, “Presence of IBM.”

11 Viales-Hurtado et al., “Between Matilde and the Internet”; Langer, “Generations of Scientists and Engineers.”

12 “El centro de informática en América Latina,” *Oficina y tecnología*, October–November 1985, 11–12.

13 On emotions and global power dynamics see Barua et al., “Introduction.” Emotional history in Latin America has mainly focused on the history of dictatorship, violence, and memory but less so on economic and technological issues. Garrido Otoyá, “Historia de las emociones”; Macleod and Marinis, “Resisting Violence.”

14 “Mantienen dos listas de precios las empresas multinacionales: Caniece,” *Excelsior*, May 15, 1985; “Urge salvaguardar la soberanía en informática,” *Uno más uno*, August 8, 1985.

15 Diana Balcázar Niño, “Fabricar microcomputadores en Colombia. ‘Sí, se puede’ Diselec Ltda,” *ACUC noticias*, July–August 1984, 30–31.

and for strengthening training capacities in informatics. Political elites cultivated emotive rhetoric centered on national pride to advance their agenda of enhancing their nations' standing in the global economy.¹⁶ This rhetoric was also linked to anti-imperialist sentiments and international debates on the North–South divide. From the 1970s onward, technical experts, international organizations, and politicians discussed issues such as unequal access to information, monopolies in computer production, and the promotion of “appropriate” technologies.¹⁷

The rise of the computerized office coincided in Latin America with the debt crises of the 1980s and 1990s. Hence, the conditions for launching large technological projects worsened as governments had to cut back budgets and agree with the IMF and the World Bank on debt restructuring. The middle class feared unemployment while informal work in large Latin American cities increased significantly.¹⁸ Hence, it is likely that the crisis strengthened fears of job losses due to computers. The emotional rhetoric of national pride persisted during crises, for example in Mexico and Colombia. Whether the economic crises slowed down the acquisition of personal computers is difficult to answer. The Colombian Association of Computer Users (ACUC) constantly monitored import regulations and invited computer firms to publish their opinions in its magazine.¹⁹ The magazines consulted do not reflect on economic crisis and continued to promote personal computers throughout the 1980s, among them models from large US multinationals, such as IBM or HP.

Political attitudes to US influences shaped the development of computing in Latin America. Regional elites had reacted ambivalently to US influence throughout the twentieth century. In part, they had embraced US support and perceived the superpower in the north as a model for economic development. In part, they had resisted specific US influences and advocated a shift to national development and culture to protect against Americanization. Combinations were also possible, such as when elites rejected North American cultural influences but considered the US as an economic model.²⁰ All in all, there were distinct regional varieties in elite attitudes depending on the political regime and the economic situation. On the one hand, elites cooperated with US multinationals, development agencies, and universities. The strong presence of US computer firms on the Latin American market became visible in advertising in contemporary newspapers. In addition, many magazines for computing, office equipment, and secretaries translated articles from US

16 On emotional nationalism see Stearns, “Prescriptive Literature.”

17 Homberg, *Digitale Unabhängigkeit*, 280–318; Homberg, “Elektronischer Kolonialismus”; Berth, “ITU, the Development Debate.”

18 Bulmer-Thomas, “Globalization.”

19 “Progreso informático en el país, 1982–1986,” *ACUC noticias*, July–August 1986, 7–9; “El centro de informática en América Latina,” *Oficina y tecnología*, October/November 1985, 35–37.

20 Gobat, *Confronting the American Dream*; O'Brien, *The Revolutionary Mission*.

authors throughout the second half of the twentieth century.²¹ On the other hand, political elites promoted the development of software adapted to Latin American needs as a way out of dependency. In consequence, they established new research centers, degree programs, and public computing hubs.²² Members of the elites were also responsible for decision-making over technological equipment in government agencies and large firms. Hence, their vision influenced the choice of office equipment in public administration, and state and private enterprise.

In the course of the 1980s, US multinationals occasionally adapted their advertising to the discourse on national development. For example, IBM had founded local branch offices and service bureaus in Latin America from the 1920s onward.²³ One ad from IBM Colombia stands out as it promotes computing by relying on the rhetoric of national pride. Using one iconic export product – Colombian coffee – as a vehicle, the ad argues that IBM provided technical equipment to the Colombian association of coffee producers. Hence, coffee exports were “intimately related” to IBM technology, argues the ad’s main slogan. The illustration consists of a cup of coffee with the Colombian flag on the saucer, while technological devices are completely absent. The text below argues that IBM technology ensured the level of efficiency and productivity needed to be successful on the world market. By doing so, IBM contributed to “the good ideas that make our country great”. In this ad, IBM Colombia took up the elites’ discourse of national pride and presented itself as being identified with Colombian economic development.²⁴ While historian James Cortada has argued that IBM followed one global sales strategy, it seems that at least in advertising, local branches in Latin America developed their own strategies.²⁵ More comparative research is needed to figure out if other Latin American IBM offices reframed advertising to counter anti-American sentiments and concerns about technological dependency. As I will show in the next section, other US multinationals also adapted their marketing campaigns for Latin American audiences.

Adaptations: Infrastructure, language, and software

During the rise of the computerized office, technical and cultural adaptations of imported devices became necessary. For hardware, adaptations to local infrastructures were important, while software needed to adapt to administrative environment. To

21 See, for example, the following article translated from an English language guidebook to personal computing: “La vida del futuro en la era de los microcomputadores,” *Revista Paraguaya de Informática*, 1983, 30–33.

22 “La evolución del computador,” *Nueva Frontera*, March 15, 1982, 30–32.

23 Cortada, “Presence of IBM.”

24 “IBM Colombia advertisement,” *ACUC noticias*, July–August 1986, 55.

25 Cortada, “Presence of IBM,” 53.

increase acceptance of the devices, Spanish-language versions were required. When companies failed to make such adjustments, office workers reacted negatively.

Regarding technical adjustments, computers were often hooked up to unstable energy supplies and supplemented with additional devices to ensure their protection. Electrical voltage fluctuations could damage the devices or render them unusable. To reduce this danger, maintenance firms offered special protectors.²⁶ A Colombian maintenance firm promoted its service with visuals showing the drastic consequences of electronic service interruptions or voltage fluctuations. Dark columns of smoke indicate that the computers were severely damaged. In one image, the computer produces a last paper flow before its death, with the message to urgently contact the maintenance firm. In another case, the drawing shows different emotional reactions of employees, either with fearful faces or unmoved, continuing the usual coffee break, which might indicate the regularity of such incidents.²⁷ These examples show that hardware needed to be adapted to local conditions. The same was true for software, either by including Spanish or Portuguese versions or by considering the legal and economic conditions in each country.

Figure 1: *Oficina & Tecnología*, December 1985–January 1986, 26.



- 26 "Cositas que debe saber para usar un micro-computador," *Revista Paraguaya de Informática* 1983, 25.
- 27 "Advertisements Ingeniería Electrónica Diselec," *ACUC noticias*, September–October 1983, 17, 30.

By the mid-1980s, US computer firms had developed special promotion strategies for the Latin American markets. For instance, in 1985–86 HP promoted a personal computer with software in Spanish using the slogan “Hewlett-Packard introduces the ideal language for the office.”²⁸ Figure 1 shows a screen filled with the word Spanish (Español) in large letters followed by a software menu in Spanish, including word processing, email, and office communication. The text argues that Spanish was the only language you needed to learn and promised accelerated office work as well as global communication.²⁹ This advertisement suggests that US computer firms had begun using Spanish-language marketing as a strategic approach. At the time, they were already facing competition from Japanese and Korean companies promoting their technologies, which likely heightened their focus on Latin America’s specific demands. English-language slogans in urban public spaces and advertising had often sparked opposition throughout the twentieth century, being widely perceived as symbols of US imperialism.³⁰ Hence, English-only technical devices were a sensitive issue. Also, in practical terms, those devices caused problems as not all office staff spoke English or were familiar with the English technical terms. Beyond language, other software features needed adaptation as well.

Latin American experts and maintenance firms considered adapted software as the basis for successful computerization. In their vision, software needed to fit local circumstances, such as the tax system in case of accounting programs. In their advertising, maintenance firms introduced an emotional repertoire ranging from pride to joy. The Colombian firm Carvajal used the English-language expression “to be or not to be” for arguing that the usefulness of computers depended on adapted software. Although admitting that it sold the US standard software packages, Carvajal promoted Colombian software as essential for a successful business operation. In part, these ads allude to national pride, for example in highlighting the prestige of Colombian software producers.³¹ Paraguayan experts also related to the joy they felt when working with national software.³² While computer producers promoted the technical superiority of their devices, maintenance firms portrayed software as key for ensuring smooth office work.

Maintenance firms also promoted their services by promising to avoid negative emotions, such as stress, rage, or confusion. “We help to program your tranquility” was the slogan of another Carvajal advert showing a relaxed businessman with his

28 Translation from Spanish “HP advertisement,” *Oficina & Tecnología*, December 1985–January 1986, 26.

29 “HP advertisement,” *Oficina & Tecnología*, December 1985–January 1986, 26.

30 Rinke, *Begegnungen mit dem Yankee*; Berth, “Managua – A ‘Gringorized’ City?”; Gökatalay, “The Cold War.”

31 Carvajal is a Colombian multinational enterprise originating from a print shop in Cali. The firm was founded in 1904 and sold, among others, office equipment.

32 “Editorial,” *Revista Paraguaya de Informática*, December 1986.

feet up and hands clasped behind his neck. Interestingly, this visual is a computer drawing, which shows that the firms moved from photos and drawings to images produced by graphics software. Another ad shows a confused computer to convince customers to invest in software tailored to their business needs. In the drawing, the computer is anthropomorphized and imagined as an office worker. The face on the screen has an irritated expression while it holds a mug of tea in one of the hands attached to the screen. The text argues that the performance of a computer depends on its software. Beyond that, the focus on tranquility in this advertisement indicates the existence of negative emotions and stress when software problems impede efficient work. However, executives and experts are generally portrayed as calm, which is in line with earlier representations in the late nineteenth century.³³ The choice of both hardware and software also provoked emotional conflicts at Merck in the 1980s and 1990s.

Given the rapidly changing markets, the choice of hardware was a challenge for the Merck IT department. At the headquarters alone, three different iterations of personal computer were in use throughout the 1980s.³⁴ Looking at the subsidiaries, equipment was even more heterogeneous. In the mid-1980s some computers were unavailable in Asian or Latin American countries while others were incompatible with locally available software. Accordingly, the following computers were used in Merck subsidiaries between 1984 and 1989: TeleVideo (Indonesia), Hitachi L-470 (Japan), Apple II (Pakistan), Nixdorf 8870 (South Africa), Hindustan Computer (India), IBM (Argentina, Colombia, Guatemala, and Venezuela).³⁵

Despite technological heterogeneity, Merck's IT department decided on standard software in 1984, which led to conflicts across the multinational enterprise. From the headquarters' perspective, standard software was most important for office communication, accounting, and production control, a view that is well-documented in the firm archives, which primarily reflect the headquarters' standpoint. In 1986, Merck management obtained decision-making powers over the matter, but conflicts continued. At stake were not only technical issues but also the fundamental relationship between subsidiaries and the head office. Subsidiaries aimed at making decisions autonomously and sometimes omitted informing the Merck IT department over changes.³⁶ Generally, documents in the firm archives mainly cover the headquarters' perspective, so it is difficult to know how much they deviated.

33 Marvin, *When Old Technologies Were New*, 19–23.

34 These were Sirius I, NC personal computer 6, launched in 1985, and Memorex 7006 introduced in 1989.

35 EDV-Kosten aller größeren und mittleren GMGs, December 1, 1989; Rechnereinsatz in den GMGs, Stand 12/1989, V10/112, Merck Archives.

36 Bericht der OL OD für 1984, February 5, 1985; H. Decker, Tätigkeitsbericht der WDV zum 31.12.1984, January 7, 1985, V10/2; Jahresbericht der Abteilung IVM per 31.12.1986, V10/3, Merck Archives.

From the 1970s onward, Merck's global activities had expanded significantly, which led to organizational change. This process provoked conflicts between different areas of management. In addition, subsidiaries demanded rights to participate in strategic planning in the mid-1980s and organized at the regional level, for example in the Latin American working group for electronic data processing. The regular meetings of IT staff in Latin America and at Merck headquarters forged expert networks and provided an arena for negotiation. However, the conflicts persisted. They originated over practical issues but were influenced by power struggles within the multinational in the background.

As for the practical issues, conflicts broke out after the Merck head office had introduced German software that proved unsuitable for office work in Latin America. For example, Merck introduced German sales software in Colombia that was translated into Spanish. As it was based on German economic conditions, the software did not work well abroad. Similar incidents are documented for accounting software that was unable to include special amortization options in Chile or large sums in countries with high inflation, such as Brazil. In 1985, several subsidiaries opted for different office packages than the IT department in Darmstadt, Merck's home. Several Latin American and European subsidiaries used Lotus instead, while Austro-Merck decided on Framework.³⁷ In 1989, Merck changed its strategy and provided subsidiaries with more self-determination over IT issues.³⁸ However, negotiations remained complicated in the 1990s.

Each subsidiary had a different history and culture of IT use, according to Albert Dauscher in an oral history interview conducted in 2017. Dauscher, who had been in charge of negotiating with subsidiaries in the 1990s, also explained that the headquarters perceived Darmstadt as the "center of the world," to which subsidiaries needed to adapt. But in his opinion small subsidiaries could not adapt easily. He concluded: "This is a different world, you can't say 'adapt to Darmstadt,' they have realities which we cannot influence. We have to accept them and provide support so that subsidiaries can generate benefits from these realities." In hindsight, he judged his psychological understanding and tact during the negotiations to be as important as his IT knowledge.³⁹ This narrative indicates again that the conflict had become emotional and was shaped by power structures within the firm.

At Merck headquarters, the SAP introduction was a controversial issue. The company magazine reported extensively on the matter. In a 1992 article, the magazine reported on the mood in the company:

37 Jahresbericht der Abteilung IVM per 31.12.1985, V10/3, Merck Archives.

38 Interview with Albert Dauscher, March 31, 2017, Minute 79, Y03–449, Merck Archives.

39 Translation from German. Interview with Albert Dauscher, March 31, 2017, Minute 94, Y03–449, Merck Archives.

Almost everyone at Merck has heard of SAP, but only very few people have a clear idea of what it means. The opinions that you do hear, however, are often very emotionally charged and vary widely: “SAP – a disaster,” say some, “without SAP we can no longer cope with the future,” say others.⁴⁰

Beyond these extremes, there was a high degree of uncertainty among employees. The changeover to SAP finally took place in May 1994.

Meanwhile, medium-sized subsidiaries relied on the software Business Planning and Control System (BPCS) in the 1990s. The magazine *Así Somos Merck* characterized the beginning of its implementation in the late 1990s as part of the preparations for facing the twenty-first century. Evidence from Merck Central America present a different review: Gerald Blasberg, Director of Administration and Finance, characterized the initial period as “chaos,” marked by a lot of errors and resistance. Although in the meantime a certain degree of stabilization was achieved, Blasberg concluded that “a significant group of persons might have the following thought: Bueno para causar stress [Good to cause stress].”⁴¹ Hence, he created a Spanish expression for the abbreviation BPCS that associated the planning software with emotional tension. The protagonists of these conflicts were male executives and IT staff. Their reports only occasionally touch on gender issues. Albert Dauscher, for example, characterized the first personal computer used at Merck headquarters as the “horror of some secretaries.”⁴² In doing so, he attributed computer fears to women in the lower ranks of office hierarchy.

Destabilization: Emotions, gender, and technological change in office work

In the 1980s, the arrival of personal computers destabilized office work, gender roles, and social hierarchies. The heterogeneous, quickly changing equipment reconfigured established work routines. Scholar Joan Greenbaum, in her book *Windows on the Workplace*, called the 1980s a “decade of contradictory predictions and practices.”⁴³ On the one hand, companies launched their visions of an efficient, connected office and advertised in the press the introduction of computers into everyday business. They promised fast results, precision, reliability, and smooth communication.

40 “SAP-Einführung: Die Arbeit wird enger verzahnt,” *Merck informiert*, October 10, 1992, 4.

41 “Informática hacia el siglo XXI,” *Así somos Merck*, no. 141 (March 1998): 2, ZO2 Br-67, Merck Archives; Gerald Blasberg, “¿BPCS un mito o una realidad?,” *Informa ME: Medio de información para los colaboradores de Merck en Centroamérica*, no. 190 (May/June 1996): 3, ZO2 BR195, Merck Archives.

42 Interview with Albert Dauscher, March 31, 2017, Minute 30, YO3–449, Merck Archives.

43 Greenbaum, *Windows on the Workplace*, 62.

On the other hand, employees had a different experience in the reality of work: they found a technical ensemble of electronic typewriters, computers, and text machines. Hence, the technological landscape of the 1980s office included digital and analogue devices that employees combined in sometimes unexpected ways.⁴⁴ The new devices often had too little space and were connected by seemingly endless cables. In addition, the dot-matrix printers of the time made a tremendous amount of noise, making it difficult to concentrate. Finally, there were frequent data losses, whether due to interruptions in network connections or memory errors on the floppy disks. This frustrated employees, who frequently had to repeat inputs and lost time.

Throughout the 1980s, employees reacted ambivalently to the new office technologies and split into different emotional communities:⁴⁵ those who readily embraced the new technology and expressed curiosity, joy, or hope and those who reacted with fear or mistrust and struggled to adapt. Secretaries' professional magazines expressed joy over news of novel devices and the hope that technology might facilitate their professional ascent. Many of the magazines' case studies narrate an emotional sequence from initial fear to the pride of having successfully adapted to technological transition.⁴⁶ Fears originated for different reasons: on the one hand, employees feared not getting along with computers in daily work; on the other hand, they were concerned about dismissals as a result of automation.⁴⁷

The computer destabilized gender roles in the office. Whereas the typewriter had been a clearly gendered object, it was different with personal computers. In the contemporary ads, firms presented mainly male, high-ranking users. As programming and computer sciences were gendered as male area, typing on a computer was far more attractive for male employees than using a typewriter. Acquiring a computer in the 1980s was a large investment; therefore, some companies restricted access to male clerical or managerial staff. Secretaries, on the other hand, were expected to use electronic typewriters with memory functions. However, women also appropriated personal computers and ascended within office hierarchies.⁴⁸

Throughout the 1980s, there was a strong uncertainty about equipment choice. Some companies replaced personal computers very frequently, so employees had to keep getting used to new devices and software. In other cases, the new equipment

44 Bray, "Flows and Matrices, Landscapes and Cultures."

45 Rosenwein, *Generations of Feeling*.

46 "Profesional – Noticias," *Secretaria moderna*, January 1984, 7. On emotional sequences see Rosenwein, *Generations of Feeling*, 8.

47 "Nuevos roles para secretarias," *Secretaria moderna*, July 1983, 16–17.

48 "Siemens PC auf neuen Wegen," *Com. Siemens-Magazin für Computer & Communications* 3/1985, 12; Webster, "From the Word Processor to the Micro"; Christine Martius-Spitzky, *Frauenarbeit im automatisierten Büro* (Bundesministerium für Arbeit und Soziales, 1987); Bösch, "Wege in die digitale Gesellschaft."

remained unused and turned into “expensive dust catchers,” as the Siemens magazine *Com* reported in 1985.⁴⁹ In a 1983 ad, a Colombian maintenance firm asked when a computer became obsolete and concluded that computers were outdated once they stopped doing their work as well and as cheaply as the latest models. Maintenance could slow down this process and hence save firms money. The firm illustrated its ad with a personal computer in a garbage can.⁵⁰ The ad addressed the concerns of executives over how to keep company equipment up to date. While the maintenance firms sold external advice, the office magazines carried information about new devices. Hence, both formed part of the “mediation junction” of office technologies.

In the 1980s, Latin American magazines for office equipment, computer science, and secretaries intensively dealt with the introduction of new technologies. Several authors promoted the idea of a revolutionary change and argued that a new era had begun, the era of computers.⁵¹ This new era caused uncertainty among the users of office technology, for example secretaries, managers, and computer scientists.⁵² The Colombian magazine *Secretaria moderna* went so far as to claim that computing had “invaded” the office, reflecting perceptions of a sudden transformation. As a result, office workers had to familiarize themselves with a new vocabulary, including screens or terminals, which is why the magazine created a section for this specialized language.⁵³ This section should provide readers with useful knowledge for managing technological change. A similar argument appeared in a Paraguayan computer science magazine but directed to executives. A Paraguayan IBM representative described technological transition as a challenging period for IT staff, as the introduction of a new system could potentially surpass their technical capabilities. Ultimately, he recommended information as a solution to address issues of acceptance.⁵⁴ Hence, professional magazines suggested that firms could control fears by adequately informing employees about computer technology.

49 Translation from German original. “PC Besitz macht noch keinen Profi,” *Com. Siemens-Magazin für Computer & Communications*, 1/1985, 40.

50 ACUC *noticias*, May–June 1983, 30. See on maintenance in technological history: Russell and Vinsel, “After Innovation, Turn to Maintenance”; Krebs and Weber, *The Persistence of Technology*. Unfortunately, there is still no research on computer maintenance in Latin America, but beyond formal maintenance firms, informal maintenance and repair options at computer shops existed.

51 “La vida del futuro en la era de los microcomputadoras,” *Revista Paraguaya de Informática*, 1983, 30–33; “La nueva tecnología. El arma para el progreso secretarial,” *Secretaria moderna*, March 1984, 18–19. For the history of the idea of a digital revolution see Balbi, *The Digital Revolution*.

52 “Hacia el desarrollo de la informática paraguaya,” *Revista Paraguaya de Informática*, 1983, 9.

53 “La informática invadió la oficina,” *Secretaria moderna*, February 1984, 14–15; “Hablando de la automatización de la oficina,” *Secretaria moderna*, August 1983, 37.

54 Galo Eguez, “La resistencia al cambio en la informática,” *Revista Paraguaya de Informática*, June 1984, 14.

Magazines for secretaries and office technologies privileged those voices that reported on positive experiences with personal computers, although fears were admitted. The secretaries' magazines projected a promising future and envisioned computers as a tool that would allow secretaries to empower themselves as professionals, including higher wages, recognition, and social ascent. Already in 1983 the magazine *Secretaria moderna* predicted that secretaries needed to master electronic technology to ensure professional success in the future. In interviews, Colombian secretaries mentioned both the fear of becoming obsolete but also the opportunity to rise in the ranks of the office hierarchy.⁵⁵ A 1984 article even argued that the new technology was a "weapon for secretaries' progress." Personal computers would allow secretaries to work in teams, take over administrative tasks and cooperate closely with managers. Overall, the personal qualities of secretaries would remain important in the automatized office.⁵⁶ To conclude, the secretaries' magazines promoted the computerized office as an opportunity for career advancement. In doing so, these publications sometimes adopted narratives of technology as a way to progress and excluded negative experiences from their coverage.

Encounters: Gendered representations of computerization

Working with computers was at first an encounter with the unknown. Hence, a wide range of imaginations assigned computers personalities, emotions, or gender. Advertisements and professional magazines tried to generate trust in computers through providing information on technical efficiency or portraying them as good colleagues.

Advertisements in the 1980s promoted the computer as a useful tool for executives and secretaries, mostly reproducing traditional gender roles in office work. The visual strategies relied either on promoting the computer's technical performance or introducing it as a good co-worker to generate trust.⁵⁷ The ads frequently relied on stereotyped illustrations of men and women in the office. These depictions had a long history dating back to the introduction of typewriters in the nineteenth century. The classical visual representation showed smiling secretaries sitting at office desks while making phone calls or typing. If men were present, they appeared in a

55 "Nuevos roles para la secretaria," *Secretaria moderna*, July 1983, 16–17.

56 "La nueva tecnología. El arma para el progreso secretarial," *Secretaria moderna*, March 1984, 18–19.

57 See, for example, "TeleVideo advertisement," *Nueva Frontera*, September 12, 1983, 32; "NCR de Colombia," *Nueva Frontera*, February 18–24, 1985, 2; "Burroughs advertisement," *Nueva Frontera*, August 25, 1986, 19.

superior position giving instructions or dictating to the secretaries. These visuals show office work through a male gaze.⁵⁸

Figure 2: Revista Paraguaya de Informática, June 1984, 35.

UN SISTEMA DE PEQUEÑO TAMAÑO Y GRANDES RESULTADOS.

El Modelo 5362 es una versión compacta del conocido Sistema/36 de IBM, y posee prácticamente las mismas características de los otros integrantes del sistema: facilidad de uso, confiabilidad y muchísimas aplicaciones. Sin embargo, es tan pequeño que cabe fácilmente bajo un escritorio corriente, y su precio es sorprendentemente ventajoso.

Eso significa que usted puede mejorar la productividad de sus operaciones comerciales diarias, aumentar la eficacia de sus tareas de oficina y acelerar la distribución de información esencial en su empresa con la misma eficiencia que antes solo era posible con los procesadores Sistema/36 más grandes.

IBM

IBM World Trade Corporation
 Juan E. O'Leary Nro 650 – Piso 10
 Teléfs. 90041 – 95297 – 95298
 Asunción – Paraguay

The significant change from earlier representations is that typing at computers was done by men and women in the office. The change of gendered writing practices is visible in a 1983 Burroughs advertisement for customer service in the computerized office. The photos show women typing in the first image and men typing in the second, while in other ads the traditional gender division persisted. For example, an IBM ad published in Paraguay in June 1984 included the classical situation of a male

58 In the 1980s and early 1990s, visual representations of office work in Latin American magazines included no female executives.

executive assigning tasks to a female secretary. The executive wears a black suit and provides his secretary with instructions while she is typing. Her face is not entirely visible as she looks at the screen (Figure 2). Overall, the gendered ascriptions of typing had begun to move in the early 1980s.⁵⁹ By contrast, visual representations of the computerized office continued to show almost exclusively white employees.

In twentieth-century Latin America, office work was an encounter of different ethnic groups. Early computer ads ignored the diversity of ethnic backgrounds among office staff. So far, my analysis has demonstrated that the depicted secretaries were predominantly white women dressed in skirts, blouses, and high-heeled shoes.⁶⁰ Historically, white women dominated as users in advertisements for household appliances, typewriters, or telephones in Latin America. These ads were directed at elite or middle-class consumers and included people from low-income districts or rural communities.⁶¹ Historical research has revealed that Peruvian office employees were considered “white” in the early twentieth century until office work lost prestige and other racial classifications arose from the 1930s onward.⁶² For the late twentieth century, no similar research has been undertaken. The Colombian secretaries’ magazine *Secretaria moderna* frequently featured white secretaries on its title pages while individual portraits of office employees show principally mestizo or white women.⁶³

Throughout the 1980s, firms used visual metaphors of friendly cooperation to sell computers. Advertisements communicated this through representations of individuals in dialogue with the computer while caricatures presented an imagined emotional encounter between humans and computers.⁶⁴ A 1983 advertisement for an NCR personal computer published in Paraguay shows a blond woman working on a statistical chart. With her right hand, she touches the screen. “Coming from NCR, it is more than personal” states the main slogan. The text below the photo goes on to explain that the work relationship was far more than personal as NCR offered the most advanced technology in the world.⁶⁵ In addition to the personal relationship, the ad presented technical performance as a selling point for this computer.

59 “IBM advertisement,” *Revista Paraguaya de Informática* II, June 1984, 35; “IBM advertisement,” *Revista Paraguaya de Informática* I, 1983, 44; “Burroughs de Colombia advertisement,” ACUC noticias, September–October 1983, 5.

60 “IBM advertisement,” *Revista Paraguaya de Informática* II, June 1984, 35; “IBM advertisement,” *Revista Paraguaya de Informática* I, 1983, 44.

61 Montaño, *Electrifying Mexico*; Berth, “Interrupted Conversations.”

62 Parker, *The Idea of the Middle Class*, 192–93.

63 See for example the November 1983 title page.

64 In historical research, the term has been used for cross-cultural negotiations of emotions, but I also consider it useful for interactions between humans and technology. See Gammerl et al., “Introduction.”

65 “Advertisement for NCR Decision Mate V,” *Revista Paraguaya de Informática*, 1983.

HP followed a similar marketing strategy. An HP ad, published in 1985 in a Mexican daily, introduced the computer as “your best colleague” (*su mejor compañera de trabajo*). In using “compañera,” the ad gendered the computer as female. The photograph depicts a male executive with his hand placed on the monitor, conveying a sense of personal connection with the technology, as he smiles directly at the camera. The accompanying text emphasizes the ease of use of the HP 150 model, indicating its potential to deliver favorable business results (Figure 3).⁶⁶ Both ads rely on personal contact as a key motive to generate trust in computers.

Figure 3: *Novedades* (Mexico), October 7, 1985.

Facilidad de uso, resultados en su negocio...

HP 150
Su mejor compañera de trabajo

Lo más importante en todo negocio son los resultados y la computadora personal HP150 le ofrece precisamente los mejores resultados. Esto es posible gracias a la facilidad de manejo de la HP150. Si, su nueva compañera es tan sensible que cuando usted toca su pantalla, ella comienza a realizar funciones que le ayudan a ordenar mejor su información. Así usted podrá encontrar en forma de claros reportes los datos que necesita. Además, para usarla usted no necesita dominar comandos complicados, la facilidad de manejo de la HP150 le permite prever y obtener resultados en un tiempo considerablemente

menor al que ocupa actualmente. Y eso no es todo, asesorado por su compañera y a través de sistemas realmente simples, usted podrá analizar y presentar sus datos en forma gráfica y comprensible. Como usted podrá notar, la HP150 es tan accesible que permite a cualquier persona, aunque no esté relacionada con el manejo de las computadoras, procesar la información del negocio de manera fácil y rápida. Así, gracias a su HP150 usted podrá mejorar el control contable de su empresa, así como el manejo de las cuentas por cobrar y la facturación; en una palabra su compañera le ayudará a obtener

RESULTADOS.
Ahora que conoce sus ventajas, hágase acompañar por la HP150 y compruebe porqué es su mejor compañera de trabajo

Consútenos:
Monte Pelvoux No. 115
Col. Lomas de Chapultepec
11000 México, D.F.
Tel. 520-91-27 520-15-06 540-76-82

Su socio en productividad

hp HEWLETT PACKARD
MICROCOMPUTADORAS
HEWLETT-PACKARD, S.A. DE C.V.

dec

In portraying computers as good colleagues, computer firms related to early users' experiences. In interactions with computers at home, people had started anthropomorphizing computers and assigning them the capacity to think and communicate. They perceived computers sometimes as companions, sometimes as adversaries. The relationship with computers changed their ideas about work, communication, and society.⁶⁷ By contrast to home computing, office workers had less autonomy in choosing software or adapting hardware to their needs. Nevertheless, Colombian secretaries described the computer as "something like a friend, providing unconditional support."⁶⁸ In 1984, the secretary Berta I. concluded that working with a computer had changed her life: it had improved her professional status, reduced work-related stress, and positively impacted her private life. However, she also related to her initial fear when the computer arrived at her office.⁶⁹ Once again, the professional magazines promoted an emotional sequence from initial irritation to hope, pride, and trust.

The gendering of computers in the 1980s was still in the making and was a frequent topic in visual sources. The magazine of the Colombian Association of Computer Users (ACUC) included contradictory caricatures on the matter. Sometimes, computers appeared as male, as can be concluded from the computers' comments in speech balloons about attractive female office workers. Sometimes, the computers were gendered as female, the most drastic case being a caricature that shows a personal computer with a keyboard consisting of breasts instead of keys. The computer exclaims in a speech balloon: "¡Computadora ... y no computador!" to identify itself as female.⁷⁰ The ACUC magazine was directed to a mainly male audience. Although the caricature is the only such sexualized visual in the caricature series, other drawings of female office workers with tight-fitting dresses also demonstrate that the cartoonists relied on stereotypic female bodies for male audiences.

The dialogue between humans and computers was a recurring topic throughout the 1980s. During the period of computer introduction, caricatures show that there was a lot of uncertainty about this relationship at the workplace. Computers frequently were depicted as reacting in unexpected ways. To explain errors, cartoonists added small animals or humans inside the computer who manipulated the device. In other cases, computers were anthropomorphized and assigned emotional reactions. To do so, the computers needed at least a face or other parts of the body, such as legs or arms. The screen is generally imagined as the head where the brain

67 Turkle, *The Second Self*, 19–23, 159–73, 247–250.

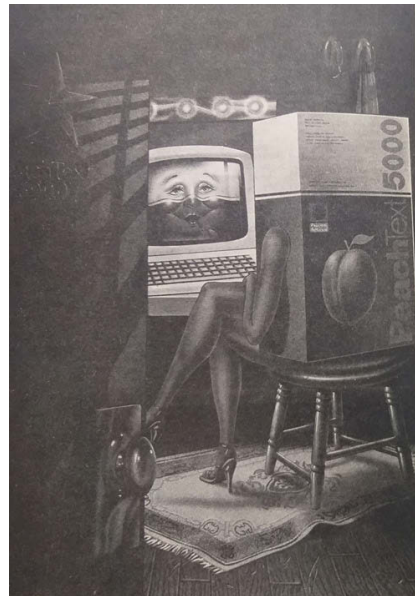
68 "Un elefante blanco cambió mi vida: El procesador de palabras," *Secretaria moderna*, June/July 1984, 11.

69 Ibid.

70 "Compurisa," *ACUC noticias*, September–October 1984, 38.

and feelings are located. For example, one caricature shows a computer with head-phones and a female office worker explaining in a speech balloon that the computer only worked with background music.⁷¹ Generally, emotional reactions of computers are visualized on the screen either through a face or graphic elements such as moving lines or flashes. The cartoons are expressions of an imagined emotional encounter.

Figure 4: *Novedades*, January 16, 1986, p. A5. Figure 5: *Revista Paraguaya de Informática* 1983, p. 42.



In contrast to the ads and articles anthropomorphizing computers, there were also illustrations in which office workers lost human attributes. A TeleVideo ad published in Mexico in 1986 created an analogy between computerized work and an orchestra through a drawing.⁷² A group of faceless office workers played computers with a bow as if they were cellos (Figure 4). The ad's title, "Ensemble in harmony," suggests fruitful teamwork without communication problems while the text argues that growing enterprises need to invest in integrated computer networks.⁷³ This drawing

71 "Compurisa," *ACUC noticias*, March–April 1985, 38; "Compurisa," *ACUC noticias*, January–February 1984, 38.

72 TeleVideo was a US company producing computer terminals and personal computers in the 1980s.

73 "TeleVideo advertisement," *Novedades* (Mexico), January 16, 1986, A5.

is not the only one in which humans lose certain traits. A 1983 drawing published in a Paraguayan computer science magazine visualized the word-processing package Peachtext as a box which substituted the head and body of a female person sitting in front of a personal computer. Only the legs with high-heeled shoes and the arms are visible (Figure 5).⁷⁴ These visuals suggest that the individual mattered less in the computerized office as computers or software were taking over significant tasks. Recipients might have felt that their fears of anonymization in the computerized office were justified.

Based on advertisements, cartoons, or television series, many people developed ideas of computer use even though they still did not have access themselves. These imagined uses were incorporated into the cultural narratives of the time and influenced computer use at the workplace. They give us a glimpse into the imaginaries surrounding digital technologies and the future of office work. In the process, people negotiated their fears and desires but also their status in the office hierarchy.

Connections and disconnections: Communication in the office, 1980–2000

Data transmission and local area networks provided new channels of communication to office employees from the 1980s onwards. The early office communication software allowed electronic mails to be sent or appointments to be scheduled. Some programs also included chat options. Historical research has revealed that new communication devices such as the telephone at first often provoked fears and uncertainty about the social etiquette to be followed. The electronic transmission of messages also changed the way emotions were perceived. Sometimes people felt that emotions transmitted through digital media acquired different meanings, sometimes people complained that it was very difficult to convey emotions adequately via new media.⁷⁵ In the 1980s, office employees feared that fewer face-to-face meetings would make their work more anonymous. Once again, professional magazines and trade magazines for office technologies promoted a repertoire of desirable emotions, including enthusiasm and pride. By doing so, they ignored negative experiences with disconnections, occasioned by either technical problems or non-use of new communication tools.

The vision of the connected office started to appear in the 1980s and became dominant in the 1990s. In 1984, a Colombian state bank promoted its new networked computer terminals as a system eliminating distance and expanding service, as customers could now access their account balance from all of the bank's branches. The

74 *Revista Paraguaya de Informática*, 1983, 42.

75 Balbi, "I Will Answer You"; Berth, "Fear, Curiosity"; Fortunati and Vincent, "Introduction."

ad is illustrated with an image designed in the colors of 1980s monochrome monitors. The network grid is the key element in the background strengthening the vision of the connected office.⁷⁶

At that time, networked communication through data transmission and local area networks had become possible. To familiarize executives and employees with the new possibilities, magazines for office equipment visualized communication in the computerized office with schemes. The existence of schemes relying on different technologies demonstrates that the basis of the networked office was still unclear. In some schemes, the telephone network was placed at the center, allowing databases, word processors, personal computers, and telex to be linked. Other schemes used a circular model to visualize connections between different technologies, or distinguished between voice, text and data transmission via local or public networks.⁷⁷

Firms started to implement data transmission over telephone lines and local area networks (LAN) by the mid-1980s. These still suffered from technical problems due to the lack of standardized software and incompatible hardware. Hence, users became frustrated and sometimes lost data. These technical problems were solved in the early 1990s and subsequently ethernet became the dominant standard.⁷⁸ However, systems of data transmission and the evolution of the early internet differed significantly among Latin American countries.

The visions for the networked office coincided with the reality of the disconnected office. It was an office of data loss, connection failures, and uneven communication. Whereas some of the staff already communicated via electronic mail and regularly had access to networked computers, the other part of the staff remained cut off or refused to use these new communication channels. Moreover, unstable infrastructures caused disconnections of the office, for example due to poor telephone service or power failures.

The new options for connecting computers provoked discussions about electronic mail and office communication. Office and secretaries' magazines tried to familiarize their readership with the new technology by providing detailed information. At first, these magazines appealed to office workers to use electronic mail as this would lead to more flexibility and efficiency and reduce paper consumption. The magazine *Secretaria moderna* described in detail the difficulties of reaching busy people by phone. Instead, electronic mail would facilitate communication as employees could answer when it best fitted into their workday without interruptions by telephone. The article is illustrated with a drawing contrasting those

76 "Advertisement for Banco del Estado," *Nueva Frontera*, June 25, 1984, 33.

77 *Oficina & Tecnología*, December 1985/January 1986, 33; *Oficina eficiente*, February/March 1991, 45; *Oficina eficiente*, November/December 1984, 31.

78 Greenbaum, *Windows on the Workplace*, 70; Haigh and Ceruzzi, *A New History of Modern Computing*, 233–34.

offices where employees hang on the phone while papers fly around with tidy offices where only a personal computer stands on the desk.⁷⁹ This comparison highlights how reactions to new technologies were influenced by emotional connections to older technologies, such as the telephone. At the same time, the sharp distinction of a chaotic past and an organized present aimed at creating positive emotions toward a bright future.⁸⁰ Another article presents a vision for the office in 1990, predicting a decrease of routine tasks allowing office workers to develop creativity and administrative skills.⁸¹ Given the possibility of data transmission, executives would increasingly work from home and keep up to date during business trips.⁸² This was in line with optimistic predictions that work would become more flexible and more humanized when computers or robots took over unpleasant tasks. Again, the office magazines favored positive visions of electronic communication and only occasionally related to fears.

In 1980s dystopian visions, work was expected to become more anonymous.⁸³ In the context of office work in Colombia, there existed a palpable apprehension among office employees regarding the potential absence of interpersonal connections. A 1984 article in *Secretaria moderna* emphasized the necessity of maintaining personal contact and cautioned against the dehumanization of office workers, highlighting the need for them to resist assuming robotic roles.⁸⁴

During the 1990s, the focus shifted toward envisioning a globally connected office through the internet and email. These visions were, in part, a reflection of the contemporary euphoria surrounding the internet. An advertisement for NEC office equipment of the early 1990s promised that everything would be possible and included images of a personal computer, a satellite ground station, a landline phone, and a fax machine.⁸⁵ In 1995, *Secretaria al día* introduced readers to the internet as an “information highway” that would bring “immediate integration with any person in the most remote place of the world” in the future.⁸⁶ This quote alluded to the idea of the global village, formulated in the 1960s by media scholar Marshall McLuhan. Since then, it has been taken up in technological visions for communication networks, such as the telephones or satellites. The visual representations of communication in the 1990s promoted the idea of feeling globally connected.

79 “El correo electrónico interno,” *Secretaria moderna*, April 1984, 32–33.

80 Scherke, *Emotionssoziologie*, 125–26.

81 “Profesional – Noticias,” *Secretaria moderna*, March 1984, 7.

82 “Cómo imaginan su oficina en 1990,” *Secretaria moderna*, March 1984, 7.

83 Rehlinghaus and Teichmann, “Historische Zukunftsforschung”; Saval, *Cubed*, 256–72; for contemporary visions see Oppen, “Zukunft von Frauen im Büro.”

84 “La clave para la automatización en la oficina,” *Secretaria moderna*, May 1984, 32–33.

85 “Todo es posible,” *Oficina eficiente*, February/March 1991, 34.

86 “La autopista de información,” *Secretaria al día*, 1995, 15.

While the connected office became dominant in 1990s representations, the disconnected office continued to exist where infrastructure such as electricity or the internet remained unstable. In the sources I have analyzed, these problems are nearly absent. In February 1986 one Mexican user who had faced problems with a wrong credit card bill expressed his frustration in an article entitled “Dear Computer.” Written in the style of a personal letter, he accused programmers of having originated the problems while bank employees he talked to declared the computer responsible.⁸⁷ In general, in countries like Mexico or Colombia, public discontent over shoddy service of essential utilities was high at that time. For example, readers’ letters in important newspapers indicate that enraged users formed emotional communities.⁸⁸ Negative emotions were also present when Merck introduced electronic office communication.

At Merck, the standardization of office communication took longer than initially expected and was accompanied by uncertainties. In 1987, the staff magazine explained that subsidiaries should be able to send their data via remote transmission to Darmstadt within a few minutes.⁸⁹ Between 1986 and 1989 the IT department evaluated two office communication software platforms and ultimately decided on Connect. However, the software was still not suitable for use abroad as subsidiaries worked with a different software environment than the headquarters. Hence, the IT department was uncertain how to establish communication which was valid across systems within the firm. It was not until 1993 that Connect was opened for communication with subsidiaries and other enterprises in Europe as the speed of data transmission had improved by that time. Although other programs were in use, the headquarters considered Connect as the “backbone of office communication” until 1996. By that point, the IT department had already tested Lotus, which went on to become the most used software in 2000.⁹⁰

Around the turn of the millennium, visions of global connectivity coincided with the formulation of company-wide rules for email traffic. The illustration shown in Figure 6, from the magazine *Así somos Merck*, communicates a vision of global connectivity showing a secretary at work connected to the world through databases, software, and email.⁹¹ The visual was produced by graphic software and includes

87 “Querida computadora,” *Excélsior*, February 27, 1986.

88 “Infarto telefónico en Bogotá,” *El Espectador*, June 18, 1979; “Año de crisis en servicios públicos,” *El País* (Cali), January 3, 1991, C4; Pérez Chavolla, “The Public’s Interest in Telecom Reform.”

89 “Informationen sollen fließen,” *Merck informiert*, January 16, 1987, 2.

90 Arbeiten der Gruppe IVO/BO Büroorganisation 1987, V10/5; Bericht von OI für 1993, January 17, 1994, Merck Archives; “Connect bleibt Rückgrat der Bürokommunikation,” *Merck informiert*, July 18, 1996, 4; *Merck informiert*, June 20, 2000, 2.

91 “Informática hacia el siglo XXI,” *Así somos Merck*, no. 141 (Marzo 1998): 2. ZR02 BR67 Merck Archives.

symbols for software packages, such as statistical programs. The netiquette discussed at management workshops in 2002 established rules for the design, subject, and salutation in emails. It was also stipulated that emails should be answered within two days.⁹² At that time, email use had become widespread within the firm.

Figure 6: *Así somos Merck* No. 141, 1998, p. 2.



The path from early office communication software to extensive email use took around twenty years. Fears of impersonal communication and hopes for more efficient work coincided in the introductory period. In the 1990s, firms and office magazines increasingly promoted the computerized office as globally connected, ignoring ongoing problems with disconnections and the digital divide.

Conclusion

The global rise of the computerized office created new contact and conflict zones. Global power structures influenced user-friendliness, design, and languages of

92 Nettikette bei Merck – eine Zusammenfassung der Ergebnisse aus den Führungskräfte Workshops vom 24. und 18. Juni 2002, V 10/107, Merck Archives.

computer systems. In Latin America, US dominance provoked resistance and an emotional rhetoric of pride and self-reliance connected to earlier waves of anti-Americanism. This happened in a period when international organizations engaged in campaigns against unequal access to communication and technological dependency from computer monopolies. These ideas were still prevalent in the 1980s, but the debt crisis and the rise of neoliberalism weakened political projects to create technological alternatives.

The computerization of office work was accompanied by the formation of emotional communities among office employees and the establishment of emotional repertoires for dealing with digital devices at work. The 1980s was a period of transition with a high level of uncertainty about the future. Technological heterogeneity and rapidly changing equipment caused fears and frustration, but also hopes for improved communication and professional opportunities. While in practice frequent disconnections occurred, the visuals in professional magazines and ads stimulated imaginations of smooth communication and efficient workflows. Although only a minority of employees worked full-time with personal computers, they engaged in the debates and developed ideas about their future workplace. Some remained hesitant, some engaged in training measures, and others openly resisted computer use. Resistance and negative emotional reactions occurred when firms failed to make necessary adaptations to hardware and software. In particular, Spanish-language features mattered both for political and practical reasons.

Regarding communication, the debates focused on anonymity vs. personal contacts. This was reflected in visuals where humans lost personal traits. At the same time, narratives about personal relationships with computers were common. Computer firms assigned the computer a role as friend or colleague in their marketing campaigns. In the representation of gender roles there was a continuity in showing traditional relationships between male superiors and female secretaries. However, the gendered representation of typing as a female activity changed rapidly. Even if the written coverage in secretaries' magazines envisioned new professional opportunities for women, the published visuals remained more traditional. Contemporaries also imagined emotional encounters with computers as gendered, categorizing them sometimes as male and sometimes as female. For these imaginations, computers were visualized with human characteristics, such as a face on the screen. The imagined computerized office was an office of white employees, ignoring the presence of other ethnic groups.

In the 1990s, the vision of the connected office became dominant, influenced by contemporary internet euphoria. Nevertheless, the implementation was not as easy as experts had imagined. Different national models for data transmission and pathways to the internet existed. During this period, the disconnected office still was a reality. In many enterprises, including large multinationals, it took decades to implement email and standard programs on the global scale. In the early twenty-first

century, the personal computer lost its status as a symbol for the future of office work. Attention turned to mobile devices.

During the rise of the computerized office, emotional communities were overlapping and varied. There was an emotional community at the level of enterprise, but as the Merck case demonstrates, the firm could also divide into emotional communities at the subsidiaries and headquarters. There was also a division between professional groups – in other words emotional communities of IT staff, executives, and secretaries. Finally, there were the emotional communities of those staff members willing to embrace technological change with optimism or enthusiasm and those who were fearful and skeptical.

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