Internal Communication Systems in American Business Structures: A Framework to Aid Appraisal

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Abstract: This article applies current research in the history of internal communication in business to archival appraisal of business documents. It examines the communication systems typical of three American business structures: (1) the traditional, owner-managed small firm that was the major form of American business before 1880 and still exists today; (2) the larger, functionally departmentalized firm that first developed in the latter half of the nineteenth century; and (3) the multidivisional firm, with autonomous divisions based on products or geographical regions, that first developed in the 1920s. The author discusses the implication of this view of business documents for appraisal of business collections, describes problems with some common approaches to appraisal, and suggests alternative approaches.

I COME TO THE ISSUE OF APPRAISAL not as a practicing archivist but as a user of records, a specialist in business communication studying the evolution of internal communication (especially written communication) in American businesses during the late nineteenth and early twentieth centuries. The documents an archivist appraises in business collections of this period are the physical manifestations of the communication system I am studying. Thus archivists' interests frequently coincide with mine. Moreover, my study provides a typology of organizational structures and their communication systems that can serve as a framework to aid appraisal of modern business records as well as earlier ones.

For my purposes, internal communication may be viewed as a dynamic system with three interrelated components: organizational structure, communication technology, and the written documents themselves. The communication in an organization both reflects and embodies the organizational structure. Consequently, lines of authority are usually also lines of communication. In large, modern organizations, written documents flow up, down, and laterally through the organization to enable managers to coordinate and control the organization's activities. Communication is also shaped by the technology, from typewriters to filing systems, involved in creating, transmitting, and storing it for future reference. The technology sets the limits or constraints on communication; when it evolves, it changes the potential functions of communication. Finally, the individual documents (e.g., reports, forms, and memoranda) are at the heart of the system. They make up the flows of written communication that serve as the organization's infrastructure.

The network of internal written communication so common now evolved only recently, in conjunction with the recent evolution of organizational structure. As Alfred D. Chandler has traced it in his seminal studies *Strategy and Structure: Chapters in the History of the American Industrial Enterprise* and *The Visible Hand: the Managerial Revolution in American Business*,[1] the predominant form of business enterprise in America changed dramatically in the late nineteenth and early twentieth centuries. Up to the mid-nineteenth century, the traditional business was the small, family or partnership enterprise carrying on basically a single function, such as manufacturing or marketing. In this type of business, authority for most general policy was centralized in the hands of one or two owners. After the extension of telegraph and railroad networks throughout the country and technological breakthroughs in production methods, many businesses expanded rapidly and, in the 1880s, began to take on additional functions. They usually established functional departments (e.g., purchasing, production, and sales departments) and a hierarchy of managers to run them; the executive in the central office coordinated the departments. The new techniques of systematic and scientific management helped these managers control and coordinate the expanded enterprises. When additional expansion and diversification of product lines in the 1920s made the centralized, functionally departmentalized structure ineffective for the largest companies, the decentralized, multidivisional structure evolved. In this structure, each division had its own functional departments and was an independent profit center.

As Francis X. Blouin, Jr., has pointed

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[1] Cambridge: M.I.T. Press, 1962; and Cambridge: The Belknap Press, Harvard University Press, 1977.

out in his perceptive review of *The Visible Hand*, these changes demanded fundamentally new and expanded roles for records.[2] My research shows in more detail that both the amount and the nature of internal written communication changed enormously during this evolution of organizational structures and managerial methods. Moreover, this change in the uses of internal communication spurred and responded to changes in the technology of communication. These changes in internal communication and in communication technology in turn facilitated the evolution of the new organizational structures.

Although the organizational structures developed in a certain order historically, since the 1920s all three structures (traditional, functionally departmentalized, and multidivisional) have coexisted. Each of these three structures has certain characteristic communication patterns, although trends in management theory and communication technology have changed some aspects of these patterns over time. Moreover, the communication system in any single organization changes over time. A small, modern business in a fast-growing industry could evolve through all three of these phases in ten years. This conception of the internal communication system, then, is dynamic on three different levels: at a particular period in time the system in a given business is a network of dynamic communication flows shaped by organizational structure and mediated by communication technology; historically, the communication system has developed

from a simple, primarily oral system to a complex system depending heavily on written communication as organizational structure evolved; and finally, in any given business the communication system evolves over time as organizational structure changes.

This view of communication contrasts with a common archival view of records primarily as sources of information and offers an analytic framework useful for those appraising large business collections. The typical internal communication systems for each of the three basic organizational structures, decribed in the following sections, are based on evidence and examples from the evolution in the late nineteenth and early twentieth centuries of three companies: Scovill Manufacturing Company, the Illinois Central Railroad, and E. I. du Pont de Nemours & Co.[3] My generalizations are thus limited to manufacturing and transportation enterprises. Furthermore, the documentation structures I have seen have already been shaped, to a greater or lesser extent, by time and by appraisal decisions. Nevertheless, this typology of organizational structures and communication systems should aid in appraisal by revealing crucial relationships between business structure and communication flows.

This framework suggests that common appraisal practices may need rethinking. Large collections of business records are often reduced by retaining records only from the top levels of the corporate hierarchy and discarding the rest—saving only what we might call the tip of the

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[2]Blouin, "A New Perspective on the Appraisal of Business Records: A Review," *American Archivist* 42 (July 1979): 312-20.

[3]Records of the three companies are located, respectively, in the Baker Library, Harvard Business School, Cambridge, Massachusetts; the Newberry Library, Chicago, Illinois; and the Hagley Museum and Library, Wilmington, Delaware. The research on these three working companies and on the issues summarized earlier in this introduction will culminate in a book, the working title of which is "Forms and Functions: The Development of Internal Communication Systems in American Business, 1850-1920s." Many of the points I touch on in the following pages will appear in amplified form in the book, and a few have already appeared in articles (referenced where appropriate).

iceberg. Occasionally executive-level records are supplemented by systematic samples of lowest level documents. In the final section of this article I will examine these practices more closely and suggest ways that archivists can appraise business collections to make them better represent the dynamic communication system of a given company.

Communication in the Small, Owner-Managed Company

The small, owner-managed company (usually with fewer than 100 employees) was the standard form of American business enterprise before 1880 and still exists today. In this traditional firm, the owner(s) managed all of the firm's workings. A manufacturing firm of this form generally concentrated on manufacturing, accomplishing most purchasing and marketing through outside agents. In the common partnerships, such as either Scovill or Du Pont as they were organized in the nineteenth century, one partner periodically traveled to see agents or others on matters of purchasing and sales while the other oversaw the production process at home. The partner at home directed the workers either personally or with the help of skilled artisans or foremen.

In a small company of this type, almost all internal communication was handled orally. The owner or foreman collected operating information (such as the production schedule and problems with machinery), made decisions, and gave orders in person. Thus, written internal communication was usually limited to accounting documentation; correspondence between partners; and, if we

stretch the point, correspondence with agents very closely associated with the companies they represented.

The accounting records in these small companies served less as communications between individuals than as documentation of financial transactions for future reference. They were simple, descriptive records of monetary transactions, kept originally in large bound books but, since the turn of the century, kept in looseleaf form.[4] They enabled the owner or bookkeeper to see how much money was on hand; how an account with a particular customer or agent stood; and, when balanced, what total profits and losses had been in a given period. They did not give any information on costs per unit produced or percentage of monetary return on total investment. For most small companies, the accounts were primarily unanalyzed data.

Correspondence between partners or between the company and an agent, as evidenced by correspondence in the Scovill and Du Pont collections, differed from written internal communication characteristic of more complex organizational forms in being irregular and less restricted in subject and purpose. When both (or all) partners were at home, they talked to each other rather than writing, usually relying on written correspondence only when one was on the road. Since the owners carried on a wide variety of activities and functions, the correspondence contained anything from complaints about drunken workers to discussions of markets and competitive strategy. Correspondence with closely associated agents was slightly more predictable, but still widely varied. On their own initiative or in response to questions, agents relayed unstructured information about

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[4]For descriptions of the accounting books commonly used in the nineteenth and early twentieth centuries in the United States, along with discussions of their uses and archival value, see Christopher Densmore, "Understanding and Using Early Nineteenth Century Account Books," *Midwestern Archivist* 5:1 (1980): 5–19; and Dennis E. Meissner, "The Evaluation of Modern Business Accounting Records," *Midwestern Archivist* 5:2 (1981): 75–100.

markets and prices to the owners and frequently recommended courses of action based on their local knowledge of a competitive situation. In addition they corresponded on a wide range of subjects of interest to the owners and received frequent commissions from them to perform other services. Because neither of these types of correspondence was part of a coherent and well developed written communication system, they did not perform a narrowly specified function that required a regular and predictable type of communication.

Internal communication in small firms has changed somewhat in recent times. The variety and, in some cases, amount of such correspondence have undoubtedly declined during this century as long-distance telephone service became universally available and relatively inexpensive. A partner on the road can keep in touch over the telephone. The written correspondence with external marketing agents may increase but is likely to document more routine financial transactions, leaving other issues for the telephone or for special reports. Because of legal requirements, internal comunication or documentation of other types in a modern small business are generally more extensive than in the past. Modern accounts, for example, include some new types of data such as depreciation of equipment, an area ignored by earlier accounting methods but now built into the tax system. Moreover, a modern owner-manager with business training may convert some of the simple accounting information into forms more useful for judging the company's efficiency. Communication and records, however, fulfill a relatively limited role in the small, traditional business of both periods. Written communication plays a far greater role in the functionally departmentalized company.

Communication in a Functionally Departmentalized Company

In the late nineteenth and early twentieth centuries, a combination of factors led to the expansion of transportation and manufacturing enterprises and their development into functionally departmentalized companies. Chandler has traced the reasons for this development in some detail in *The Visible Hand*, but it is useful to summarize the factors briefly here before showing how communication and record keeping changed in this type of business.

The explosive growth of the railroad and the telegraph during the middle of the nineteenth century set off a chain of events. These developments sped the transportation of raw materials from a distance and enlarged potential markets for finished and semifinished goods. Meanwhile, new energy sources and advancements in production technology enabled the traditional small manufacturing enterprise to evolve into small factories with expanded output and increased specialization. With the production function itself essentially departmentalized, layers of management were created to coordinate its various segments.

In the 1880s, according to Chandler, in some companies changes began to occur in the office as well as on the factory floor. Increased production required an increase in purchasing, so purchasing soon evolved from a minor function that took a small portion of an owner's time to a major function requiring its own department. Furthermore, in many cases the agent system of selling goods could not keep up with increased output. Soon, many growing manufacturing businesses took on the marketing function themselves, starting another department and, in many cases, subdividing that department to handle different products.

Other small functional departments were formed to handle such special areas as legal matters, payroll, and research. Frequently these departments, called staff departments, gave advice or established standards for their functions but did not have line authority to give orders to employees doing the same or related work in production departments. More small hierarchies grew up to manage these staff departments, and the central office had more and more functions to coordinate.

This structural development was accompanied by profound changes in managerial methods that in turn contributed to changes in internal communication. In their search for efficiency, managers turned from unstructured and primarily oral methods of management to the new techniques of systematic and scientific management. These techniques, which depended heavily on structured written communication, were developed to help managers curb the powers of relatively autonomous foremen and coordinate activities to create an efficient system. Scientific management, championed by Frederick Taylor, concentrated on making workers on the factory floor more efficient, while the broader systematic management movement explored ways to direct and control all aspects of a company more effectively and efficiently.[5] The broader movement emphasized the creation of an organizational, not individual, memory and the establishment of control mechanisms. This task required creating routines, procedures, and forms for repetitive tasks and developing accounting tools for upper management to coordinate and con-

trol the efforts of their subordinates.

These developing management techniques demanded changes in the nature as well as the quantity of written communication and records. In fact, in some way the new, more structured kinds of written communication were the very heart of the managerial innovations. Only with a steady flow of communication in all directions could upper and middle management hope to control what went on at lower levels. As Blouin points out, "Record keeping thus shifted from serving a descriptive function to serving as an analytical tool."[6] Downward, upward, and lateral communication flows, as well as documentary records, evolved to fill the needs of companies of this type.

Downward communication was probably the first major form of internal communication to develop in most growing and departmentalizing businesses. Before 1850 the need to switch from oral to written communication of policies and orders became clear in the railroads, geographically dispersed enterprises that were, as Chandler has demonstrated, the first to suffer the growing pains of the transition from small businesses to larger, multifunctional businesses. For the railroads, the requirements of geographical dispersion and safety as well as efficiency in coordinating the new functional departments demanded that rules and procedures be systematized and written down.[7] Printed rule books were issued and updated periodically to codify rules. Circular letters and general orders were issued by top- or middle-level managers to large groups of conductors, stationmasters, and others to inform them of new or altered rules and changes

[5]For a discussion of the broader movement, see Joseph A. Litterer, "Systematic Management: The Search for Order and Integration," *Business History Review* 35 (Summer 1962): 461–76.

[6]Blouin, "A New Perspective," 318.

[7]See Stephen Salsbury, *The State, the Investor, and the Railroad* (Cambridge: Harvard University Press, 1967), 186–87, for an illustration of why downward written communication was so crucial to railroad safety.

in management.[8] Because printing was the only efficient way of producing more than one or two copies of a document at that time, these circular letters were also printed.

Most manufacturing companies did not expand and develop functional departments until the 1880s. Even then, downward communication was slow in coming. Free of the railroads' problems of geographical dispersion and the paramount need to avoid collisions, manufacturing firms did not turn as quickly to the expensive printing process to expedite routine downward communication. A few rules might be printed and posted, but workers were generally governed by the oral orders of foremen. The constant stream of downward communication awaited better methods of reproduction, which were just beginning to evolve in the 1880s. By the end of the century, the discovery that carbon paper could be used to make a small number of copies on a typewriter, and the development of the mimeograph and other methods of duplicating larger numbers of copies,[9] enabled manufacturing firms to establish routine downward flows of circular letters or general orders to the entire workforce more economically than by printing. Since then, downward communication of policies, procedures, and information has formed a major part of the communication system of departmentalized manufacturing companies.

Only the most general policies or announcements were likely to come from the very top level of management.[10] In most companies, anything having to do with a particular function or product came from the departmental level or, in a large department handling many processes or products, even lower levels. Such downward communication could also go from a staff department to employees in a line department. The treasurer's department of a company could issue rules or guidelines on accounting procedures to all employees in other departments, for example.

This downward flow of communication was intended to allow managers to control and coordinate organizational efforts in the interest of efficiency. Those on the receiving end of such communication sometimes resented the instructions, however, perceiving them as a waste of their time or a usurpation of their power. Two cartoons from a humorous newsletter issued by plant superintendents in Du Pont's High Explosives Operating Department (H.E.O.D.), one of three sections within the Production Department, illustrate such attitudes (see illustrations). Du Pont had consolidated most of the U.S. explosives industry between 1902 and 1904, so superintendents of high-explosives plants that had once been nearly independent now were members of a large organization under the jurisdiction of the H.E.O.D. Superintendent in the main office. "A New Christmas Toy for the Superintendent" illustrates their image of the H.E.O.D. Superintendent endlessly

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[8]Such circulars are found, for example, in the Illinois Central Railroad Records, 2.8, Circulars, 1858–1906.

[9]Maygene Daniels points out that although carbon paper was developed early in the nineteenth century, its use was limited until the development of the typewriter, since it could not successfully be used with quill or steel pens. ("The Ingenious Pen: American Writing Implements from the Eighteenth Century to the Twentieth," *American Archivist* 43 [Summer 1980]: 322.) Thomas Edison patented a predecessor to the mimeograph, "autographic printing" with the "electrical pen," in 1876 (Patent No. 180,857). Within a few years the mimeograph had taken a form very similar to that still in use in some places.

[10]Extremely hierarchical and authoritarian companies are sometimes an exception. Because of the safety requirements of railroads, for example, circulars from the head of a functional department at the Illinois Central were countersigned by the general superintendent of the entire road.
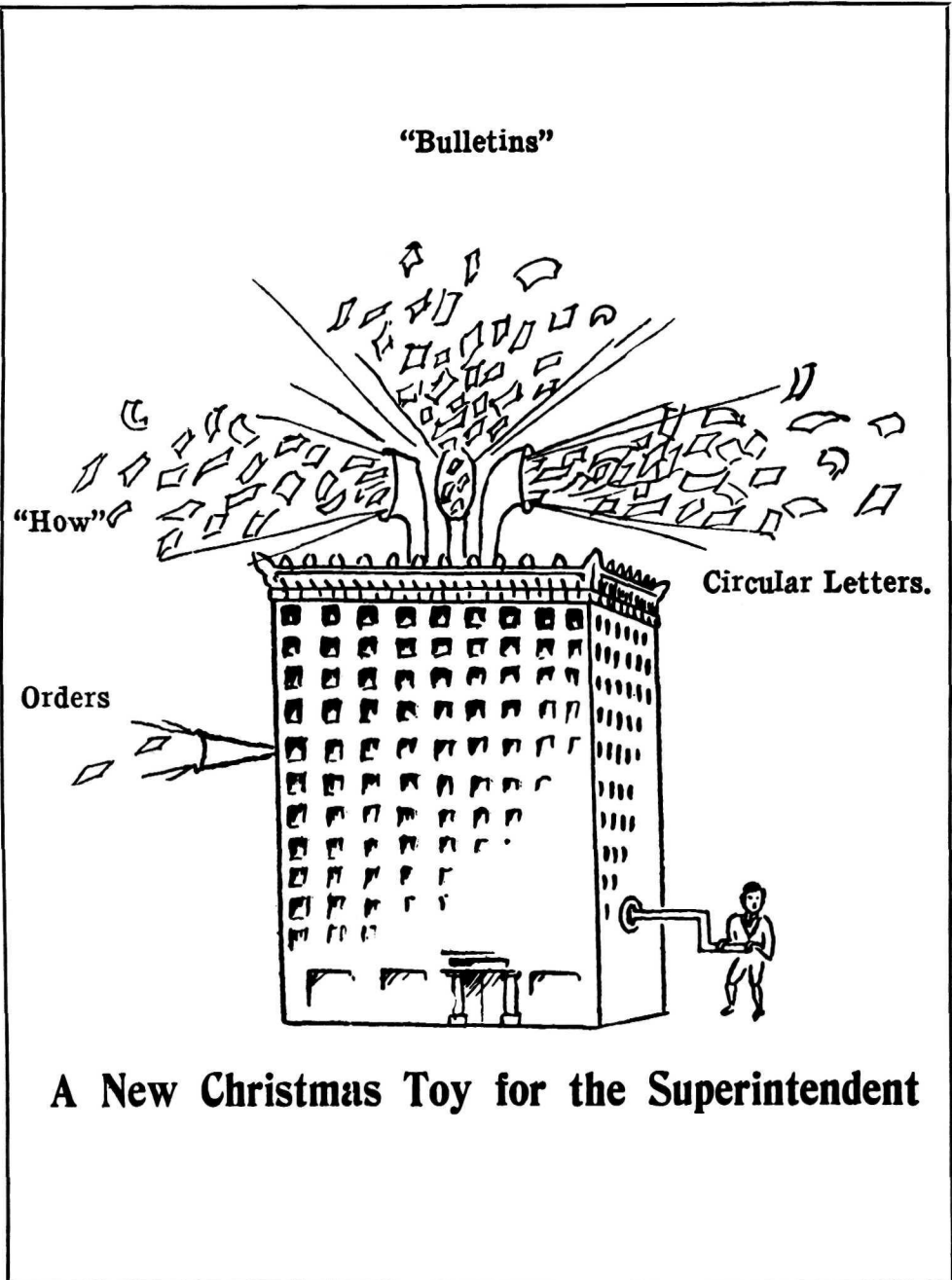
"Bulletins"

"How"

Circular Letters.

Orders

A New Christmas Toy for the Superintendent

E.I. du Pont de Nemours & Co. Inc., High Explosives Operating Dept. *H.E.O.D. Knocker*,
Jan. 28, 1909. *Courtesy of the Hagley Museum and Library.*

A STUDY IN EXPRESSION
The Super at His Morning's Mail

Ha!	Hump!	D——	H—!	Still Coming!
An Order	A Circular Letter	Another	What!	What's the Use?
		Circular Letter	Another	

E.I. du Pont de Nemours & Co. Inc., High Explosives Operating Dept. *H.E.O.D. Knocker*, Jan. 28, 1909. *Courtesy of the Hagley Museum and Library.*

cranking out downward communications from the main office. "A Study in Expression" shows a local plant superintendent frustrated by an inundation of circular letters.

Circulars, general orders, and other similar forms of internal mass downward communication were the largest form of downward written communication, but two other types of documents also contributed to the downward communication flow: orders or requests to a single person or small group and newsletters or house magazines. While a circular letter gave directions to large numbers of people, a memorandum (generally called a letter until well into the twentieth century) directed downward often gave an order to or made a request of one person or a small number of people (the heads of the major departments, for example). Such communication would once have been entirely oral, but in the era of systematic management it was in many cases written to ensure documentation as well as communication. A 1905 textbook noted, "As to the form that an order should take, the only satisfactory form is the written order."[11] The newsletter or house magazine, at the opposite extreme from the individual order, went to a wider audience than the circular letter. Although it could be used to get across specific instructions, it was used primarily to improve morale and recreate the family-like company spirit often lost as firms grew.[12]

Like the amount of written information flowing down the organization, the amount flowing up is also far greater for departmentalized companies than for traditional small firms. The farther away managers are from the primary activity, the more they need information to control what goes on below. As a result of the systematic management movement around the turn of the century, much information that was (and is) collected orally, when it was collected at all, in the traditional firm came to be systematically collected in writing in larger, more complex firms. Moreover, the information was designed not just to describe activity, but also (as Blouin commented in his review of *The Visible Hand*) to serve as an analytic tool for judging the financial

[11]James B. Griffith, ed., *Systematizing*, published by the International Accountants' Society, Inc. (Detroit: The Book-Keeper Press, 1905), 19.

[12]For a discussion of the role of house magazines, see the series on "The Shop Paper as an Aid to Management" in *Factory*, volumes 20 (January 1918) to 23 (September 1919).

and operational performance of segments of the company. Managers at various levels of the departmentalized company no longer made decisions just on the basis of a hands-on familiarity with the production process and a personal knowledge of workers and supervisors; they used written information flowing up through the system, as well.

The documents that made up this upward flow were routine or specialized reports, differing in form, content, and purpose, according to circumstances. Routine reports were sent up through the hierarchy on a regular schedule. Their format was often prescribed, though it might be anything from a printed form to a long prose report punctuated with tables and figures. These reports, which were at the heart of efforts to systematize business, provided the routine inputs to managerial decisions designed to coordinate, evaluate, and control the efforts of workers and foremen. A 1920 list of the routine reports sent to the general superintendent at Scovill includes 167 separate reports, some sent as frequently as daily and others sent as infrequently as yearly.[13]

Special reports were, by definition, nonroutine. They were generally requested to deal with a specific problem or opportunity, and their format was less consistent. Staff departments produced many special reports. The research departments at Scovill and Du Pont, for example, wrote special reports on everything from formulas for types of metals or powders to efficiency in writing internal correspondence. Sometimes these special reports included the results of investigations of business procedures or technical processes at other companies. These special reports had to create their own context, so they fre-

quently provided history of the problem or issue as well as the current analysis. They formed part of the upward flow of communication (as well as traveling laterally to others at the same level), but they also served a documentary function, recording facts and analyses for future reference.

The subject matter of routine or specialized reports, then and now, could be financial, operational, technical, or a combination thereof. The descriptive accounting of the small firm generally gave way to a much more complex system in large, departmentalized companies. The single set of bound books was replaced by the myriad forms that flowed upward toward the treasurer's or comptroller's office. Moreover, in the late nineteenth and early twentieth centuries, cost accounting was developed as a way of using financial data to judge operational performance. The railroads, for example, developed a procedure for calculating cost per ton-mile of freight to help high-level operating managers judge the relative effectiveness of a single railroad division over time, or of one division in comparison to another.[14] Similarly, manufacturing companies developed ways of calculating unit costs of producing their goods to give them a yardstick for measuring the efficiency of production. The raw financial and operational data of cost accounting and related analyses formed part of the communication flows up through the various operating departments. Other operational reports unrelated to cost accounting were also used by middle and upper-level managers to coordinate the flows of materials and products horizontally through the system. Technical data could be used in conjunction with operational data or in a purer form in research

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[13]Scovill II, Case 26, file "Reports to General Superintendent."

[14]See Chandler, *Visible Hand*, 115–17.

department reports.

The term "vertical flow" may suggest that the information collected at any level of such a firm progressed all the way to the top of the hierarchy, thus creating an ever-widening stream of information progressing up the hierarchy. In fact, the flow was increasingly constricted and siphoned off as it progressed up the narrowing hierarchy. The board of directors that frequently replaced the owner in the larger, departmentalized business needed and wanted only enough information to make the most general policy decisions about executive personnel, finances, products, and markets.[15] Only a limited amount of communication reached them, containing information already highly summarized and analyzed; they received no information about day-to-day operations. Not all of the vertical flow reached the president and executive committee, either, though some information and analysis from each department was communicated. Certain types of information were pooled at certain levels in the communication flow and progressed upward in very different forms, if at all. Accounting figures progressed upward in increasingly summarized forms. Some information on operations and cost accounting data never reached the top in any form unless something went wrong; instead, it stopped at the level at which it was used for decision making. Much technical data on processes and machinery never even reached the top of the department if the department was large and had multiple subunits.

· This screening process was necessary for efficiency, though it had potentially negative side effects, as well. If the top executives had received all the information, they would have suffered. In the early years of systematic management, companies sometimes went too far in sending up routine reports on everything. Soon they learned that such a policy was counterproductive.[16] On the negative side, this screening process meant that top executives might not learn about something important until it had become a serious problem. Department heads, for example, might intentionally prevent certain types of information from reaching the top.

Thus this upward flow of information and analysis replaced word-of-mouth methods of controlling manufacturing companies. The descriptive reports at the lower levels and the increasingly analytic reports at the higher levels became the chief tools of management in the functionally departmentalized company. Their pervasiveness as a tool of control is evidenced by the fact that the plant-level superintendents in Du Pont's High Explosives Operating Department resented the reports and protested, both directly and indirectly, against them. The same humorous newsletter containing the cartoons about downward communication included the following item satirizing the upward reporting system:

> The Chemical Division is just about to distribute new forms known as the Hourly Operating Reports. Every plant operation is covered from the Nitration Process to tool sharpening and belt lacing. Each form contains about 600 spaces to be filled in and the reports are to be forwarded to the Wilmington Of-

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[15]The stockholders could also be considered the top but are not really within the organization. I have ignored the annual report for that reason, considering it more external than internal.

[16]In the Scovill archives, for example, there are several notes from J.H. Goss, General Manager, to lower-level managers, saying that certain routine reports should be eliminated to save time and clerical work. Only if something went wrong should Goss be notified. See J.H. Goss to A.J. Wolff, 8 March 1920, for example.

fice hourly by special messenger, where they will be carefully filed for the benefit of Posterity.[17]

These plant superintendents clearly saw the reports as a nuisance. The effectiveness of the reporting system can only be judged indirectly, by results: between 1902 (when Du Pont began to consolidate most of the powder industry) and World War I, the large group of virtually or wholly autonomous plants coalesced into a unified, efficient department. The reporting system was probably crucial to the transformation, and any inconveniences it imposed were ultimately outweighed by its contributions.

Not all information flowed vertically in the departmentalized company; lateral communication also emerged as companies grew and departmentalized. In 1909, when the larger, more complex companies were relatively new, one expert wrote:

> Of considerable importance in every large organization is the interdepartmental correspondence —the notes from one department head to another. Every department head finds it necessary at times to request information from other departments. Even with an intercommunicating telephone system with which every large office and plant should be equipped, many of these requests are of a nature that, to guard against misunderstandings, demand written communications.[18]

Interdepartmental correspondence was not restricted to department heads, however. The files of a mill foreman at Scovill contained considerably more

lateral than vertical correspondence, with the largest component traveling between that foreman and comparable lower-level managers in the Research Department. Thus the lateral flows of communication in a large, functionally departmentalized company coordinated actions between and within departments. This communication was written in part to bridge distances and in part to document transactions. The functionally departmentalized company was likely to contain multiple constituencies and the desire to protect oneself by documenting transactions spread from external relations to internal ones. Although much of this interdepartmental correspondence, especially that below the level of the department heads, consisted of minor requests, complaints, and transfers of information, it often reflected and revealed interdepartmental dynamics. The correspondence between the mill foreman and members of the Research Department, for example, highlighted the struggle involved in the shift of power away from the traditionally autonomous foreman to the more scientific Research Department. It also contained information about the technology and machinery of production not present in the upward flows that reach the top.[19]

One additional form of communication—documentary records—requires explanation. While many items in the communication flows discussed above also document their subjects for possible future reference, their primary ostensible function is to communicate with someone. Documentary records serve primarily to document issues or facts for future reference. They communicate

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[17]*H.E.O.D. Knocker.* Direct protests appear in the minutes of meetings of H.E.O.D. superintendents from this period, as well.

[18]James Griffith, *Correspondence and Filing*, Instruction Paper, American School of Correspondence (Chicago, 1909), 7.

[19]Monagan files, Scovill Collection. I inventory these files in "The Development of Internal Correspondence in American Business: A Case Study," *Proceedings*, 1982 ABCA International Convention, 167–68.

across time. The best example of this category is minutes of meetings. In companies that have many departments to handle separate functions, committees work on every level from board of directors on down to establish policy and coordinate various activities. The lower-level committee first proliferated early in this century, as part of "the committee system" of fostering better communication.[20] Frequently these committees involved people from more than one department. Those who attended the meeting used the minutes as a record of decisions and agreements to be referred to later if questions or disputes arose. Minutes also helped a new manager joining a company or department to understand the background of issues and events. Secondarily, individuals not present at the meeting might receive the minutes to learn of its outcome. Documentary records, like upward, downward, and lateral communication, increased in bulk as organizational structure became more complex.

One issue of communication technology played an integral role in the development of all of these types of internal communication. At about the same time that manufacturing firms began to evolve from the traditional partnerships into functionally departmentalized companies, the technology of reproducing and storing documents changed radically, in part in response to the expanded use of internal communication. Bound books for accounts and correspondence were replaced by looseleaf accounting books and vertical files for correspondence, a change that also required new methods of reproducing copies on individual sheets—such as carbon paper and the mimeograph process. These developments allowed new flexibility in arranging copies.[21]

When bound books were used for all but incoming correspondence, files were, of necessity, centralized. With the new flexibility of multiple carbon copies and vertical files, the number of files suddenly multiplied. While most textbooks on vertical filing systems recommended centralized filing, many companies had multiple sets of files, with duplicate copies of many documents. A single document might appear in the files of the foreman, the Mills Department, and the general manager. While this system made it easier for each unit to find a given document, it also meant that more total file space was used and that no file was complete, a fact with significant implications for the archivist.

The development of the functionally departmentalized firm and the evolution of communication technology at the end of the nineteenth century resulted in a critical role for written communication in larger firms. Almost all of the types of written communication we now use were developed during this period.

The Decentralized, Multidivisional Corporation

As companies continued to grow after World War I, they frequently diversified into wholly new business. At the beginning of the war, for example, Du Pont was a manufacturer of explosives; by a few years after the war, however, it was a huge, diversified chemical company with product lines of paints, plastics, dyes, and fabrics. For Du Pont, and later for

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[20]See, for example, Lee Galloway, *Organization and Management*, Modern Business Volume III (New York: Alexander Hamilton Institute, 1914), 170.

[21]For a description of this change and its effects see my article, "From Press Book and Pigeonhole to Vertical Filing: Revolution in Storage and Access for Correspondence," *Journal of Business Communication* 19 (Summer 1982): 5–26. Schellenberg also discusses filing in *Modern Archives*, chapter 9.

many other companies, the functionally departmentalized structure no longer worked to control so large an organization with such diverse product lines. In 1921 Du Pont adopted a new, divisional system based on product lines rather than on functions.[22] Each of the divisions was composed of functional departments; moreover, each division was a separate profit center, that is, each was judged individually on its return on investment. Each division had within it all line functions and most staff functions necessary for producing and selling its products. Communication between divisions was apparently minimal.

This new structure at Du Pont had implications primarily for communication flows at the top of the structure. The head of each division monitored and evaluated the activities of the various functional departments under him, and their reporting paths stopped with him. He played the same role in the multidivisional form as the president played in the functionally departmentalized form. The downward flow of policies and procedures generally started at the division level, too, although some very basic policies were standard throughout the corporation. The executive committee and president of the entire corporation were concerned mainly with the financial success of the division. Only if problems arose would they look beyond the financial aspect. They restricted their own policy making to issues such as major investments in new product lines or major strategies of overseas investment.

To reinforce this divisional structure, the Du Pont executive committee developed analytical and presentational

tools for evaluating the performance of the various divisions without involving the committee members in the operations of the divisions. The analytical tool was the return-on-investment formula, which could be applied to any profit center either over a period of time or in comparison to other profit centers, no matter how dissimilar their products.[23] The presentational mechanism was its chart room, where charts monitoring the major determinants of return on investment were created for each division. The graphs in this room were the major form in which information on the divisions reached the executive committee, unless the committee requested further reports to explain some significant change in the monitored return-on-investment formula.[24] The formula and its mode of presentation combined to keep the executive committee from becoming involved in the operations of the division unless a problem arose. Thus the communication flow was broken, and information was significantly reduced and re-analyzed between the divisions and the central office.

This decentralized, multidivisional form is common for very large companies today, although it may be based on geographic regions rather than on product lines. In this structure, each division operates as an autonomous unit, almost as a business in itself.

Implications for Appraisal

This survey of internal communication systems shows that the system varies significantly by type of business structure

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[22]For a discussion of this shift in Du Pont, see Chandler, *Strategy and Structure*, 52–113. Elsewhere in the book he discusses the whole issue of the multidivisional, decentralized structure.

[23]For further discussion, see Chandler, *Strategy and Structure*, 66–67.

[24]I have discussed the evolving use of charts and graphs at Du Pont, culminating in the chart room itself, in "Graphs as a Managerial Tool: A Case Study of Du Pont's Use of Graphs, 1904–1949," forthcoming in *The Journal of Business Communication*.

and, within a given structural type, somewhat by era. This typology of communication systems suggests some implications for appraisal of business records.[25] First, my analysis suggests that appraisal strategies should be designed to retain documents that reveal the structure of the communication system. Moreover, it suggests that different appraisal strategies be used for the records of companies of different basic structures. Appraisal methods for small, traditional firms are fairly well established and need no further consideration here. Appraisal strategies for the two types of larger firms, however, need to be reassessed. These implications will be clearer if we look first at current appraisal theory and practices for the records of large organizations.

Apparently the first and still one of the most extensive treatments of appraisal of business records is Ralph M. Hower's "The Preservation of Business Records." Hower views documents primarily in terms of their information about each function of the business: "The governing principle in selecting and preserving business records for historical purposes is to choose material which will yield accurate and reasonably complete information about every phase of the business—production, distribution, management, finances, personnel, accounting, and plant."[26] Although he suggests in passing that the archivist should document changes in organizational structure and business methods in a company, in part by documenting changes in records used,

he does not develop this thought. Moreover, he says that the archivist should be familiar with the administrative history of the company, but he does not give any framework for understanding how this administrative history relates to the documents generated by a company.

The best known general treatments of appraisal, Theodore R. Schellenberg's "Appraisal of Modern Public Records" and *Modern Archives*,[27] provide a slightly more complex model of the role of records in organizations (here in government rather than in business), but they still focus more on documents as sources of information than on documents as part of a dynamic system. Documents of evidential value, Schellenberg writes, contain evidence of the "organization and functioning of the Government body that produced them."[28] While he acknowledges the importance of capturing the functioning of the organization as well as the facts about it, he does not focus on the functioning of the documents themselves. Furthermore, by his definition every document an organization creates, receives, or stores has some evidential value. Thus the definition alone provides little practical help in appraisal, and his exposition of how to apply this definition is sufficiently vague to be interpreted in different ways. Finally, like Hower, Schellenberg asks the archivist to know the administrative history of the organization, but provides little help in understanding that history or its relationship to the records.

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[25]My comments here apply primarily to independent archival institutions, not to corporate archives, where circumstances may dictate other priorities.

[26]*Bulletin of the Business Historical Society* 11 (October 1937): 43.

[27]*Bulletins of the National Archives* 8 (Washington, D.C.: National Archives and Records Service, October 1956); and University of Chicago Press, 1956.

[28]"Appraisal of Modern Public Records," 6. I am not concerned with Schellenberg's informational value, which he defines as concerning events and people outside of the agency creating the records. For business historians, the primary but not sole users of business archives, evidence about the business' organization and functioning is generally more important than information about persons, things, and trends outside the organization.

Thus, many archivists respond to the dilemma of the increasing bulk of business records and the inadequate guidance provided by archival theorists by taking a "tip-of-the-iceberg" approach to appraising institutional records. They retain sets of files almost exclusively from offices and individuals at the top of the organizational chart. Some archivists may supplement these files with systematic samples of homogeneous runs of low-level documents. Both processes ignore the dynamics of communication, which operates as a coherent system of flows, in favor of looking for static information about the organization and its employees.

"Tip-of-the-iceberg" appraisal is based on a simple hierarchical model of organizations and their information flows. In this model, most information ultimately reaches the top, at least in summary form, and all important decisions and policies are made at the top; lower levels simply implement the decisions. The files of top officials in the organization, according to this strictly hierarchical model, should contain all significant information about the organization. Although Schellenberg never assumed so simple a model and even advocated saving some documents from almost all levels of the organization, the "tip-of-the-iceberg" model is probably derived in part from the application and adaptation of Schellenberg's principles in dealing with government agencies over the years.

This approach is somewhat more appropriate in appraising government records than in appraising business records. In government, theoretically at least, all policy is made at the top of the agency on the basis of legislation and comprehensive information; it is then implemented at lower levels. Even so, surely much high-level policy changes or is significantly elaborated upon at lower levels, and not all potentially significant information about operations reaches the top. In business, where policy does not have the force of law, the model is even less generally valid. In theory, authority to make decisions is delegated to the level at which the decisions can best and most efficiently be made, thus maximizing profits.

On a less theoretical level, the typology of communication systems presented above should illustrate the shortcomings of the "tip-of-the-iceberg" appraisal method. Because of the multidirectional flows of communication in all structures more complex than the small, owner-managed company, the strictly hierarchical view is an oversimplification. The information at the top is only one piece of the organic system of flows that controls and coordinates activities. Information is collected, analyzed, and acted upon at various levels in the two more complex structures. Adequate documentation of business structure and functioning is particularly important now when business history has shifted emphasis from company histories, which tend to focus on the decisions of particular top officials in newly emerging companies, to studies of evolving business structures and functions.[29]

To illustrate the shortcomings of "tip-of-the-iceberg" appraisal, let us assume that only the central office files were saved for a functionally departmentalized company and for a multidivisional company, and that a researcher is interested in tracing the evolution of a certain business function (marketing or account-

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[29]Alfred Chandler referred to this growing historical emphasis on business structure and function during his visit to the Seminar on Modern Historical Documentation, Bentley Historical Library, Ann Arbor, Michigan, 27 July 1983.

ing, for example). In the functionally departmentalized company, the main office files would contain information reported from that functional department to the central office, including aggregate statistics on the results of its operation and major changes in approach. They would have much less information, however, about how that function was actually controlled or managed at different times. If files from the departmental level had also been retained, the researcher would find better information. In a large and segmented department, however, files from one or two levels lower would be necessary to reflect the full communication flow controlling and coordinating the function.

In the decentralized multifunctional corporation, the researcher would have even worse luck. The corporate office files would have virtually no information on a particular function, since the functional departments would be within divisions and divisions would report only in terms of a general comparative measure such as return on investment. The corporate office might have a staff office setting general guidelines for that function, but the records of that staff office would have only the most general information about that function. To get any specific information at all, the researcher would need to have records from two levels farther down, the department within the division.

A related problem for such a researcher is the way archivists often view routine, especially very structured, documents. Regular short reports and forms are often considered unimportant even though they play a significant role in collecting the information that is analyzed and used to control activities. The short report and forms in fact are part of the context in which the highly summarized information reaching top levels in the hierarchy must be understood. The facts may be summarized, but the process cannot.

Recently some such routine documents have been saved in the form of random or systematic samples. Reflecting historical interest in quantitative data, as well as the necessity of reducing bulk, some archivists have used sampling techniques for retaining a limited number of lowest level documents containing raw data.[30] Two prominent cases in which this technique was applied to business records both dealt predominantly with nineteenth-century records of companies that were, by modern standards, relatively small and had very shallow hierarchies. Though the companies exceeded most traditional firms in size, they had not reached the next stage of growth and functional departmentalization. With this type of firm, such a sample can help to capture a sense of the communication flow. If a sampling of low-level homogeneous documents were used to supplement executive-level files in larger, functionally departmentalized or multidivisional companies, the total collection would leave a large gap in communication flow between the top and the bottom. While certain types of information would exist in their rawest form as well as their most summarized form, the process by which the data was collected, shaped, and used as it flowed through the company would not be represented.

I do not mean to suggest by this analysis that archivists must keep everything. Clearly, the farther down the

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[30]See Paul Lewinson, "Archival Sampling," *American Archivist* 20 (October 1957): 291–312; and Frank Boles, "Sampling in Archives," *American Archivist* 44 (Spring 1981): 125–130, for discussions of sampling in archives. The two applications mentioned are in Robert W. Lovett, "The Appraisal of Older Business Records," *American Archivist* 15 (April 1952): 231–39; and Larry Steck and Francis Blouin, "Hannah Lay and Company: Sampling the Records of a Century of Lumbering in Michigan," *American Archivist* 39 (January 1976): 15–20.

hierarchy an archivist goes, the more rapidly the bulk of records increases. Before appraising, however, the archivist should consider both the company's structure and its flows of information, in conjunction with the repository's collecting policy. For a decentralized, multidivisional company, for example, it makes more sense, given the communication flows, to document a single division and the central office than to cut off a horizontal layer.

Within a division or in a functionally departmentalized company, archivists should try to capture the structure of the communication system by saving strategic vertical selections (what we might call core samples) as well as horizontal layers of documents at the top of the hierarchy or the bottom. For a particular period, the archivist might retain the communication at all levels dealing with a single branch sales office, for example. These core samples cannot serve as statistical samples, because entire communication flows are not likely to be homogeneous. Without being truly representative, however, they can at least illustrate the flows and help compensate for the distortion of emphasizing the top of the hierarchy.

To reduce bulk in the vast sytem of regular reports at lower levels, in a core sample or elsewhere, an archivist might look for nodes of change in a function (major changes in the accounting or marketing system, for example) to document more heavily. Once a reporting system in a functional area has stabilized, the archivist can reduce bulk drastically by systematic sampling, for example. The structure of the documents themselves will provide some clues to these points of change, without requiring that the archivist know the history of every segment of the company. Because the communication system becomes the primary mechanism of control and coordination

in larger companies, changes in that system reveal changes in functions and in managerial methods. A shift from occasional letters to regular forms in upward communication reveals a significant change in managerial methods, for example, and may be worth documenting.

Whatever the appraisal method used, the finding aid should explain the appraisal choices as clearly as possible within limitations of time and space. This documentation will help the researcher to understand how the retained records relate to those not retained.

Finally, not all businesses need to be documented. An archivist will probably help researchers more by thoroughly documenting a few companies with good sets of records than by documenting only the top offices and figures of many companies. Cooperation among repositories might assure that all industries and business structures receive equal attention and documentation. Scarce archival resources may be better used through such cooperation.

While not all archivists may agree with these suggestions, this discussion of the communication system should help archivists to approach the difficult task of appraising large groups of business records with more knowledge of how the documents actually have functioned in the business. Much more remains to be learned. Archivists can find research opportunities in studying such issues as how filing systems and other communication technologies affect records, how routine report formulae develop, and to what extent divisions communicate in a multidivisional company. Such research will contribute further to the knowledge of how and why the documents they appraise were created. This knowledge becomes increasingly important as archivists struggle with the accelerating growth of post-World War II collections.