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**Do Too Many Chefs Really Spoil the Broth?
The European Commission, Bureaucratic Politics
and European Integration**

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Abstract

There is a puzzling, little-remarked contradiction in scholarly views of the European Commission. On the one hand, the Commission is seen as the maestro of European integration, gently but persistently guiding both governments and firms toward Brussels. On the other hand, the Commission is portrayed as a headless bunch of bickering fiefdoms who can hardly be bothered by anything but their own internecine turf wars. The reason these very different views of the same institution have so seldom come into conflict is quite apparent: EU studies has a set of relatively autonomous and poorly integrated sub-fields that work at different levels of analysis. Those scholars holding the "heroic" view of the Commission are generally focused on the contest between national and supranational levels that characterized the 1992 program and subsequent major steps toward European integration. By contrast, those scholars with the "bureaucratic politics" view are generally authors of case studies or legislative histories of individual EU directives or decisions. However, the fact that these two images of the Commission are often two ships passing in the night hardly implies that there is no dispute. Clearly both views cannot be right; but then, how can we explain the significant support each enjoys from the empirical record? The Commission, perhaps the single most important supranational body in the world, certainly deserves better than the schizophrenic interpretation the EU studies community has given it. In this paper, I aim to make a contribution toward the unraveling of this paradox.

In brief, the argument I make is as follows: the European Commission can be effective in pursuit of its broad integration goals in spite of, and even because of, its internal divisions. The folk wisdom that too many chefs spoil the broth may often be true, but it need not always be so.

The paper is organized as follows. I begin with an elaboration of the theoretical position briefly outlined above. I then turn to a case study from the major Commission efforts to restructure the computer industry in the context of its 1992 program. The computer sector does not merely provide interesting, random illustrations of the hypothesis I have advanced. Rather, as Wayne Sandholtz and John Zysman have stressed, the Commission's efforts on informatics formed one of the most crucial parts of the entire 1992 program, and so the Commission's success in "Europeanizing" these issues had significant ripple effects across the entire European political economy. I conclude with some thoughts on the following question: now that the Commission has succeeded in bringing the world to its doorstep, does its bureaucratic division still serve a useful purpose?

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Do Too Many Chefs Really Spoil the Broth?

The European Commission, Bureaucratic Politics and European Integration

1. Introduction: Will the Real Commission Please Stand Up?

There is a puzzling, little-remarked contradiction in scholarly views of the European Commission. On the one hand, the Commission is seen as the maestro of European integration, gently but persistently guiding both governments and firms toward Brussels (the classics are Haas 1958 and Sandholtz and Zysman 1989; more recent examples are Smyrl 1998 and Boockmann 1998). On the other hand, the Commission is portrayed as a headless bunch of bickering fiefdoms who can hardly be bothered by anything but their internecine turf wars (Peters 1992; Greenwood et al. 1992; Pedler and van Schendelen 1994). The reason why these very different views of the same institution have so seldom come into conflict is quite apparent: EU studies has a set of relatively autonomous and poorly integrated sub-fields that work at different levels of analysis. Those scholars holding the “heroic” view of the Commission are generally focused on the contest between national and supranational levels that characterized the 1992 program and subsequent major steps toward European unification. By contrast, those scholars with the “bureaucratic politics” view are generally authors of case studies or legislative histories of individual EU directives or decisions. However, the fact that these two images of the Commission are often two ships passing in the night hardly implies that there is no dispute. Clearly both views cannot be right; but then how can we explain the significant support each enjoys from the empirical record? The Commission, perhaps the single most important supranational body in the world, certainly

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II. How Many Chefs Can Create a Tasty Broth

When one speaks of European integration, it is necessary to specify whether one is thinking more about institutions and policy inputs, or about markets and policy outputs. In terms of integration of institutions and policy inputs, the main measure of success has been the assessment of whether "national champion" companies and other previously nationally-minded organizations (including states) can be convinced to "come to Brussels" both literally and figuratively. By contrast, in terms of integration of markets and policy outputs, the main measure of success has been the unfolding of free competition within sectors and across boundaries, which makes what goes on in Europe and particularly in Brussels impossible for extra-EU companies and states to ignore. While these definitions of integration are different, they are not mutually exclusive. In this

paper, I will argue that Commission bureaucratic politics can further European integration in *both* senses of the term.

The non-hierarchical structure of the Commission is well-known. The Commission is a college that works by consensus, and whose President is, at least in formal terms, merely *primus inter pares*. Underneath the Commissioners, there is the broader Commission divided into Directorates-General (DGs), each overseen by a Commissioner and more directly by a Director-General who, by virtue of long service, often has much more influence on Commission policy than his or her nominal boss, the Commissioner. Each DG has specific functional tasks assigned to it; important DGs in this study include "Internal Market and Industrial Affairs" (DG III), "Competition" (DG IV), "Personnel and Administration" (DG IX), and "Telecommunications, Information Market and Exploitation of Research" (DG XIII). These tasks can and do change due to the expanding scope of EC policy or political turf wars, of which, as this brief description of the overall structure makes clear, there are many. B. Guy Peters notes that bureaucratic politics "is apparently becoming an important subtext for everything else happening within the EC" (Peters 1992, p. 107). There is almost uniform agreement in the literature that such a "subtext" hampers Commission performance, slows down the pace of European integration and reduces the power of Brussels as a European and world politico-economic center. The only slight defection from this broad church is Greenwood and Cram (1996), who argue that the fact of different interest groups working with different DGs can on occasion be functional, but only if those groups and DGs learn to "collaborate" rather than to "compete." In this paper I take a much bolder position: I will attempt to prove that even inter-DG *competition* can bring significant benefits to the integration process.

INTEGRATING THE POLITY

Let us first consider the effect of Commission bureaucratic politics on the "Europeanization" of the EU polity, and in particular of interest representation. Many scholars, starting with Haas (1958), have recognized the Commission's interest in cultivating direct ties with European interest groups. The Commission not only pursues these ties for the grand goal of promoting the

importance of Brussels as the center of the European polity; it also needs these ties for more mundane matters such as information on particular technical issues, and as links between itself and national policymaking arenas. The avidity of the Commission to cultivate “Euro-level” interest representation is very well documented (Greenwood and Cram 1996; Pedler and van Schendelen, 1994; Butt Philip 1991).

What is less remarked is that *in the course of intra-Commission struggles DGs may feel an even greater need than usual to enlist the support of such groups as allies for the battle*. As a result, more groups are consulted, and more interests are brought into the Brussels vortex. The logic here is very simple. While ideally it is best to consult all relevant interests from the very beginning of the policymaking process, this process of consultation— in particular when the groups need not only to be consulted but *formed* at the European level— is an arduous one. Eurocrats, already overworked, are not so religious about the European project that they will sacrifice their every waking moment in order to give themselves a more complicated set of interests to balance. The phrase “good enough for government work” is as applicable to Brussels as Washington or anywhere else. By contrast, when the Commission is divided against itself, suddenly there is a real reason to go out into the hustings and recruit allies for one’s cause.

In addition, and perhaps even more important than the considerations mentioned above, “Europeanizing” the EU polity must be seen as an ongoing *process* rather than as a temporary consultation on a particular piece of legislation. It is not inevitable that once an interest group, firm or other organization has a post office box in Brussels, it will naturally engage in long-term participation on and promotion of the European level. There are several studies of the growth in the number of interest groups based in Brussels; but an interesting study remains to be done on the many that came and then left or simply disappeared.

How can Commission bureaucratic politics help turn interest groups from temporary visitors to permanent fixtures on the Brussels scene? There are at least two obvious ways. First, as previously mentioned, Commission bureaucratic politics makes Eurocrats more avid to cultivate contacts; the greater the interest and concern they show for the interest groups’ issues, the greater

the likelihood that the interest group will feel that there is a receptive ear in Brussels that is worth continuing to speak to. Second, issues, tastes, technologies all change over time. But the Commission, like all public bureaucracies, tends to be less sensitive to these changes than, say, firms pushed by the profit motive. The existence of competition within the Commission for the support of companies and other interests helps to keep the Commission in general from losing track of developments in economy and society, although on occasion one or another DG may for a time indeed fail to “get it.”

INTEGRATING AND OPTIMIZING THE MARKET

The positive role of Commission bureaucratic politics for European integration is not limited to bringing more interest groups to Brussels. It is true that one implication of the growth of European interest representation is that more groups simply mean more policy gridlock. But in this section I argue that Commission bureaucratic politics can also have a positive impact on the unfolding of free competition within sectors and across boundaries in Europe, and thus on the integration of the European economy. My case is based on recent innovations in economic thought, which imply that when it comes to high technology end of the economy, having a “gang that can’t shoot straight” in industrial policy might be exactly what is needed for economic growth.

The information technology revolution has given birth to what is now a well-established branch of economics, which focuses on the positive feedback effects of “network technologies” (for an overview, see especially David and Greenstein 1990). Although the school was certainly given great impetus by the obvious incapacity of traditional economics to understand the dynamics of the new information industries, in fact the insights generated have been applied to all sorts of innovations from every conceivable period, including for instance the standardization of the QWERTY typewriter keyboard (David 1985).

The basic insight of this school is that there are such huge benefits to society from the diffusion of a single standard for these technologies that there is a tendency for very small initial advantages to balloon into overwhelmingly dominant market positions, which are “locked in” for

the life of the technology-- eventually representing a brake on technological progress. This is the logic behind, for instance, the decision of Web browser providers to distribute their browsers freely rather than asking users to pay for the software. Almost the only way for these positive feedback loops to be overcome is for a new, substantially different technology to arrive and, in a similar tidal wave, completely replace the former one. In the information revolution, thankfully, these tidal waves are relatively frequent.

What are the implications of "network economies" for politics, and why might Commission bureaucratic politics be particularly well suited for them? First, to the extent that government intervention can maintain competition between two technologies for a longer period of time than would otherwise occur, the product that eventually "locks in" as the winner of the contest will be technologically more advanced than it otherwise would have been (recall that after "lock-in" has occurred, technological progress slows down precipitously). An organization "plagued" by bureaucratic politics is perfectly suited to the seemingly "irrational" policy of strongly supporting two (or more) directly competing technologies at once. Second, as noted above, in spite of "lock-in" effects, the information revolution is actually one revolution after another. A government that supports a "winning" technology can only count on maintaining its influence and prestige in the area for so long, until the technology is inexorably replaced by something completely different. Bureaucratic politics is equally well-suited to the seemingly "irrational" policy of supporting a technological alternative to one which has recently achieved success.

These arguments are of necessity somewhat abstract at present. I now turn to a case study from the Commission's policy on the computer industry, in order to give the reader a clearer idea of how they might work in practice.

III. Case Study: "Open Systems" in the Computer Industry

GENERAL TECHNICAL INTRODUCTION: WHAT ARE OPEN SYSTEMS?

As anyone with a Macintosh at home and an IBM at the office knows, there is almost

nothing more frustrating for the computer user than the curse of incompatibility. This curse, bad enough in the market for personal computers, is doubly severe in the market for multi-user computer systems.¹ If incompatibility has been a curse for the user, it was long a boon for the computer makers, also known as systems vendors. Vendors like IBM long used various built-in incompatibilities between its and other vendors' systems to "lock in" customers and earn quasi-monopolistic rents for their "proprietary" systems. But recently the computer industry has witnessed a phenomenal movement away from proprietary systems. The rise of open systems has encouraged massive structural change in the IT industry. Profit margins are sinking fast, and many established systems vendors-- including the venerable IBM-- have had to do major reengineering just to stay afloat. In short, open systems are bringing free competition to the computer industry.

There is today no longer any doubt that the future belongs to "open" systems, which can be defined loosely as systems characterized by compatibility between different vendors' offerings. There are two key aspects of "open" systems: "*interoperability*," or the ability to move data across different networks; and "*portability*," or the ability to run applications on hardware platforms produced by different vendors. To achieve both of these goals requires an open *process* of concertation among vendors and others to fix (in a *de facto* or *de jure* manner) common general technical standards (not to be confused with quality standards).

THE BIRTH OF OPEN SYSTEMS: THE ROLE OF THE COMMISSION

Why are open systems on the rise? Fundamental technological and economic forces are a significant part of the reason. But a major-- and heretofore largely untold-- role has also been played by *public authorities*. Many states have made their mark on the movement, but perhaps the most persistent and effective public sector promoter of open systems was the European

¹ The reason for the heightened compatibility problems in these multi-user systems, such as minicomputers, mainframes, and microprocessor-based systems more powerful than generic PCs, is quite clear. These are computers that are much less self-contained than PCs and that generally need to interwork with a much wider range of equipment.

Commission. By first energizing European vendors in favor of open systems, by helping them combine their efforts, by pushing hard for an open and speedy standard specification process, and by promoting open systems solutions in the market, Commission officials helped turn what was at first only a fuzzy academic concept into concrete reality.

One would hardly have expected the staid, hapless "national champion" European computer companies to have effected a major revolution in the information technology world. Yet, against all odds, they did just that by adopting the "open systems" banner in the early 1980s. Recognizing the importance of the European vendors' decision for open systems, the economist H. Landis Gabel has devoted several articles (Gabel 1987, 1991; Cool and Gabel, 1992) to exploring their motives. His argument focuses on the poor strategic position of European vendors in the mainframe market. In short, they saw open systems as "the last stand against IBM" whose newly unveiled "Systems Network Architecture" (SNA) threatened to put everyone else out of the mainframe business (Libicki 1993, p. 36). But while Gabel's analysis of the European vendors' incentives as small, technologically inferior competitors to IBM points to the rationality of the "open systems" option for them, he does not explain how they overcame the collective action barrier to moving in that direction. Nor does he explain why at first it was only a group of European companies that succeeded in overcoming that barrier.

That barrier was quite significant. The major European vendors-- Bull of France, ICL of Great Britain, Siemens and Nixdorf of Germany, and Olivetti of Italy-- were "national champion" vendors who with national government backing had long competed directly with-- and alone against-- IBM. Their corporate cultures were concomitantly nationalist and closed. The history of European vendor cooperation prior to 1984 certainly gives us no confidence that such consortia would have naturally emerged. The only major attempt at pan-European cooperation in computers-- the 1972 effort by Compagnie Internationale de l'Informatique,² Philips, and Siemens "to pool their computing resources and form UNIDATA"-- had led to failure and bitter recriminations in 1975. After the collapse of UNIDATA (which was not an open systems alliance), European

² CII was the French "national champion" predecessor to Bull.

vendors primarily looked for overseas rather than intra-European alliances (Mytelka and Delapierre 1987, p. 241).

Yet they overcame this barrier in large measure thanks to the European Commission. Wayne Sandholtz (1992a, 1992b) has well described the overall story of these efforts, although he tends to slight the importance of standards to the Commission's game plan. In 1981, Industry and Internal Market Commissioner Etienne Davignon, whom Sandholtz (1992b) calls the "entrepreneurial IO official par excellence," used Japan's Fifth Generation Computer Project as a pretext for asking European IT companies whether they would like an EC response. Davignon was no stranger to this bald institution building, having already used it successfully in several other industries including shipbuilding, steel, oil refining, and textiles. The result was the formation in 1981 of a group of twelve European computer and telecommunications giants that became known as the "IT Roundtable." The group and Davignon agreed to push for a major EC research program emphasizing inter-firm collaboration on so-called "pre-competitive" research in IT. The "pre-competitive" label was designed to avoid the slings and arrows of the Competition Directorate and its liberal-minded allies, who could rightly point out that the Treaty of Rome did not provide for an EC industrial policy (Sandholtz 1992b, p. 167). In the proposed program, called ESPRIT ("European Strategic Program for Research in Information Technology") the EC would provide half of the funds and the participating companies would provide half of the funds for research in five strategic areas: microelectronics, advanced information processing, software, office automation, and computer integrated manufacturing.³ ESPRIT received final approval from the Council of Ministers in February 1984, at the Commission's requested funding level of 750 million ECU (Sandholtz, 1992a). This big-budget program would become the centerpiece of EC IT policy and a major step toward adoption of the 1992 program.

There were many reasons for the Commission to support ESPRIT. ESPRIT encouraged the growth of European cooperation in high technology, it could possibly have led to a

³ Horst Hunke told me that the Commission had originally proposed four areas, and that the companies had added software to the list. (Hunke, personal communication, July 1993.)

"renaissance" of the European IT industry, and it increased the importance and budget of EC institutions. But IT standards policy was another important yet often overlooked aspect to the Commission's drive for ESPRIT. Standards policy was important to the Commission in two crucial ways-- both externally, as a sales technique for its involvement, and internally, as a provider of direction and purpose to the Commission's activities. I will consider these in turn.

Standards played a critical role in the selling of ESPRIT to the national governments. As it had done in 1974, when it gained its first foothold in IT policy, the Commission under Davignon used the cooperation the governments had already accepted-- standardization-- to push for a broader EC mandate. As Wayne Sandholtz (1992b, p. 169) has pointed out, in its propaganda for ESPRIT the Commission "identified standardization as one of the two most important reasons for EC action" in R&D. It also made specific mention of standardization in several of the proposed research areas. Thus the nations' acknowledgment of the importance of European cooperation on standardization became a wedge which the Commission utilized to promote the much costlier R&D proposal.

But the Commission's emphasis on standardization was not entirely a sales technique for ESPRIT. The fight for the single market was beginning to brew, and, as the Commission wrote at the time, "the importance of standards for the creation of a more homogeneous European home market in the IT sector is capital (quoted in Sandholtz, 1992b, p. 169). The Commission's "Working Group on Standards," and its leader, Kenneth Thompson in particular, militated passionately for inclusion of standards as a central part of the overall EC IT policy. As explained above, the national governments were completely supportive of this goal, but some of the "national champion" companies were still balking. The Commission decided to use a carrot-and-stick approach to bring the companies into line.

The carrot was a sixth area of research funding, dubbed the "ESPRIT Information Exchange System" (IES). Companies who would be undertaking collaborative research would certainly need to communicate with each other. Advocates in the Commission of "open systems" were at this time primarily concerned with interoperability across networks and were promoting a

technical solution known as "Open Systems Interconnection" (OSI) in order to achieve this. They argued that instead of simply purchasing a proprietary data communications network from one or another vendor for the IES system, here was an opportunity to underwrite the collaborative implementation of OSI standards. In other words, IES could be the first realization of the dream of interoperability. Then, after the implementation proved successful, the companies could turn around and sell it on the open market. Some at the Commission argued that the present need for a working communications system should override all other concerns, but they were overruled.⁴ The infrastructure for the ESPRIT program was to be an experimental implementation of OSI. Sandholtz's account of the birth of ESPRIT fails to mention this ESPRIT area. It is no wonder; as an "infrastructure" project it was slightly different than the other five, and the money attached to it was not nearly as great. But the lack of a huge budget did not mean that the Commission viewed IES as unimportant; rather, the Commission expected that the small amount of funding would be enough to create the system.⁵

Despite the IES carrot, some companies in the Roundtable remained unenthused about OSI. Some had given up fighting the "inevitable" triumph of IBM's SNA networking system and were attempting to fit themselves into niches in the IBM environment. Others were wedded to their own networking solutions, which represented sunk costs for them. Most found OSI quite unpalatable from a technical standpoint.⁶ Davignon realized that he would have to shock the companies into line. At one of his meetings with the IT Roundtable, Davignon raised the issue directly: they would have to agree to make a serious effort on standardization. Most of the companies agreed, but one contested the point, arguing that "open" standards would not be good for the European IT industry. Davignon replied something to the effect of, "I thought you were serious about ESPRIT."⁷ This made it explicit that Davignon's commitment to fight for ESPRIT was contingent on the companies'

⁴ Wilkinson, personal communication, July 1993.

⁵ Hunke, personal communication, July 1993.

⁶ Richard Lloyd, personal communication, December 1993.

⁷ O'Connor, personal communication, August 1993.

commitment to fight for OSI. The companies agreed to support OSI-- but only if the Commission would launch an effort to require OSI for public procurement in Europe, for they still did not believe there was a market for open systems. The idea of getting into national procurement decisions was completely harmonious with the Commission's goals.⁸

In 1983, the twelve companies announced the formation of the "Standards Promotion and Application Group" (SPAG) whose aim was to promote the implementation of OSI through the development of "functional standards." Functional standards, or "profiles," were important because the OSI base standards were much too complex (with too many technical choices) for users to be able to get interoperability simply by going to a vendor and saying, "I want OSI." Piscitello and Chapin (1993, p. 19) commented, "OSI standards offer choices in places where choices aren't always best for guaranteeing the interoperability of different implementations-- which is presumably the purpose of having open systems in the first place." The first fruits of SPAG's effort to define these "profiles" were published in its "Guide to the Use of Standards," or GUS, in 1984. Robb Wilmot, former head of ICL, told me that he viewed the Brussels-based SPAG as something ICL had to participate in to appear as "good Europeans".⁹ But as we shall see, the companies became serious about their effort in SPAG.¹⁰ Sir Herbert Durking of Plessey commented at the time,

One of the by-products of ESPRIT which in some ways has perhaps

⁸ Gondran, personal communication, August 1993. This initiative to require public procurement of OSI became successful with Council Decision 87/95.

⁹ Wilmot, personal communication, November 1993.

¹⁰ Why was a new group necessary? The European Computer Manufacturers Association (ECMA) already existed, so why not just start a functional standards group there? Because, as Hubert Zimmermann told me, in SPAG "they felt together versus IBM." (Zimmermann, personal communication, August 1993.) IBM, as a large European producer, was a member of ECMA. So SPAG was at least at first a case of Europeanization at the expense of globalization. Later IBM was admitted to the group.

been the most successful is the standardization aspect. All the companies involved have agreed to accept a set of standards, which are called open system interconnect standards, and work towards these (Jowett and Rothwell 1986, p. 93).

Of course, Davignon had other reasons to fight for ESPRIT than as a mere side payment to encourage companies to cooperate on OSI. But his wagging of the stick worked.¹¹ The European vendors had collectively made a firm commitment to open systems (here, especially interoperability). The role of the Commission in fostering European vendor cooperation for open systems is the solution to the puzzle of the European vendors' collective move to open systems.¹²

In sum, the meetings of the IT Roundtable and the ESPRIT program marked a dramatic increase in Commission involvement-- even leadership-- in IT policy and the OSI movement in particular. In addition, it represented the springboard from which the Commission jumped to its much more ambitious 1992 program. And in the marketplace, its leadership was initially successful; by 1987 the European IT industry was showing signs of a rebound, and IBM was complaining that the Commission and the IT Roundtable had reinvigorated OSI against IBM's SNA in the marketplace (Bainbridge 1987, p. 356). The OSI effort continued to gather steam in the late 1980s, as the Commission, traditional standards bodies, firms and users founded the European

¹¹ A respected industry trade journal agrees with this assessment: "Indeed, it appears that the whole ESPRIT programme was used as a lever on the participating suppliers. Certain of them whose attitudes to IT standards were ambivalent, to say the least, found a new enthusiasm when there were signs that commitment to standards was part of the entry fee to the club. That forced enthusiasm has in the meantime become real, as the bleakness of the prospects for go-it-alone communication and interworking technologies has been appreciated" (*OSN*, 1988, p.9-10).

¹² The vendors' move for portability (X/Open) will be discussed in a later chapter. The answer to the puzzle is largely the same.

Workshop for Open Systems (EWOS), in order to streamline the process of standards-setting.¹³

ENTER BUREAUCRATIC POLITICS

Up to this point in the story, the model of the Commission has been very clear: it is the “heroic” unitary actor model employed by the scholars of European integration. The passionately “European” Davignon *was* the Commission in the early 1980s, and he hardly had two minds about him. Davignon’s Commission was an integration whirlwind: bringing the European IT industry together in Brussels, getting them to agree to lobby for programs that would increase the EC’s influence and budget, and for standards that would break down national borders and beat back the “American challenge” embodied in monstrous IBM.

But Davignon’s efforts for open systems are by no means the whole story of Commission efforts in the area. Even while the “unitary actor” Davignon was making his push, Commission technocrats were pursuing their own lines of thinking, and bureaucratic politics were already in full swing. While “open systems” was a concept that everyone in the Commission could agree on, *how* to get there was a matter of intense dispute. There has historically been a great rift, perhaps unnecessarily so, between open systems advocates with a communications (interoperability) focus and those with a software (portability) focus.¹⁴ In addition there has been a clear rift between those who favor *de jure* norms and those who favor *de facto* norms. These controversies have existed not only between but within organizations. In the case of the European Commission, while the standards officials of DG XIII were in favor of *de jure* norms and had a general “communications focus,” the procurement officials of DG IX argued that *de facto* norms could also be open and had a general “software focus.” This split within the Commission had important ramifications for the

¹³ Greenwood and Cram (1996) actually discuss EWOS to note the cohesiveness of the various OSI organizations but show no indication that they are aware of the battle royal between OSI and Unix supporters— and which by 1996 had clearly been lost by OSI.

¹⁴ This is of course a false dichotomy, but it nevertheless was a defining part of the movement up until very recently, and perhaps still persists in some quarters.

movement, as well as for our understanding of the EC. In all of these intra-Commission disputes, corporate allies were lined up to pitch in to the battle, and thus the overall corporate focus on Brussels was promoted by the Commission's internal wrangles.

Even before Davignon's "heroic" intervention, Commission standards policy officials were busily attempting to promote OSI, albeit with more modest success. They slated the Commission Informatics Directorate-- the Directorate responsible for internal IT procurement and day-to-day operations in the Commission-- to become the guinea pig for OSI and interoperability. The Informatics Directorate at first reluctantly followed DG XIII's lead, but its real interests lay elsewhere. In the mid-1980s, the Informatics Directorate declared its independence from DG XIII and embarked on its own open systems crusade-- for *applications portability in addition to network interoperability, and for de facto rather than de jure open standards*.

In the 1980s, the Commission informatics system was a case study of the need for open systems. Through the 1960s and 1970s, it had been forced by national governments to buy four separate, mutually incompatible mainframes from four "national champions." With these difficult technical problems and new political goals being heaped on the informatics department, the Commission informatics oversight body, CDIC ("Management Committee for Informatics in the Commission") began to look for a truly professional information systems manager-- and to invest him with real power. Composed of high Commission officials, the CDIC was not a technically sophisticated group, but it did understand that the task facing Commission informatics was daunting. In January 1981, the Commission offered Walter De Backer, a Belgian national formerly of International Telephone and Telegraph (ITT), the position of Director of Informatics of the newly established Informatics Directorate, a body officially under DG IX but actually more or less autonomous.¹⁵ As De Backer proved himself up to the task, the CDIC gladly retreated from active engagement in Commission informatics.¹⁶

¹⁵ De Backer was to manage the day-to-day computing needs of the Commission, as well as to oversee procurement; note that this was not a policy position.

¹⁶ Christopher Audland, former CDIC member and now member of ICL's European Strategy Board, recalled, "I would

Soon after arriving at the Commission, De Backer recognized the political realities he faced in attempting to build a sensible Commission informatics architecture. There was no way that he could streamline Commission computing with one companies' proprietary architecture. Therefore open systems were his only hope-- though a faint one at best. To the delight of the standards policy officials in DG XIII, with his very first major procurement announcement De Backer earned his stripes as a standardization warrior. The announcement was communications-oriented, it was cross-border, and it referred explicitly to standards. From the Commission industry and standards policy officials' perspective, it was perfect.

But by mid-1985 De Backer was starting to doubt whether the interoperability project would ever provide a functional product. In addition, he was powerfully attracted to a competitor of OSI's, the Transport Control Protocol/Internet Protocol protocol suite (TCP/IP). TCP/IP had been developed for the ARPAnet (forerunner of the Internet) by the US Department of Defense Advanced Research Projects Agency (ARPA) in 1969. Although it did not have the formal standardization organization approval that OSI boasted, TCP/IP was not controlled by any vendor and was openly available to anyone who wished to implement it. It therefore held great potential for the cause of interoperability. In short, it was a *de facto* open standard. And more importantly, TCP/IP *worked*. After years of use, all the bugs had been worked out. In 1985 De Backer (like many others) saw TCP/IP as an intermediate step toward the true interoperability OSI would offer at some point in the future.¹⁷ He decided that the Commission, with its pressing need for a functional LAN, would adopt TCP/IP. The Informatics Directorate began to argue that in the absence of functional OSI standards there was no better choice than TCP/IP.

say De Backer was a very active Director of Informatics. It was he who proposed the policies.... In general the CDIC followed him. We very rarely said no." (Audland, personal communication, July 1993.)

¹⁷ Today it that TCP/IP is a lot more resilient and may be around (to the detriment of OSI sales) for a long time. But De Backer clearly did not expect that, nor did most IT industry observers. De Backer wrote me, "Today, considering the success of Internet [TCP/IP]...we may look at the events from a different perspective, but we must be careful and not color the past with the present." (De Backer, personal communication, January 1994)

This was heresy to Commission standards policy officials from DG XIII. In De Backer's words, "The matter was sensitive for all devoted OSI professionals in the world, in the industry, in DG XIII and also in my own organization. For them OSI was the universe of standards and TCP/IP was a greater threat than proprietary systems."¹⁸ Through the Standards Implementation Committee (SIC), which had been established to keep Commission informatics purchasing on the straight and narrow, they told the Informatics Directorate that abandoning OSI, even temporarily, was unacceptable.¹⁹ They criticized TCP/IP as an "American" solution and said that any move away from OSI, however temporary, undercut the SPAG activities and general European policy.²⁰ "It is clear that in 1985 there was a clash between the Informatics Directorate and DG XIII."²¹ Eventually a compromise was struck; if the vendors could not produce a working OSI-based product by the end of 1986, the Commission could adopt TCP/IP until OSI-based products became available. De Backer put out a large call for tender for a LAN-cabling for the Commission, asking for OSI conformance as a first choice and TCP/IP conformance as second choice-- but demanding that the product be available on the day of the call for tender. De Backer was not going to let the Commission be a guinea pig for more OSI research projects.²² "All he got were offers for [implementing] TCP/IP."²³ That came as no surprise.²⁴

¹⁸ De Backer, personal communication, January 1994. We will come back to this point later.

¹⁹ An ironical sidelight is that DG XIII was the one DG whose informatics purchasing was not under the control of the Informatics Directorate. The result was that DG XIII informatics purchases were much less standards-conformant than Informatics Directorate purchases!

²⁰ CEC official, personal communication, July 1993.

²¹ De Backer wrote me, "Such discussions may have taken place between DG XIII staff and my staff, but I do not remember them." His staff does remember them, vividly (CEC officials, personal communications, July 1993).

²² Another OSI implementation project, MFTS, did conclude successfully in 1988. But since it took five years and required much tinkering with the standards to get it to work, it gave no more confidence in these projects than did ELAN.

²³ CEC official, personal communication, July 1993.

De Backer had another motivation for supporting TCP/IP. In 1984, De Backer had decided that in the interests of software application *portability*-- in many ways a more crucial problem for him than interoperability-- he would standardize the Commission's operations on the Unix operating system. TCP/IP was the communications protocol most closely associated with Unix.²⁵ To communicate with the Unix world-- and therefore to be credible in it-- one had to have TCP/IP. And De Backer was beginning to feel the need to be very credible on Unix.

DE BACKER AND PORTABILITY: MIGRATING TO UNIX

De Backer had decided early on that since he had to pursue a multi-vendor purchasing policy, then he would have to become a staunch public advocate for open systems, in particular to solve his applications portability problem. This was in a broad sense compatible with DG XIII policy, although as we have seen DG XIII at the time defined open systems as OSI and accepted no challenges to its hegemony in the area. Around 1983, De Backer noticed that a handful of vendors (most notably NCR) were beginning to use the Unix operating system for commercial applications. De Backer, who was familiar with Unix from his days at ITT, recognized Unix's potential to become an "open" operating system on all computer ranges.²⁶ In any case, he needed some solution for his portability dilemma.

When De Backer chose Unix for the Commission, very few organizations were even considering it. It was technically unelegant, to say the least, and there was little software written for it. As Informatics Directorate official Dieter Konig said, even a decade after De Backer's initial

²⁴ CEC official, personal communication, July 1993. Nevertheless, the vendors smarted from their experience with De Backer. Frank Deignan, the ICL representative to the project, recalls, "It was in the early days and standards were still progressing, and trying to get all of the European IT industry to work together proved difficult. The TCP/IP decision by the Commission didn't help, to put it mildly." (Deignan, personal communication, August 1993)

²⁵ ARPA had funded the U.C. Berkeley Unix project in the 1970s to graft TCP/IP on to Unix.

²⁶ Although it was far from open as of yet.

choice for Unix, "you would [still] hesitate to pick Unix-- or even call it satisfactory."²⁷ But De Backer had long abandoned hope of providing a technically optimal solution to the Commission user. Given the political realities facing De Backer, Unix was the best he could do.²⁸

AN INDUSTRIAL POLICY FOR PORTABILITY

But the best he could do was variable. If he simply sat passively, buying Unix products as they emerged, the experiment would be a disaster. The key reason was the existence of proprietary Unix "flavors." For De Backer to solve his portability problems, he would have to support the development of a "common applications environment" for Unix-- and not just one for himself, but one with real market clout, so that applications developers would write software for it. It was in De Backer's "narrow interest" to become a great public advocate of portability, in order to try to pull the market his way. A European Parliament committee put his strategy this way:

The Commission has, however, made a political choice which is a gamble: it operates a multi-manufacturer computer equipment policy across the board in order to force the introduction of international standards that will ensure compatibility. Although the Commission is not a particularly significant customer for computer manufacturers, it does constitute a benchmark by virtue of its role and position. It therefore has considerable leverage with the industry and a real chance of winning its gamble (EP 1985, p. 14).

²⁷ Konig, personal communication, July 1993.

²⁸ Yves Itard of France's CIIBA told me, "De Backer was the first big Unix user. It was not crazy because it was the Commission, and they can't say they will take only a French, German, or English machine. They have to take products in an open way; that's the only choice to have a chance [to make sense of the political realities they're in]. In terms of efficiency, however, it was crazy to pick Unix [over proprietary operating systems]." (Itard, personal communication, August 1993).

So for the long-term interests of his Commission users, De Backer was going to have to dive head-first into industrial policy. Only this time, since no one else in the Commission, or the national governments for that matter, seemed interested in software portability, and indeed DG XIII viewed any "open systems" efforts other than its own with great suspicion, he would have to go it alone.

In 1984, De Backer released to his (mainly European) vendors an Informatics Directorate study which noted the following:

Considering the budgetary restrictions of posts and credits the use of these software packages has to be accelerated where possible. Most of this software, however, has been written for those computers which represent the largest market share, in other words: IBM-compatible.... In short, selection of good software that is available on as many computers as possible has become of prime importance and all equipment that cannot support that software will see its chances reduced, despite any intrinsic merit of the product (DG IX 1984).

De Backer told me, "You should understand the effect of this on the minds of mainframe salesmen, who did not believe at that time that open systems was a serious alternative. They read more politics behind the figures than there really was, and considered it as a threat" from De Backer to go IBM-compatible.²⁹ In fact, given the enormous antitrust struggle going on between the Commission and IBM at the time, the idea of switching to IBM was quite unrealistic. However, De Backer's denial that there were any "politics behind the figures" seems open to question. De Backer did not want to make the Commission's informatics IBM-compatible, but he did want European vendors to start considering open systems (and Unix, which was mentioned in De Backer's report) as "a serious alternative." And De Backer was uniquely placed to influence the

²⁹ De Backer, personal communication, January 1994.

vendors, because he was a major customer not just of one or two of them but of several.³⁰ A few months later, the European vendors offered to work for a common applications environment for Unix. De Backer, stunned to be getting exactly what he wanted, immediately agreed to the idea.

EUROPEAN VENDOR COOPERATION FOR PORTABILITY

De Backer's 1984 call for applications portability was important as a trigger for European vendor collaboration toward that end. For instance, Michael Lambert, then an ICL employee working on applications for the company's proprietary mainframes, states flatly that in 1983 he "hadn't heard of open systems."³¹ But the following year, Lambert recalls that he was

pitched into a project initiated by the CEO of ICL to try to understand the messages coming in from the market. There were two particular messages: from the European Commission and from British Telecom. In both cases what seemed sure sells for our proprietary system turned sour. The project was triggered by those two.³²

Most of the major indigenous European computer vendors have a similar story to tell.³³ When they heard De Backer's call for applications portability, they began to consider cooperating to bring

³⁰ This was the silver lining of the political requirements on De Backer's purchasing policy; since he had to buy from several vendors, this gave him influence over a broader section of the industry than most purchasers had.

³¹ Lambert, personal communication, August 1993.

³² Lambert, personal communication, August 1993.

³³ In 1984, demand for applications portability was only just beginning in Europe. This had always been a desire of users, but in the mainframe world there seemed to be little hope of ever escaping proprietary systems. However, with the trends toward downsizing and decentralization, users began buying different vendors' systems and finding compatibility problems. Thus De Backer's problems anticipated the problems experienced by the market more generally.

about portability.³⁴ But De Backer's call was not the whole story. In fact, the forces driving the European vendors toward collaboration for portability had been building up for some time, and unwittingly DG XIII had played a major role.

As explained previously, the DG XIII had all along been aiming to change the parochial attitudes of the European "national champion" vendors. First, ESPRIT was underwriting collaboration and communication between the vendors. ESPRIT encouraged inter-firm consultation and cooperation, and one of the major by-products of Davignon's IT Roundtable was the formation of the SPAG group for interoperability. This was important for "breaking the ice" for other cooperative efforts. Even so, when presented with the notion of European company cooperation for Unix in the context of ESPRIT, DG XIII officials smelled a rat. Horst Hunke, the DG XIII representative to the IES [the previously mentioned ESPRIT OSI pilot project], told me, "I remember being slightly suspicious when IES developments were presented in the context of Unix."³⁵ He thought vendors were diverting IES funds away from the OSI research they were meant for. Although the companies' devotion to OSI was by that point fairly strong, Hunke may have a point.

So, along with De Backer's call for applications portability, ESPRIT-fostered vendor collaboration and the real need for interoperability and portability demonstrated by the IES helped push the European vendors toward cooperating to resolve the portability dilemma beginning in 1984. But nobody ever told European vendors explicitly to select Unix. Why then did they? At first, an informal working party of Bull, ICL, and Siemens representatives had considered merging their proprietary operating systems.³⁶ But that seemed like too high a mountain to climb— both because of technical difficulties and corporate politics. So they settled for a second-best solution. For several years, they had all offered different versions of Unix; they decided to standardize those.

³⁴ It is not surprising that one user could have had this kind of impact. Bruno Fontaine told me, "That's very typical; the action of one guy is enough to move all the industry." (Fontaine, personal communication, August 1993).

³⁵ Hunke, personal communication, July 1993.

³⁶ Lambert, personal communication, August 1993.

The fact that Unix was a relatively insignificant operating system made a move to reunify it politically feasible inside the companies.

BIRTH OF X/OPEN

Over dinner at the 1984 Cebit computer show in Hannover, Germany, the heads of the five biggest indigenous European vendors agreed to form a group dedicated to the purpose of providing a "common applications environment" based on Unix.³⁷ At first, the group was called BISON,³⁸ when Philips joined the group, BISON changed its name to X/Open. The 1985 mission statement read as follows:

The X/Open Group's principal aim is to increase the volume of applications available on its members' systems, and to maximize the return on investments in software development made by users and independent software vendors.... This is achieved by ensuring portability of applications programs at the source code level.

Through this portability users can mix and match computer systems and applications software from many suppliers, and thus investment in applications software is protected in the future (Gabel 1991, p. 138).

In short, the goal was applications portability. This was a major step forward toward De Backer's dream.³⁹ X/Open planned to achieve that goal not by writing standards-- there were plenty of those

³⁷ We should note that despite this drive, the resistance of all the companies to abandoning their existing proprietary systems "undermined the growth of the Unix network, prompted doubt about the strength of their dedication to open systems, and committed resources to maintaining proprietary systems that might better have been invested in [open systems]." (Gabel, 1991, p.157)

³⁸ For "Bull, ICL, Siemens, Olivetti, Nixdorf."

³⁹ At first, Unix was ported to RISC-based computers, but eventually it appeared on all computers from PCs to

already-- but by selecting either official or *de facto* open standards for the X/Open "common applications environment," and then publishing those selections in the X/Open Portability Guide. The base would be the AT&T System V specification for Unix.⁴⁰

X/OPEN AND GOVERNMENTS

After the technical and strategic basis for the group settled into place, X/Open tried to encourage European national governments and the EC to support it. X/Open needed government support badly. Governments could help in two ways: to legitimate the group in the marketplace by declaring it to be truly working for open systems, and to help the group financially by requiring the group's "common applications environment" for their own procurements. At first X/Open completely struck out with the governments and with the standards officials of the DG XIII. There were two reasons for this. First, the governments were wary of the motives of the group-- were these vendors truly committed to openness or were they rather a "gang of thugs?"⁴¹ X/Open-- which had been set up outside of the official standards bodies and their slow but careful procedures-- was deemed to be the latter. Second, the national governments and the EC standards officials had been fighting for years for OSI. Their focus was very much on interoperability, and especially on communications. To the interoperability ideologues, X/Open's constant chattering about portability seemed like a waste of time if not positively undermining the "real" open systems option, OSI.⁴²

mainframes and beyond.

⁴⁰ Which was ICL's choice. Bull and Siemens had other base specifications for their Unix offerings (Xenix and Berkeley), but here as in so many other instances ICL got what it wanted.

⁴¹ The phrase was from Philippe Garant of the Informatics Directorate (Garant, personal communication, July 1993). He said he did not think they were a "gang of thugs."

⁴² They even dragged their feet on POSIX, the international standards-setting effort for portability, accepting POSIX only after the X/Open portability demonstration. What was (is) POSIX? As stated above, /usr/group was formed in the US in 1981 in order to press for Unix standardization. In 1984, it succeeded in getting the IEEE to support this

By contrast, there were two major EC agencies which gave X/Open unequivocal support.⁴³ One was the EC Competition Directorate, which concluded in December 1986 that X/Open was not a monopolistic cartel but rather "that the advantages involved in the creation of an open industry standard... easily outweigh the distortions of competition entailed in the rules governing membership" (CEC DG IV, 1986). Important as it was, the Competition Directorate's decision did not affect the standards policy officials' assessment that this was a "gang of thugs."

Of course, the most vociferous public sector proponent of X/Open in the early days was Walter De Backer of DG IX. Putting his money where his mouth was, he introduced the first Unix machines into the Commission in 1984, under the new "Data Processing Equipment Policy" which he unveiled.⁴⁴ The policy as he expounded it had three principles: "a multi-manufacturer procurement policy; compliance with international standards to guarantee equipment compatibility; concentration on application software that can be run on as wide a range of computers as possible."⁴⁵ The first two principles had been more or less imposed from above, but the third he had developed on his own. And now he had decided to use Unix to implement that third principle. One of the first public shows of support De Backer gave was the positive mention of X/Open in his "Guidelines for an Informatics Architecture," which he published in 1986. But these were relatively minor steps compared to the one he was about to take.

effort, called POSIX (Portable Operating System Interface for Open Systems). Later the ISO came on board, making the effort an official international standards effort on a par with OSI (as opposed to the unofficial work of X/Open). However, POSIX was very limited in its goals and slow to accomplish them (see for instance Burger, 1993, p.20). X/Open was much more central to the growth of the standard Unix.

⁴³ Plus the Swedish Staatskontoret.

⁴⁴ For a description, see European Parliament (1985). De Backer notes, "When we decided to go for Unix in 1984, we could only implement this for the many new departmental systems supporting the decentralization of computer power. It was unrealistic to do the same for mainframes." Unix finally began to be implemented on Commission mainframes in 1990. (De Backer, personal communication, January 1994.)

⁴⁵ European Parliament (1985), p. 13-14.

THE LUXEMBOURG CONFERENCE

In 1986, in a discussion with De Backer, X/Open chief Geoffrey Morris boasted that by 1987 the group would be able to demonstrate the porting of software to several vendors' computers. De Backer's eyes lit up, and he told Morris that he wanted to host the event at the Commission's Jean Monnet Building in Luxembourg. Morris recalls, "I came back to base, and they said, 'We don't know if we can do it.' I said, well, maybe he'll forget. But he didn't-- he sent me a fax three days later."⁴⁶ Understanding the importance of holding such an event in the Commission itself, Morris resolved to try to make it work.

On February 27, 1987, X/Open pulled the rabbit out of the hat, porting the spreadsheet 20/20⁴⁷ to the ten vendors' computers.⁴⁸ The event was attended by 200 major users, as well as boatloads of journalists. *Datalink* wryly observed,

X/Open was determined that the full significance of this historic moment should be properly realized. Portentous words fell from the lips of compeer for the day, broadcaster Michael Rodd. Red, green, and orange lights played over the line of machines and their

⁴⁶ Morris, personal communication, August 1993.

⁴⁷ More technically, they ported the application in source code from one computer to another, then each computer recompiled it.

⁴⁸ X/Open's membership had by that time expanded to include the American firms Digital, Hewlett Packard, and Sperry, and the Swedish firm Ericsson. Digital's joining the group was a major coup for X/Open. Second only to IBM, Digital had a strong interest in retaining the "proprietary systems" world. Its European wing joined X/Open in an attempt to become a European "player." When Digital's American headquarters found out, it was livid. But since the ink was already dry, Digital chose to save face and stay in the group. Ironically, Digital's presence in X/Open caused many other US companies to look seriously into joining the group. X/Open's internationalization was vital to its being taken seriously. (Georges Lepicard, personal communication, July 1993.)

diminutive operators. Someone turned up the volume on Jean-Michel Jarre's Greatest Hits. Never before has typing the CC compile command been so exciting (*Datalink* 1987, p. 5).

But if this was X/Open's day in the sun, so was it De Backer's. De Backer not only provided the hall but his presence, showering effusive praise on the group. Calling X/Open an "outstanding group of foresighted manufacturers" who had engineered "a milestone in the history of IT," De Backer announced the Commission Informatics Directorate's intention to buy X/Open-conformant products-- and intentionally left the impression that X/Open was the golden boy of Commission industrial policy.⁴⁹ In fact, the group was only the golden boy of his personal industrial policy, not that of the official industrial policymakers, DG XIII. De Backer's foray into industrial policy worked beyond his wildest dreams. In Morris' words:

That was a kind of watershed. It made a massive difference that the CEC was publicly in favor. It made the real difference. Because after that, the international standards bodies and the CCTA [UK government] people, for instance, really sat up and listened...and after that came a great barnstorm of support from suppliers.⁵⁰

X/Open's vendor membership increased in the next year from 11 to 27, including IBM and Fujitsu. With the stakes so much higher, the group was made independent of ICL, incorporating itself in 1987. X/Open had arrived-- and so had De Backer.

THE X/OPEN USER COUNCIL

In 1987, X/Open commissioned a study by H. Landis Gabel of INSEAD to determine its chances of success.⁵¹ Gabel opined that X/Open would probably fail for two reasons: first, there

⁴⁹ Journalists got this impression. For instance, see *Infomatics Daily Bulletin*, (1987).

⁵⁰ Morris, personal communication, August 1993.

⁵¹ Morris, personal communication, August 1993.

was no precedent for competitors to agree on a common standard; and second, there was no active user support for the initiative-- thus "this could die on the vine when the vendors had had enough of it."⁵² The second point was something Morris could do something about. He set about discreetly to encourage the formation of an "X/Open User Council" which would comment on X/Open initiatives and make the group appear less of a "gang of thugs"⁵³. Morris first turned to De Backer and to a handful of other enlightened IT users. In December 1987, the X/Open User Council held its first (informal) meeting, with De Backer as its Chairman. When the User Council was formally established in July of 1988, De Backer accepted a non-voting seat on the X/Open board-- the first seat on the board not dedicated to a vendor.

As 1988 began, the future had never seemed brighter for X/Open. The group was now incorporated and the User Council was blossoming under the leadership of De Backer. In addition, in 1987 the US Government's General Services Administration ruled, over objections from DEC and others, that the Air Force could specify Unix as a standard for its IT purchases.⁵⁴ The prospect of the US Government shifting its IT purchases from proprietary systems into Unix made many big American vendors serious about Unix for the first time. But rather than the triumph of open systems, 1988 saw a great rift develop within the vendor community. By the end of the year, X/Open was barely hanging on to life-- and it was the users who were keeping it together.

THE UNIX WARS

But instead of collapsing, as Saloner (1990, p. 153) writes X/Open took "a unifying leadership role" in the crisis. At the beginning of 1990, one industry observer said, "X/Open went from looking weak 18 months ago, to looking like the main force in open systems. It won a major

⁵² Morris, personal communication, August 1993. We can see how he was becoming less an ICL man and more an X/Open man day by day.

⁵³ They also started the X/Open branding at about the same time.

⁵⁴ The issue was whether it could specify a proprietary operating system (since Unix was still under the proprietary control of AT&T). (Saloner, 1990, p.149.)

coup in bringing together Unix International and the OSF” (Computer Weekly 1990, p. 19). Since X/Open was split down the middle between the two camps, how could it perform this leadership role? Even an analysis as careful as Saloner’s does not explain this. The answer is that X/Open was *not* merely comprised of the two warring camps-- it also had its newly created User Council. It was the users who saved the open systems movement.

In the past, it had simply been inconceivable that IBM and the other proprietary systems vendors would release their customers from “lock-in.” But when the split between OSF and UI developed, some users made this paradoxical realization: first, all of the major vendors including IBM now proclaimed open systems as the future, but second, if the rift between OSF and UI continued, open systems would never come about. A few big users who had previously been fatalistic about the potential for open systems now looked for a way to make a difference. They saw their chance in the X/Open User Council, which quickly jumped from a handful of members to more than 30.⁵⁵ As mentioned above, the User Council had a seat on the X/Open board, where the two opposing camps continued to sit side-by-side. It was thus the one institution where the users could mediate between the two sides in the interest of open systems. And it was De Backer, as the occupier of the User Council’s seat, to whom the users looked to play the role of mediator.

De Backer was thus thrust into the eye of the storm. Both sides lobbied him heavily; OSF European chief Alain Fastré admitted to me that “the sponsors requested OSF management to locate in Brussels because of the importance of selling the OSF version of open systems to the Commission.”⁵⁶ But De Backer could not be unduly influenced, because for him the battle was not UI versus OSF. The battle was vendors versus users, and he knew exactly where he stood. De Backer wanted primarily to accelerate vendor cooperation for open systems; he would only announce a particular technical solution if the vendors could not bring themselves to agree. But

⁵⁵ But note what a small percentage of the total user population that is. The collective action problem of users still persisted.

⁵⁶ Fastré, personal communication, July 1993. UI also located in Brussels. In fact, De Backer’s headquarters was in Luxembourg!

when he did announce a technical solution, the effect was powerful. For example, his public announcement in favor of OSF's Motif graphical user interface (GUI) over UI's Open Look was widely seen as the death knell for Open Look. UI European chief Scott Hansen recalled in 1993, "In the early years he was skillfully forcing X/Open decisions. The game he played was, 'You can't get angry with me. I'm just a user.'.... That was good for the industry."⁵⁷ Morris concurred, "You can't get vendor agreement without a big user [pushing things through]."⁵⁸

The users won the Unix Wars, trapping both vendor groups in their own Machiavellian schemes. In the end, both sides accepted the users' judgment that the squabbling "was all very childish"⁵⁹ and that the proper venue for constructive negotiation in favor of open systems was X/Open. OSF and UI themselves became members of X/Open on May 18, 1989, and from then on the Unix Wars began to cool down. Soon afterward, X/Open institutionalized a larger user role in the organization. Early in 1990, the User Council (as well as the newly created Independent Software Vendor Council and System Vendor Council for small vendors) was allowed not only to provide a representative to the Board but to the Technical and Marketing Managers Groups as well as the various Working Groups. No longer would X/Open be a "vendor club" (Taylor 1992, p. 32). To the victors belonged the spoils. The ship of Unix standardization had been righted, the promised land was in sight, and more than ever De Backer was standing proudly at the helm. In the words of Joshua Greenbaum of *Unixworld* magazine, De Backer had become the "supreme user on the European scene," whose "decisions on open systems directions... were studied across the vast European market. (Greenbaum 1992, p. 32).

ENDGAME

De Backer and X/Open carried the day. In October 1992 X/Open released Version 4 of its standards for a truly portable Unix and launched a branding program to guarantee that vendors'

⁵⁷ Hansen, personal communication, July 1993.

⁵⁸ Morris, personal communication, July 1993.

⁵⁹ Wilson, personal communication, June 1993.

Unix products were conformant to it.⁶⁰ By 1993, over \$7 billion had been spent on X/Open branded systems, and by 1995 it was over \$11 billion. In 1994, Novell officially transferred control of the licensing of the Unix trademark to X/Open, and in February 1996 X/Open and OSF merged to create the Open Group as the single most important consortium to develop the global, open information infrastructure. Today the Open Group boasts a membership of over 200 software and hardware vendors, and continues to institutionalize a role for large IT users in its Customer Council. The European Commission remains among the most prominent members of the Customer Council.

By contrast DG XIII's dream of an OSI-networked world collapsed. The *de jure* standards-setting process was simply too slow, and the OSI system was not as attractive as TCP/IP and Unix to increasingly portability-minded users. SPAG limped along until 1995 before its European corporate sponsors threw in the towel. The main institutional innovation of DG XIII on the standards-setting front, the European Workshop for Open Systems (EWOS), closed its doors in 1997. EWOS' web page reads like a lament: "EWOS was created in the eighties by European industry, with the support of the European Commission, to fulfill its mission of producing, in a timely manner, interworking solutions for IT products, and to feed these solutions into the formal standardization bodies both in Europe and internationally. Since the conviction at that time was that Open System Interconnection (OSI) would be the solution of the future, EWOS quite naturally focused on the production of OSI profiles.... Formal standardization has been challenged by the rise of sector-specific industry fora, which focus on their members' particular requirements and produce de facto standards for immediate use within a short time frame. With these elements in mind, it was agreed by the standardization community in Europe to dissolve the EWOS

⁶⁰ This information and the following information in this paragraph has been gleaned from two websites:

<http://www.opengroup.org/> and <http://www.mit.bme.hu/~kiss/docs/xopen>

organization in the course of 1997.”⁶¹

The standards officials of DG XIII did have one brief consolation, however; De Backer was removed from his post in 1991. After De Backer's ouster, "the first thing was to cut all DG IX ties with X/Open."⁶² But De Backer reemerged in early 1993, with the appointment of Martin Bangemann as Commissioner with responsibility for DG XIII. In April 1993 De Backer, now ironically with DG XIII, helped develop its new "*User-driven Information and Communication Technologies Policy*".⁶³ And the Commission returned to X/Open User Council meetings.

IV. CONCLUSION

Although there is much human interest in the dramatic struggle between DG XIII and DG IX, this is a study of the role of Commission bureaucratic politics in furthering European integration. The question, then, is less which DG won and which one lost, but whether in spite-- or because-- of this bureaucratic politics, the Commission and its cause of European integration carried the day. In this instance, the evidence very clearly points to the *complementarity* of the efforts of the different wings of the Commission, in spite of the fact that their perception at the time was that their interests were anything but complementary. There are many examples of complementarity throughout the paper, but I would lay stress on two:

- First, if we define integration as convincing "national champions" to "think like Europeans" and to pool their strategic resources in concertation with Brussels, the Commission's bureaucratic politics played an essential role. European company cooperation, which was first

⁶¹ From the EWOS website: <http://www.ewos.be/index.htm>. It is ironic that Greenwood and Stam (1996) use the Commission's efforts on OSI as an example of successful collaboration between a wide number of groups and institutions!

⁶² CEC official, personal communication, July 1993.

⁶³ De Backer, personal communication, January 1994.

initiated by the Commission in pursuit of the goal of OSI, spilled over into a cooperation on Unix that ended up bearing much more fruit and surviving into the long-term. In short, in a traditional neo-functionalist sense, European companies had started to think “European.” But even the second European effort at cooperation in computers-- the cooperation that eventually truly made a difference in the marketplace and has survived to this day-- required the Commission’s support for its takeoff. And if the Commission had been more hierarchical, DG XIII would have easily prevented DG IX from promoting this second track toward “open systems.” In short, *without bureaucratic politics, the Commission’s efforts to “Europeanize” European computer companies may well have died on the vine.*

•Second, if we define integration in terms of promoting a single, freely competitive European market that makes Brussels impossible for American and other companies to ignore, bureaucratic division was equally essential to Commission success. If DG IX had not been able to chart its own industrial policy course in this issue, DG XIII’s religious fervor for OSI would have rendered Brussels and the Commission entirely irrelevant in this issue area by the late 1980s. But this could not be predicted in advance. Other factors might have intervened to push the world toward OSI. Indeed, a case can be made that the real progress made toward OSI forced the Unix networking community to introduce technical innovations that they may have been able to do without. In short, *the Commission, without intending to, pursued a highly rational policy of hedging its technological bets, and that policy paid great dividends.*

Today, Brussels is one of the major world centers of political power. As it has now established itself as a place that “matters” for people in Europe and the world over, perhaps this constitutes a “positive feedback loop” that will allow the Commission to dispense with much of its active promotion of European interest representation. Does this mean that the age of paradoxical benefits of Commission bureaucratic politics is at an end? Perhaps, in part. But there is still much work to be done, both in terms of non-commercial interest groups, and in terms of building a truly

single market. It is universally agreed that there is no end in sight to the Commission's division against itself; perhaps this is a good sign for the future.

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