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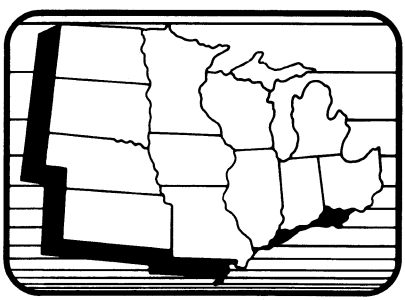

SPOILS OF WAR: THE FATE OF EUROPEAN RECORDS DURING WORLD WAR II

BY LINDA BARNICKEL

ABSTRACT: During wartime, ammunition plants, key river crossings, and even entire cities are military objectives. Seldom does one think of archives as such an objective. However, the possession and exploitation of records and archives during wartime is an important means of military power and control. This article will introduce the concept of "intelligence value" as it applies to records, followed by an examination of military forces in Europe during World War II and their behavior towards archives and records, particularly those of civil and political origin.

Introduction

Archivist Ernst Posner, a German Jew who fled Europe in 1939, once mused that the smashing initial defeat of the French in World War II was due to the fact that the Germans "had entered the war with a better filing system." Although the comment is tongue in cheek, it has an element of truth. Posner explained his conclusion by pointing out that "as early as 1935 the German authorities began the systematic exploitation of records of the First World War."[1] Meticulous record keepers themselves, the Germans brought a new degree of military professionalism into the wartime exploitation of records, ranging from standard military intelligence to the justification of genocide and cultural erasure. Clearly aware of the power such documents possessed, both for themselves and for their enemies, the Germans calculated their actions accordingly. Allied forces also recognized the value of archives and records in their military campaigns, although they did not directly address the issue until relatively late in the war.

This article will explore the concept of "intelligence value" as it relates to records, and examine a variety of ways military forces of both sides dealt with archives and manuscript repositories in their path. This will not be a balanced account: the vast majority of material published on the subject was produced during and shortly after the war, resulting in a distinctly pro-Allies slant to the subject. However, it is clear from these limited examples that both sides recognized the value of records and archives on a variety of levels: military, administrative, and cultural.

Intelligence Value: Records at Risk

Most archivists are familiar with the essential archival values such as administrative value, legal value, and historical value. To this list of values I would propose adding another: that of "intelligence value." Used in a military or political sense, this is the value information has for enemies or opponents of the creating or possessing individual or agency. Intelligence value should not be confused with the narrower and more familiar term, "military intelligence." A document can have intelligence value, not only for the military, but also for personal enemies (blackmail); for business rivals (trade secrets); for political enemies (scandals); and for others.

Documents with the greatest importance to the creator or possessor, particularly secret documents, also generally pose the greatest risk if the information is leaked to the press, obtained by enemies, or destroyed. The more important the documents are to the possessor or creator, the more volatile the records become. For instance, state secrets are deemed "top secret," not only for their importance to the government and national security, but also because such information becomes a threat or liability if it falls into the wrong hands.

Because of this double nature, records with intelligence value don't "behave" like most other records. During times of war or political intrigue, such records become not only legitimate targets of enemy forces or agents, but—and here is the irony—they can become targets for destruction or disruption *by the very persons or agencies that created them!* Certainly, many records are destroyed on a regular basis by their creators, but this is primarily because the records have lost their administrative or other practical uses. Seldom are records of current use and extreme administrative importance destroyed voluntarily, unless the creators or custodians of those records feel themselves threatened and fear that capture or use of these records by others will jeopardize their prestige, control, power, or existence.

Destruction, however, is usually an option of last resort. More likely, if records containing intelligence value are threatened, they may be removed from the rest of the fonds, taken to a place of safekeeping (a relative term, at best), or otherwise removed from their archival context. Though political intrigue or legal action can threaten records that have intelligence value, nowhere does the issue of intelligence value come into greater focus than in a time of war.

World War II: the Fate of Records

During World War II both sides exploited captured records in a variety of ways. Of course, there are many instances where captured records played a traditional military intelligence role. The famous "corpse that fooled the Axis," dispatches and maps taken from captured prisoners, and secret codebooks all figured prominently in espionage and intelligence activities during the war. The history of these operations during the war is voluminous, and will receive only passing mention here.[2]

Of more interest are the ways civil affairs officers, military police, soldiers, government officials, and groups of private citizens dealt with caches and repositories of archival and manuscript materials in the path of advancing and retreating armies.

For example, captured records in secure sectors behind the lines served a valuable role in establishing and maintaining an occupation government, particularly when government or civil repositories fell into the hands of the occupying forces. At other times, treasured manuscript collections or archival documents were destroyed or protected in an effort to make a statement about the worthiness of a particular people or culture. In addition to the primary use of captured records, whether in a military, administrative, or cultural-political capacity, there was almost always a propagandistic spin put forth for the consumption of victims or supporters of the occupying force. Thus, the intelligence value of records can be put to a variety of uses, often simultaneously. Viewed broadly, the fate of records during the Second World War falls into four categories:

- The responses by record keepers to threats
- The capture and exploitation of records
- The deliberate targeting of records
- The protection of records

The rest of this paper will explore these four categories, the repatriation of records after the war, and the implications of this archival history for the present.

Response to Threats: Escape, Disruption, and Self-Destruction

As German forces entered Norway in 1940, Halvdan Koht, Minister of Foreign Affairs, knew his office possessed documents that would be of great interest to the enemy. Koht described to the Society of American Archivists in 1944 the plight of records under his custody during the German invasion. The Foreign Affairs records "contained a number of secret documents that ought not to fall into enemy hands." Still earlier in the war, Koht's department already was discussing what to do with these records should Germany attack or invade Norway. Archivist Reidar Omang drew up a list of records that should be evacuated, and prepared by obtaining boxes of appropriate size. On April 9, 1940, the government evacuated Oslo and, in a matter of a few hours, the necessary records were boxed and on their way out of town on three trucks—just as the Germans were marching in. Despite the despair of retreat, there was relief, for "the Germans were prevented from finding any papers there [at the Foreign Affairs office] which they could use for political purposes." The fleeing administration removed a small portion of the safeguarded records concerning codes and ciphers and secreted them in the Norwegian countryside. It was deemed a greater risk to cross the border with the materials than it was to keep them in Norway at a secret location. The remainder of the evacuated archives were taken into Sweden in an effort to protect them from German bombs, and eventually made their way to the exiled government of Norway in London.[3]

This brief example demonstrates many aspects relating to records containing intelligence value. First, the documents—though dating back as far as 1905—were of current importance to the Norwegian Foreign Affairs office. They were important for ongoing foreign relations—even though Norway was a government in exile—and, it was feared, such records might endanger many of Norway's friends and allies if the documents fell into German hands. Here we see the overlapping administrative and intelligence values of these records. They were necessary for the continued activities of the

Norwegian government (administrative value), but posed a threat—more to allied nations than to Norway—if they fell into enemy hands (intelligence value).

It is quite possible that the intelligence value given to records by their possessors or creators is not given equal importance by the very enemy that they fear. For instance, in this case, the Norwegians clearly felt that German possession and exploitation of these records would endanger Norwegian allies and, therefore, Norway itself. However, does it then follow that the Germans must necessarily see such intelligence value in these records? Is intelligence value a two-way street? No. The creators know their records; they *know* the value of the information in the records and what it could mean if that information fell into the wrong hands. In general, the enemy does *not* know the exact contents of the records and can only predict what records will be of use, usually based on experience or analogous record-keeping practices by their own forces and government. In this case, however, the Norwegians' fears were well-founded. In 1940 the Germans published a propagandistic "White Book." The book claimed that France and Great Britain planned to occupy Norway and that such an occupation was prevented only by the timely arrival of German troops. The Norwegian government was said to be collaborating with the French and English, yet no Norwegian documents appeared in the book. Their absence, Koht claims, is because of the timely evacuation of important documents from the Foreign Affairs office.[4]

Documents in other government offices met a worse fate at the hands of their own creators. During the launching of Operation Barbarossa, the German invasion of Russia, personnel in both the German embassy in Moscow and the Soviet embassy in Berlin destroyed key documents, as staffs of both embassies knew a swift evacuation was necessary.[5] Later, in the war on the eastern front, nearly 750,000 files from the Soviet Supreme Council (Verkhovnyi Sovet) were destroyed, while a mere 5,000 were saved. At the Main Administration of Labor Camps and Colonies (GULAG), over 95,000 files were evacuated and over a million destroyed. These actions were a desperate effort to prevent the capture of important documents by the Nazis as Soviet forces retreated. Other Russian records became casualties of war when Luftwaffe bombing runs destroyed Soviet government offices and other repositories. Ironically, documents that survived to be captured by German forces often outlasted the war.[6]

During the war the Nazis captured or looted large quantities of records and cultural artifacts. German forces often sought to protect archives and other cultural objects from Allied bombs by secreting them in abandoned mines and other locations. For instance, in a mine at Heimboldshausen, there were "over a million books, maps, and manuscripts of the Prussian State and other libraries." At the Fortress of Ehrenbreitstein, another large cache was found containing the archives of numerous large cities such as Bonn, Dusseldorf, and Koblenz, the Royal Archives of the House of Orange-Nassau, and the archives of the Grand-Duchy of Luxembourg, all totaling "several million items."[7]

As the tide of war turned against them, the Germans would often attempt to destroy their stockpiles of documents and other treasures such as works of art, at one point going so far as to label crates with the warning "Marble: Do Not Drop." It was a ruse. The crates contained bombs that were to be detonated as the Allies approached.[8] Sometimes, German troops would pile documents and works of art into recently evacuated

military installations, such as anti-aircraft towers, which would likely be destroyed by enemy fire.

But, like the Russians, retreating Nazis went to great lengths to destroy their own records as well. In October 1944, Russian forces advanced into eastern Poland and neared Warsaw. In response to the approaching Russian army, the Nazis at Auschwitz began a desperate and "systematic destruction of the evidence of mass murder" that had taken place there during the last four years. With the Russians coming closer and closer, the Nazis gathered "the files about individual prisoners, and the death certificates of hundreds of thousands of people, Jews and non-Jews alike, [which were] brought to one of the two remaining crematoria and burned." The Nazi goal was that "all trace of the documents, as all trace of the corpses, was to be obliterated."[9] The bitter irony in the Auschwitz example is that, since the Nazis could do nothing further to destroy their victims once the bodies had been cremated, they destroyed every shred of evidence that the victims ever existed.

Occupation: Capture and Exploitation

In many other instances records were not evacuated or destroyed, but were put to immediate administrative use by the occupying force. This is because civil documents contain information on public policies, natural resources, the local population, and the structure and operation of the government. Indeed, in the modern era, records and archives are the very machinery of government and, like a munitions plant or other industrial resource, the machinery of government can be readily exploited by an occupying force. In times of war, records and archives may be a nation's only remaining and practical manifestation of power. Heads of state may flee or die, but the records often remain.

Posner observed that public records become "the continuous source of information for the regime of occupation."[10] They provide immediate information about residents, government structure, government officials, and more that can be put to instant use by an occupying force. Perhaps the greatest value of records to an occupying force is that they enable the invaders to make use of preexisting government structure. For instance, when Belgium and France came under German occupation, many local authorities remained in their positions and were held responsible for the loyal behavior of their subordinates and citizens.

Military and civilian officials realized the administrative value of records for occupation forces and the role of records in documenting the cultural heritage of various nations. So important were these matters to the contending forces that both sides established special military units devoted to the identification and security of archival materials. After an initial assessment by these units, decisions were made concerning the ultimate disposition of the records, depending upon the overall goal of the military force. If an occupation government were to be established, military intelligence or civil affairs officers might take over custody of the records in order to investigate activities of enemy forces that had recently evacuated the area or to identify loyal or disloyal citizens.

The value of an occupied country's records was clear to the Germans early in the war when they invaded Poland. The Germans implemented a sweeping program of securing and exploiting Polish records for their own purposes, both administrative and cultural. Posner found that the Germans went "considerably beyond what has been considered legitimate on the part of an invader. They have established the tightest, most thoroughly organized, and most active system of protection and utilization of records of which we know. . . . it is evidence of the importance they assign to records in their regime."[11]

Rebellious citizens chafing under the oppression of the Nazis also recognized the importance and power of records to the administration and authority of an occupying force. In the Netherlands, "patriots" launched attacks on German-held "'documentary nerve centers' to hamper the enemy-controlled machinery in carrying out the conscription of labor." The Dutch citizens raided the Bureau of Vital Statistics, destroying "population registers and other records of the greatest importance." They were reported to be wearing police uniforms—a symbolic mimicking of state authority.[12]

In this situation, the concept of intelligence value and the administrative value related to it functioned on several levels. Here the records possessed:

- Original administrative value to the government authorities of the Netherlands
- Intelligence value to an occupying German force
- Administrative value to the occupying Germans who took custody of the records
- Intelligence value to the local citizens who readily understood the administrative implications of having these records fall into German hands

The citizens, in turn, attempted to sabotage this administrative power by destroying records that were of earlier use and significance to them, but then rendered dangerous by German possession.

German troops moved in a blitzkrieg across much of Europe, entering many capitals and urban centers rapidly and with little resistance. The Germans generally did not face prolonged battles for sites that were likely to have large archival holdings and, therefore, the archives were found in relatively good condition and could be readily exploited.

American forces had a different experience. They fought their way into and across the continent of Europe against fierce German resistance. Entire cities were virtually destroyed as Allied forces carpet bombed strategic centers and shelling intensified as opposing forces battled for control. The scope of the war in Europe also meant that a gain in territory usually covered a wide area, while localized record keeping meant that the occupied area contained many repositories. Advances were often rapid, though highly destructive, and Allied troops had to deal with German forces who often secreted their own archives and papers, as well as other captured archives.

Americans often were prevented from making quick, exploitative use of the archival materials they found because the records had been destroyed or removed to an unknown location prior to the arrival of American troops. Those archives left behind by the Germans often were poorly housed or extremely disorganized due to rapid evacuation or combination with other archives. Complicating matters, the American forces

rarely had adequate numbers of trained personnel to handle the massive amounts of archival materials that came into their possession.

Despite these handicaps, as Allied forces advanced in Europe, they captured and exploited archival troves for their own benefit. So important was the rapid identification and security of official or makeshift German repositories of "cultural treasures" (including art, archives, and other materials) that a special detachment of Civil Affairs officers from British and American forces was created in 1944, entitled the "Monuments, Fine Arts and Archives" (MFAA) program. Better known for its work in locating and returning plundered works of art, this organization was also charged with securing and protecting libraries, archives, and other objects of cultural significance from the hazards of war.

Woefully understaffed for the task in front of them, one veteran states that the MFAA averaged a mere 10 officers on duty for the entire continent of Europe.[13] Another source states that there were never more than 35 men on duty at any one time, though total MFAA numbers reached approximately 185 servicemen. Some idea of the enormity of the task confronting the MFAA can be seen in a summary of operations from their first four months, when "a total of 1,240 sites and 597 towns were examined by a statistical average of two and a half MFAA officers."[14]

MFAA personnel faced a tough battle. Not only did this small group face an enormous task, the reporting structure and authority of MFAA officers were vague. Though given the clearly defined mission of protecting cultural treasures, MFAA officers were not granted enforcement authority and relied upon cooperation with superior officers in other branches of service.

There were also internal squabbles among MFAA officers. About half of the MFAA staff had been in the armed forces when the MFAA was organized and were transferred into this new unit. These staff retained their rank and military insignia and often found that their emblems and patches from their old unit served them well in relations with superior officers. The other half of MFAA personnel was composed of men who had been commissioned directly from their curatorial and archival jobs in civilian life into MFAA service. These newly commissioned officers were often derisively called "bird-in-a-gilded-cage" officers by their colleagues, because they lacked a branch of service insignia, and their distinctive patch consisted of "a circle containing parts of an eagle."[15] Initially, these men from civilian life found their jobs more difficult due to a lack of familiarity with front-line military operations and rebuffs by MFAA colleagues who had military experience.

Despite internal squabbling and inadequate numbers for the task before them, MFAA officers took their work seriously. They considered it an essential part of their duty to follow just behind front-line troops in an effort to rapidly identify and secure threatened sites of cultural significance.[16] Their dedication to this task cost two members of the MFAA their lives. U.S. Capt. Walter J. Huchthausen was killed by a sniper when he responded "to a call for technical artistic assistance," and British Maj. Ronald E. Balfour died from German artillery fire while on an art salvage mission at Cleves, Germany.[17]

These deaths were more than noble sacrifices in an idealistic crusade to save Europe's cultural institutions. Captured documents were crucially important to the war effort and to the continuation of successful, efficient military operations. One MFAA veteran

summed it up this way: "Every military government activity in the occupied areas entailed the use of public documents, business papers, files and records of every kind, both official and unoffical."[18] Many of the captured records later proved invaluable in the trials and indictments at Nuremberg.

For their part, the Russians sought to use captured records for traditional intelligence gathering operations and to assist in the establishment of occupation governments in eastern Germany and other areas, but their confiscation of German documents went beyond these strictly military uses.

Towards the end of the war, Russian troops felt justified in confiscating German records, since Germans had ransacked Russian repositories during their advances in 1941 and 1942. In the words of NKVD Deputy Commissar for Internal Affairs Sergei Kruglov, Soviet troops were to "search thoroughly . . . all German archives and libraries . . . and bring to the Soviet Union materials . . . that have scientific-historical and operational significance for our country."

Soviet forces not only raided German repositories of Nazi party materials but also seized items from educational and scientific institutions not directly linked to the Nazis, as well as German-held records captured from other Allied nations. Approximately 30 wagonloads of documents were removed from the office of the German intelligence division, which also contained captured French and Belgian records. About 10 wagonloads of materials were taken from the German naval department. A report for the year 1945 indicated that 55 wagonloads of German and Romanian materials had been shipped to Russia, together with 45 wagonloads of "other foreign materials," mostly of French and Polish origin.[19]

Destruction: Military Targeting, Cultural Erasure, and Revenge

On several occasions British bombers made the destruction of records their prime objective, targeting Gestapo headquarters in occupied nations in an effort to destroy records relating to resistance movements. During the spring of 1944, British bombs destroyed "almost all" of the files relating to the Dutch resistance movement that were housed at Gestapo headquarters in The Hague. This raid saved many Dutch lives by seriously hampering Gestapo efforts to detect and stamp out resistance activities. Later, in the fall of 1944, Dutch resistance leaders in hiding in Denmark appealed to Britain to bomb Gestapo headquarters in Aarhus for the explicit purpose of record destruction. In response to the request, the R.A.F. sent 24 bombers that dropped their payload "at roof-top height," successfully destroying the records. This raid killed over 150 Germans, together with 20 Danes—most of whom were informers.[20]

The fact that the British were willing to risk their bombers and crews in an effort to destroy Gestapo records clearly demonstrates British concern and understanding of the power these records held—for the Gestapo, as well as for the resistance. But destruction of records by advancing forces was not only the result of military necessity. On September 30, 1943, a German squad entered the villa of Montesano, Italy, to which the Naples State Archives had been removed for safekeeping. The repository was said by Italian officials to be "purely cultural," full of "the most valuable historical documents," containing 30,000 volumes and 50,000 parchments. Within 15 minutes, it was

engulfed in flames. Count Riccardo Filangieri, the Italian archivist in charge of the documents, was helpless. Bystanders managed to save over one hundred cases of documents, but it was a frightfully small amount compared to the loss. Filangieri called the act "a crime" and a "wanton outrage," and mourned: "the extent of the disaster is enormous," creating "an immense void in the historical sources of European civilization."[21]

Although the events at Montesano appear to have begun with a German squad stumbling upon a large trove of manuscripts, the destruction of archives, manuscripts, and related materials—even those of cultural, rather than administrative, importance—was a specific part of the Nazi agenda. In Nazi-controlled Poland, eastern Europe and Russia, the goal was the complete obliteration of a people's heritage. Sometimes, as in the Netherlands, the overall Nazi goal encompassed both obliterating a people's cultural identity and establishing a military regime.

As early as the winter of 1939–40, German troops scoured Polish repositories in a widespread but organized effort to remove all vestiges of Polish national identity. Nazi forces seized books and documents from the Polish Parliament, and "the Diocesan Archives in Pelilin, containing 12th century documents, were burned in the furnaces of a sugar refinery."[22] The pillaging of documents and other materials spread throughout the ever expanding Reich, particularly into eastern Europe and Russia. Such actions also took place in western Europe, although Nazi goals there seem to have been more in line with standard military intelligence and occupation government functions, rather than with sheer destruction and pillaging.

The Ribbentrop Battalion, a special German unit, consisted of four companies that were "to seize and to secure, immediately after the fall of large cities, their cultural treasures and all objects of great historic value" and send them promptly to Germany. In 1942, one company was sent to Russia, where Obersturmführer Dr. Norman Paul Foerster was captured by Soviet forces in November. During interrogation, Foerster testified that, in 1941, his unit received an order from Reich Minister of Foreign Affairs Joachim von Ribbentrop to "comb out" everything of "definite value" from Russian archives, libraries, and other institutions. Foerster also told Soviet authorities that "we reaped a rich harvest in the library of the Ukrainian Academy of Science, treasuring the rarest manuscripts of Persian, Abyssinian, and Chinese literature, Russian and Ukrainian chronicles, the first edition books printed by the first Russian printer, Ivan Fjodorov," and many other rare items.[23]

The Einsatzstab Reichsleiter Rosenberg (ERR), another German unit devoted strictly to cultural looting, was so efficient it established regional, subregional, and local offices for collecting and processing captured archival and other cultural items. A 1942 letter from the Reich Minister for the Occupied Territories explains the goal of this unit as follows: "I have entrusted the Einsatzstab Rosenberg for the Occupied Territories with the listing and detailed handling of all cultural valuables, research materials, and scientific work in libraries, archives, research institutions, museums, *et cetera*, found in public and religious establishments, as well as in private houses."[24] Under the overall command of Reichsleiter Alfred Rosenberg, the activities of these units were later found to be in violation of the laws and customs of war.

Documents captured by the Allies were essential in providing evidence of cultural looting by the ERR. Led by a reliable informant, American Lt. James J. Rorimer came to King Ludwig's Neuschwanstein Castle in the village of Füssen where he found not only looted art treasures but extensive documentation of the ERR's activities. One room of the castle contained a large quantity of ERR records. Rorimer used these records together with careful questioning of local residents to discover the whereabouts of two men involved in ERR activities. Rorimer located one of the German men and, thereby, obtained additional information and documents concerning the ERR's activities, including a complete report of Rosenberg's activities in France in July 1944. Maj. Gen. William J. Donovan, head of the Office of Strategic Services (OSS), said that the documents obtained by Rorimer's shrewd detective work were "the most damaging evidence of Nazi looting that had been acquired."[25] These documents and others were essential in the prosecution of Rosenberg before the International Military Tribunal at Nuremberg on four counts. One of these was the charge of War Crimes, "on the basis that [Rosenberg] authorized, directed, and participated in" the plunder of public and private property, which included libraries, archives, and art objects.[26] Found guilty, Rosenberg was sentenced to death by hanging.

Despite organized military attempts on both sides to seize, protect, exploit, or destroy archives and repositories, individual units or soldiers sometimes took matters into their own hands—particularly the less disciplined American troops. According to research by Kenneth D. Alford, even members of the MFAA were not exempt from the temptation of selecting a few items for their own personal use and enjoyment. In activity that could be termed criminal in view of his military duty, MFAA officer Capt. Norman T. Byrne apparently felt free to plunder art and archival materials from the collections under his control. While stationed in Berlin, Byrne supposedly "confiscated" files of the Schantung Trading Company, which sold art on consignment. These records would be essential in tracking some of the plundered loot from families and museums throughout Germany and Europe that found its way into the Schantung inventory. The files disappeared completely once Byrne was on the scene and have never been recovered. Alford claims that the files were taken so that Byrne could freely take art from the Schantung Trading Company for his own personal enjoyment, without care or concern about payment, restitution, or repatriation.[27]

While Alford makes the case that Byrne was acting in conflict with his own official military duty, other soldiers not associated with the MFAA made requisitions for more pragmatic purposes. Papers written in a foreign language made ready souvenirs that could be easily carried about or sent home and, if portions were left blank or only one side written on, such paper became instant stationery. Always utilitarian, soldiers occasionally found novel uses for captured documents. In the village of Coriano, Italy, large file bundles were reportedly used by Allied troops to corduroy a muddy road; in Kunzelsau, Germany, ancient paper from archival bound volumes was used as a blotter for drying film, though it is not clear whether the perpetrators were German or Allied troops.[28] In most instances, such appropriation of archival materials was usually on a small scale: soldiers simply took such materials to put them to better use from their point of view.

Protection: Securing Goodwill

With acts like the destruction of the Naples State Archives at Montesano receiving dramatic attention and being labeled as "crimes," it is no wonder that the American and British forces found much to gain by protecting cultural monuments, encompassing historic buildings, statues, and other works of art, as well as archives. Politically, the Allies could become the "saviors of western civilization," preventing destruction of Europe's cultural treasures, while the Axis forces sought to undo the proud heritage of western civilization by destroying such works.

Though clearly an opportunistic issue for propaganda, such sentiments found their way into official documents. At the start of the campaign for Rome, Gen. Dwight D. Eisenhower explained the issue of protecting cultural monuments. Eisenhower saw this as an important task of his troops. Italy was "a country which has contributed a great deal to our cultural inheritance," he declared, and such monuments "illustrate the growth of the civilization which is ours."[29] Prior to the invasion of France, Eisenhower expressed a similar theme. He wrote in a directive to all commanders that "in the path of our advance will be found historical monuments and cultural centers which symbolize to the world all that we are fighting to preserve" and should, therefore, be carefully protected whenever possible.[30] Oliver W. Holmes, of the National Archives, reflected shortly after the war that:

> It was clearly up to the Allies, now as victors, in their reconquest of the lands and countries Germany had overrun, to minimize, if possible, the destruction of the records of that civilization and culture for which we fought. A precious part of our heritage was there within "Festung Europa," threatened by our own armies.[31]

The Allied commanders recognized that active protection of such cultural resources bode well for an Allied occupation. Not only would the protection of archival collections later be of functional value as governments of occupation were set up throughout conquered territory (the Allies could not yet know the great disarray of archives they would find as they advanced), protection of archival institutions and other cultural treasures also made the Allies "look good" to the local populace. Such a philosophy was articulated in orders to the troops, like that expressed to the Acting Director of the Civil Affairs Division on April 1, 1943: ". . . it is believed that the Army will gain in good will if adequate steps are taken."[32] Thus, with such orders on record and the discoveries of poor or haphazard storage or willful destruction by the retreating Germans, the Allies were able to easily cast themselves in the role of "saviors of western civilization" long before the liberation of France and the discovery of the concentration camps gave more credence to the claim.

Repatriation of Captured Records

As early as 1945, efforts were under way by the governments of Great Britain and the United States to return some captured documents to their home countries. One of the first shipments from the United States Army was four freight cars of approximately

1,000 archival "packages" to the Soviet Union, consisting of items taken by German forces in 1943 from Novgorod. Larger quantities of archival materials followed this shipment in subsequent months during the fall of 1945.[33]

Not all records were returned to their country of origin, however. Records taken from the YIVO, a Jewish research institute in Vilnius, were sent to its successor organization in New York City rather than being returned to the Soviets. Other materials were transferred to Israeli custody under the aegis of the Commission on Jewish Cultural Reconstruction. During the Cold War, the western allies refused to return materials taken from the Baltic states because Soviet control of this region was not recognized by the West.

Soviet repatriation of records has been slow. Cold War hostility to the West hindered the willingness and interest of Soviet authorities in repatriating captured documents to countries considered hostile or untrustworthy. Furthermore, the suffering of the Russian people and their culture at the hands of German invaders remains a bitter, painful memory. Retaining custody of German documents was a way to dispossess their wartime enemy of their cultural heritage and, in Russian eyes, was justified since many Russian materials were destroyed during the war and could never be replaced.

Not until the past 10 years, with the fall of the U.S.S.R., have repatriation efforts from the former Soviet Union to western countries been seriously considered by Russian authorities. Still, there appears to be lingering suspicion of the West and doubt as to the validity and truth of repatriation activities that have been ongoing in the West during the Cold War. More than 50 years after the war this issue is still evolving. With greater openness in both the East and West concerning records of the World War II era, the outlook is hopeful.

Implications: Future Research and Present Concerns

The cases examined in this paper are only brief anecdotes. This essay is only a starting point for discussion and research, not the final word.[34] Very few materials, particularly since the 1950s, have been published on the specific subject of archives and the war, despite a proliferation of materials about looted and repatriated art.[35] Future studies might examine not only the fate of archives and records during wartime in further detail, but also further explore the concept of intelligence value as it applies to other (e.g., business and political) realms of society.

The recent conflict in Bosnia and Kosovo, particularly the destruction of Kosovar passports, vital records, and other essential identity documents, gives this subject special relevance. Efforts to reconstruct the Bosnian library and its manuscript collections, as well as work to restore lost identities to those persons whose legal papers were destroyed in their exile from Kosovo, further demonstrate the special power and fragile nature of records during wartime. Recognizing the value such records hold for "the enemy"—whoever that might be and whatever their goals may be—may help anticipate and prevent such actions in the future.

In the mere custody of records, there is power. This power can come in many forms, including the use of documents against their former owners or creators; the destruction of documents in an effort to rob a people of their cultural identity; or the preservation

of archives and other cultural monuments in a threatening time. Though not often thought of as a military objective, it is clear that archives and records—through their exploitation, destruction, and protection—played an important military role in the European crisis of World War II.

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NOTES

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TOWARDS A FRAMEWORK FOR MANAGING ELECTRONIC RECORDS IN SCIENTIFIC RESEARCH

BY KALPANA SHANKAR

ABSTRACT: This paper discusses scientific record keeping in the context of current theories of electronic records management. It describes the role of the laboratory notebook and the advent of electronic record keeping in documenting research. This paper also describes weaknesses of existing models of electronic records management with respect to scientific records. Gaps in the understanding of scientific records, organizational culture, and the warrant for scientific record keeping point to a need for developing a framework for evaluating electronic scientific records. The paper concludes with a proposal for further research into developing a framework that would take into account the problems described in the first part of the paper.

Introduction

A universal precept in scientific research is that scientists are dependent upon their written records of experimentation for the success of their work. The new student of science is taught that "proper" record keeping, traditionally done in a bound notebook, is the hallmark of reliability and integrity in research. In fact, the laboratory notebook is usually considered the only legally permissible documentation of research in the assignment of patents and in disputes of intellectual property.[1] A scientist "does science" in a laboratory notebook: it is here that problem framing, experiments, observations, methodology, interpretations, and references occur.

In spite of their long history of use, paper notebooks have their disadvantages. They are difficult to search, index, and manipulate. Recording repetitive experiments and calibrations is tedious. Other media of research, such as video images, are impossible to integrate into the paper notebook. In general, laboratory notebooks contain, in addition to text, graphics, photographs, printouts from instrumentation, samples, and other products of experiments.

To combat these problems and to fulfill other needs, scientists in many corporate and government laboratories have turned to "electronic laboratory notebooks." Such systems have been slow to catch on, but as technology has become more portable and less

expensive, and the need to share information across time zones and continents has grown, electronic systems for capturing scientific data have become increasingly popular.[2] Even when scientists don't use formal record-keeping systems, they may keep parts of their laboratory notebooks on desktop computers and file printouts as appropriate.

However, the companies and individuals who have created these systems are generally scientists and systems designers, not records managers or archivists. As a result, these systems have often been optimized (or are being optimized) for the efficient capture of scientific data, without necessarily taking into account long-term archival and records management needs. The fact that neither the scientific nor the archival literature has confronted this problem suggests that the impact of electronic record keeping on science is unclear. A critical assessment of scientific records in the context of current electronic records research is in order.

This paper discusses the role of the laboratory notebook in scientific research and its importance as a record of scientific activity. It places the laboratory notebook in context with other scientific documentation and scientific practice. The paper suggests gaps in the existing electronic records research that need to be addressed if archivists are to help the scientific community take ownership of the electronic records management issues in their own work. Lastly, it proposes a mapping between archival practice and scientific culture that may help archivists and scientists communicate effectively to manage electronic (and paper) records in their purview.

The justification for such an assessment is clear. Scientific records have come under increased scrutiny from the stakeholders of scientific research: the public that pays for it, the scientists that engage in it, and the regulatory environment that governs it. Historians and archivists of contemporary science also lament the lack of documentation of contemporary science and have suggested that a scientific memory crisis is brewing.[3]

A general framework for interpreting scientific records could assist the archivists and records managers of contemporary scientific research in averting such a crisis. However, this paper will show that existing theories of electronic records management are inadequate for describing the records of science. Much of the rest of this paper will discuss scientific record-keeping practice in the context of two current frameworks and examine the shortcomings of those frameworks in assessing electronic scientific records. Based on these shortcomings, the paper outlines a proposal for developing a workable model for archiving scientific records.

Literature Review

It is helpful to start with definitions. What is a "laboratory notebook"? For the purposes of this paper, a "laboratory notebook" may be considered as the daily log of research kept by researchers and other technical staff in performing their scientific duties. Howard Kanare, who has written one of the most exhaustive manuals on the subject, goes so far as to suggest that "the properly kept notebook contains unambiguous statements of 'the truth' as observed by the scientist."[4] Most writers who have discussed proper record keeping concur that certain essential features of the scientific

record must exist for the sake of completeness: research notes must be clear, complete, signed by the author, witnessed by another member of the group, and legible. The notes should be dated and kept in date order. Other names for the notebook are "research notes," "logbooks," and "laboratory records." For the purposes of this paper, the laboratory notebook can be electronic, paper, or a hybrid system.

There has been extensive research and writing on the preservation of electronic records in corporate and government environments. The two major theoretical frameworks in this arena are the University of Pittsburgh and the University of British Columbia electronic records projects.[5] While these two projects have taken radically different tacks in examining electronic records, practitioners who have tried implementing one or the other model have been forced to make compromises between theory and practice.

One of the first gaps between the scientific and electronic records communities rests in the definition of "records" itself. One of the definitions that Richard Cox of the University of Pittsburgh provides is as follows:

> Recordkeeping systems are information systems which are distinguished by the fact that the information they contain is linked to transactions which they document . . . Recordkeeping systems capture, maintain and access evidence of transactions over time as required by the jurisdiction in which they are implemented and in accordance with common organizational practices . . . Recordkeeping systems support functions of the organizations, and these functions require records of transactions in order to continue daily operations, satisfy administrative and legal requirements, and maintain accountability.[6]

He also indicates his support for Frank Upward's view that

> During the last thirty years there has been a steady shift to emphasizing the importance of data, and this has been at the expense of perceptions about the importance of documents, a term which temporarily was considered to be more applicable to paper records.

It is useful to contrast this definition with the scientists' use of the word "record," where the concept of transaction is vague. Kanare uses the word "record" almost synonymously with the word "data." He writes that the "laboratory *databook* [emphasis added] . . . contains a written record of the researcher's mental and physical activities from experiment and observation, to the ultimate understanding of physical phenomena."[7] Francis Macrina, who cites heavily from Kanare, concurs when he writes that "data contains handscript or affixed typescript which records and reports measurements, observations, calculations, interpretations, and conclusions."[8]

The archival community has been wrestling with the definition of "records" for centuries and continues to examine the applicability of those definitions in the digital environment. In the past, the scientific community has had less reason to come to grips with the definition of "record." However, this is changing as scientists in industrial, government, and academic environments have become concerned with issues of fraud and intellectual property protection. Since so much of the Pittsburgh model is based on its transactional definition of "record"—a definition that is distinctly at odds with sci-

entific understanding (or lack thereof)—one can immediately begin to see that there may be some problems in directly using definitions found in the Pittsburgh model to manage scientific electronic records.

The University of British Columbia research project provides a more abstract and yet, perhaps, more useful definition of "record." The project leaders, Luciana Duranti and Terry Eastwood, rely on the centuries-old practice of diplomatics, a science developed during the seventeenth and eighteenth centuries for understanding the nature of documents and verifying their authenticity.[9] The diplomatics definition they adapted for the electronic environment is that a "record" was an archival document, or "a document produced in the course of practical activity."[10] Clearly, this definition is far more general than the Pittsburgh definition, which is legal and business oriented in its understanding. Although there are few scientists in any scientific discipline who know much about diplomatics, the diplomatics definition of records in electronic form is one with which they would be able to find some affinity.

However, the University of British Columbia's definition of "complete electronic record" would require some rethinking with respect to electronic scientific records. Duranti and Eastwood suggest that, for a record to be considered as having been created, "the entity needs to be created with the intent and the capacity of being communicated."[11]

The problematic phrase is "intent to communicate." The intent to communicate the primary records of science is murky. Kanare writes that the laboratory notebook should be considered a "forum" in which ideas are discussed.[12] Since a "forum" is a public discussion space, Kanare might argue that, indeed, the information recorded in a laboratory notebook, electronic or not, is intended to be communicated. Macrina elaborates on the "intent to communicate" when he writes that "corroboration and verification of scientific results using primary data contained in a laboratory databook may involve individuals other than the primary databook keeper."[13] The laboratory notebook will usually not be shared with others until the creator is ready for publication and, perhaps, not even then. In most environments, the organization (a university, a research laboratory, or a corporation) owns the laboratory notebook. Nevertheless, many scientists consider the notebook "their" space for reflection, observation, and calculation. Duranti and Eastwood argue that successful transmission of a documentary entity is necessary for the entity to be called a record.[14] So when does the "scientific record" become a "record"? The idea of transmission or intent to transmit may need to be refined to accommodate both practice and usage of the scientific meaning of "record."

One possible definition of a scientific record, based on the above discussion, might be "a document created during the course of research activity, written or recorded with the intent to allow others to replicate the activity being documented, outline the process of intellectual and practical actions that make up that activity, and to create documentation for the regulatory administration of that activity." This definition, or one similar to it, would incorporate those ideas that are germane to the archival and scientific professions and insure that the appropriate records are saved for administrative and legal purposes.

So far, we have shown that *what* is created is problematic when one discusses scientific records. What may be even murkier is *why* such records must be created and maintained. The project leaders of the Pittsburgh group argue that one of the most persuasive means of implementing the functional requirements they have outlined for electronic records is by appealing to authoritative sources that are trusted and respected by records creators. The researchers in the University of Pittsburgh project have used the concept of "literary warrant" to encompass these ideas. Literary warrant involves the documentation of formal mandates for record keeping that are the onus of the records creators and managers. These can include laws, industry regulations, best practices, standard operating procedures, and corporate rules. Wendy Duff suggests that compiling "literary warrant" can aid in implementing effective records management[15] and, to this end, the Pittsburgh staff hunted through legal, auditing, professional best practices, and information technology literature to collect passages directly in support of the functional requirements.[16]

However, literary warrant is limited by geography and scientific records creators are not. Laws that pertain in one country or state or institution with respect to records creation and retention will probably not pertain in the next. This is particularly problematic for contemporary scientific endeavors. For example, Joan Warnow-Blewett writes that in the discipline of high-energy physics, "members of a single collaboration may . . . come from a score of institutions based in several countries."[17] This organizational structure is not unique to high-energy physics: multinational collaborations are common in many scientific disciplines. Professional best practices suffer the same fate as legal warrant, since members of the same profession working in different countries may not be bound by the same professional codes. "Best practices" will also mean less in a multidisciplinary collaboration, another common organizational framework in research science. The best practices of the physicist will not be the same as those of the biologist working with that physicist on a research project. "Best practices" may also have different meanings for the industrial chemist in partnership with an academic chemist, another common research framework. And in newly established fields of scientific research, best practices may not even have been formally established.

The term "auditing" also has different meaning in the scientific realm than it does in the activities for which Pittsburgh has created its model of literary warrant. Scientific regulators tend to speak more of "data audit"[18] than of financial or legal audit. Although the term can have multiple meanings in the regulatory context, Adil Shamoo suggests that one definition of "data audit" is

> . . . the systematic process by which objective evidence is obtained and evaluated as to assertions about research data and their value to determine the degree of correspondence between those assertions and established or predetermined criteria which can then be communicated to interested parties.[19]

In other words, the purpose of data audit is to insure that the assertions that are made about the results of research actually are derivable from the records of that research. While the concept of data audit has been promulgated for a number of years[20], its use has been limited to the corporate arena and a few government agencies. While industry

usually requires that a peer of the researcher witness the laboratory notebook on a regular basis, there are no other "universal" principles of data audit that apply equally to all areas of scientific research, hence, the difficulty of using "data audit" to compile warrant. Moreover, many scientists have been strongly suspicious of data audit and have fought against it on the grounds of its intrusiveness and the increased paperwork that formal data audit generates.[21] In short, "auditing" may not be a term with which archivists will gain authority in the scientific community.

Deriving literary warrant for scientific records is a project in and of itself and clearly was not in the scope of the Pittsburgh project. In spite of the difficulties inherent in compiling literary warrant for scientific record keeping, there still are universal precepts that can be used to answer the question of "why." The strongest and most universal warrant for record keeping in scientific research is a form of "best practice": many scientists would suggest that the "best practice" of scientific research is scientific method.[22] Science derives its reliability from the ability to be replicated: if a given experiment can produce the same results each time the method is followed, then the experiment is considered reliable. Within the context of the scientific method, the ethical scientist must maintain reliable records of his or her work so that others may replicate it. Literary warrant for electronic record keeping, however, will need to be compiled and documented based on the exigencies of specific research environments.

While reliability of the records and the record-keeping process is one of the hallmarks of scientific ethics, "ethics" is not often discussed in the electronic records literature. Ethics investigations and congressional hearings have often focused on the inadequacies of scientific records. Kenneth Freedland and Robert Carney suggest that the ethics of scientific records management are bound up in quality control and, thus, mandate accurate record keeping. While the term "best practices" is not common in the scientific literature, "accountability" is. Scientific research is funded by institutions and heavily supported by government agencies or corporate entities; therefore, records creators are accountable to these bodies. The warrant for scientific record keeping lies in the ethics regulations that govern scientific research, but as yet these regulations and ethics have not found a home in the Pittsburgh model of literary warrant. This is not to suggest that the Pittsburgh model of compiling warrant would be inapplicable, just that, as yet, there has been no systematic progress on compiling scientific warrant that could serve industrial, government, and academic science alike.

Much of the need for good record keeping in science is also being driven by recent trends in intellectual property. The assignment of a patent, for example, is based on "first to invent," not "first to file," at least in the United States. The need and desire to patent has become more widespread; even genes and vegetables can be patented. The record-keeping requirements outlined by the United States Patent and Trademark Office binds those who wish to file patents in the United States. In a world where science has become a lucrative commodity, the rewards of keeping good laboratory records can be great. Archivists may find that possible financial reward for functional and complete records is the strongest warrant of all. More likely, however, they may find that fear is an even stronger motivator: highly publicized cases of fraud and misconduct in scientific research have many scientists examining their own record-keeping practices in a critical light.[23]

If there are difficulties answering the "What?" and "Why?" of scientific records, the next question we ask of the literature could be "Who?": Who are the records creators and how does their organizational culture fit into electronic record keeping? Warnow-Blewett, in her documentary analysis of high-energy physics collaborations, found that many of the daily activities were being performed by staff, students, and junior-level scientists.[24] This is confirmed by Helen Samuels who writes, "For collaborative research of all kinds and the majority of scientific and technological efforts, project leaders work as part of a multi-layered team comprising researchers, administrators, and technical assistants . . . . The research staff is made up of graduate students, postdoctoral fellows, and research assistants . . . ."[25]

While identifying records creators may be fairly straightforward, understanding the organizational culture of research may not. It is necessary to understand competing models of electronic records use in order to appreciate the difficulty. For some time, there have been competing models of electronic records use. Duranti argues that electronic records have a "life cycle" comparable to traditional records: records are most heavily used around the time they are created and then drop off in use. At this point, they should move into the archival bond, which Duranti defines as "the originary, determined, and net of relationships that each record has with the records belonging in the same aggregation."[26] While the research science community would probably agree with Duranti's life cycle in theory (scientists tend to use their records most intensively after creation, with use dropping off with time), her emphasis on the archivist as gatekeeper would probably not be in concert with the community's need for self-regulation of its records.

Duranti's view is in direct opposition to the Australian model, which argues that electronic records may follow more of a "continuum" pattern, with cycles of use and nonuse by the creators.[27] Upward suggests that the continuum model creates some new principles for the age of electronic records: an expanded definition of "record," systematization of requirements for record keeping (related to the Pittsburgh Functional Requirements approach), and most importantly for research science records, strong emphasis on the integration of records management into the social processes of the research organization.[28] The post-custodial model argues for the records manager to mediate the local management of records at the site of creation. This approach may be effective in government agencies where knowledge of records management is localized, but the applicability of this approach in a community without records management training has yet to be tested.

In short, scientific records do tend to be used intensively at the time of creation, then drop off in use, and in this regard the life cycle concept would seem most applicable. Cycles of use and nonuse are discipline driven and perhaps best understood by the community itself. But moving records physically into an archives probably will not work in some scientific arenas (such as academia) for cultural reasons. In this regard, the continuum approach, with its emphasis on self-governance and education for records creators, is likely to be more applicable in a scientific community that has traditionally been quite protective of its records. So, there does not appear to be a pat solution to the issues of custody or other electronic records issues, either in the scientific arena or in any other. It would seem, rightly, that scientific practice and scientific records share

some aspects of both the life cycle model and the continuum model, at least as articulated by their respective adherents. Perhaps a combination of custodial and post-custodial approaches, mediated by archivists who are sensitive to the evidentiary, regulatory, and long-term cultural import of scientific records, would work best in the research environment. There is a great deal of exploratory work to be done in this arena.

Scientists certainly would not find themselves in concert with Duranti's custodial model of electronic records appraisal, where the authenticity of records lies in their transfer to physical archives.[29] Many scientists are skeptical of "outsiders" (i.e., non-scientists) who claim to know the value of the records created by "insiders."[30] Although many institutions have formal procedures for archiving laboratory notebooks and centralizing their custody, at most noncorporate institutions these procedures are seldom followed. Moreover, there appear to be very few institutions that have established any procedures for archiving electronic records of science. As noted above, fears of the potential loss of intellectual property may also preclude scientists from trusting the records managers and archivists who wish to implement electronic records management programs. Very few scientists would agree with Duranti's assertion that the final disposition of records to the archives is what confers their authenticity. To the scientific community, the authenticity of records lies in scientific method, not in their archival status. Macrina sums up this position thus:

> Authentic data represent the true results of work and observations. When data deviate from this standard because of carelessness, self-deception, or deliberate misrepresentation, they lose their authenticity.[31]

Tackling these gaps of current practice in electronic records management when applied to scientific records constitutes only a preliminary discussion of the problems. The literature on electronic records has not focused on scientific records and, in turn, the users and creators of electronic laboratory notebooks or other record-keeping systems have not been exposed to the relevant literature on electronic records management. In the next section, I will suggest that a general framework for scientific records management can be derived from an understanding of these deficiencies.

Proposal and Methodology

There exists a need for a framework of electronic scientific records appraisal that accommodates the needs, assumptions, and practices of scientific research.[32] Some of these issues were discussed above and can be summarized as follows:

- Any framework that is derived must work for both paper-based and electronic records, since most scientists still use a hybrid record-keeping system.
- The archival definition of "records" needs to be reassessed and perhaps expanded in light of the use of the term "records" in the scientific community.
- The warrant for record keeping should include accountability, ethics, defense of intellectual property, and quality control as these concepts apply in the conduct of science.
- The organizational culture of scientific practice needs to become cognizant of record keeping as understood by archivists and records managers.

- The scientific community may need an alternative to the archival custodial model of records management. In general, the scientific community is suspicious of external management of its records.
- The scientific meaning of authenticity and reliability of records needs to be incorporated into any framework for electronic record keeping.

Much of the literature of electronic records management is not easily understood by the creators of the records. Therefore, a bridge is needed to span the gap between the archival and scientific communities. One possible framework is journalistic: the six questions of the reporter can provide an easily understood translation of difficult archival concepts. This mapping could make implementation of electronic records projects easier and more acceptable in the scientific community. These journalistic questions can be summarized thus:

- Why is the long-term management of scientific records important?
- Who is creating scientific records and who is using them?
- What records are they creating?
- When are records being created and when should they move into the archival bond?
- Where are records being created and where does the responsibility for their management lie?
- How are records stored?

At first glance, these questions are nothing new for the practicing archivist. Archivists are trained to consider these questions of context whenever they examine any record-keeping system, whether paper or electronic. However, these questions are new to the majority of the scientific community, many of whom may not be familiar with a formal records management program at all. What follows is a translation of these questions of archival processes and culture into the vernacular of contemporary scientific discourse. The culture of contemporary science, particularly since World War II, has changed dramatically from the work of one individual scientist in one laboratory working on one project. Instead, large-scale multi-institutional collaborations, with records in electronic and paper form distributed in numerous bureaucratic and scientific environments, are the norm. Making electronic records management work in the complex, distributed, highly regulated, and competitive arena of contemporary science may require understanding of scientific culture, vocabulary, and practice.

Why are records important?

The first step in undertaking an electronic records management program is a consciousness-raising step: participants in the function or organization being studied must be made aware that they are generating records and that those records need to be complete and accurate. In scientific research, this amounts to dated, authenticated research notes (whether electronic or paper) and related documentation. Even beginning scientific researchers need to be inculcated with the message that their records are important. Warrant stems from three principal sources. First, the ethics and practice of re-

search demand accurate records. This argument can be bolstered by professional guidelines (where they exist) and the pedagogical literature. Second, research organizations and funding agencies have their own policies that must be met. These policies tend to center on protection of intellectual property rights, protection of human and animal subjects, and hazardous material use. Third, warrant can be compiled from the intellectual property sector. Patent law and other legal documents pertaining to the assignment of data ownership come into play. If research is undertaken in a corporate environment, the company will have another set of guidelines pertaining to records (usually drawn up as a result of the other warrants). These guidelines will insure that records will be compliant with laws and complete for the sake of research needs and ethics.

Who is creating records and who is using them?

As noted earlier, contemporary scientific practice, particularly in the academic arena, often employs students, faculty, and staff, with the work distributed over numerous offices and laboratories in both the private and public sectors. For example, university records managers may need to interview a number of scientists, staff, students, and administrators to understand the universe of electronic records that are being created and their relationship with the paper laboratory notebooks that are generally still the primary scientific record. Even if the archivist cannot collect all of the records, the awareness that the records are distributed in nature will help place the records that are collected in a broader context of institutional records. As for the needs of both primary users of scientific records (scientists and regulators) and the secondary users (archivists, historians, and sociologists of science), this is a subject that deserves further analysis. Almost no research has been done on the subsequent, post-publication uses to which scientists and others put their laboratory notebooks and related records.

What records are they creating?

Once the records creators are identified, the archivist must understand what records are being created. A broad understanding of the term "record" must be in force. Here, some observation and understanding of the research being undertaken will help. Raw and derived data, research notes, observations, communications about the project itself, grant reports, logbooks, instrumentation recordings, images, and sound recordings may all be part of the laboratory notebook. The importance of the preservation of these individual components will depend upon the discipline. The subject of the project, the participants, the dates, and the format of data, should help to place records in context.

When are records being created and how long do they need to be maintained before they move into the archival bond?

Archivists can look to documentation and functional analysis studies of archiving the records of science to understand the process of records creation and maintenance needs. In traditional records management, records managers examine organizational

hierarchies to determine from which levels and individuals records need to be managed. By contrast, Samuels and others have suggested that the complexity and "flattening" of contemporary organizations require new approaches to documentation. Samuels used the term "functional analysis" to describe this approach. Instead of using the organizational chart alone, an archivist or records manager, using functional analysis, approaches the task of records management by focusing on the functions performed within and by the organization. He or she then assesses the documentation produced as by-products of that function.[33] This approach may be particularly successful in scientific enterprises and may help in furthering understanding of the evidentiary needs that scientific records must fulfill.

Where are records being created?

Most research will probably generate a combination of paper and electronic records. Proprietary software for recording laboratory data, Intranets, World Wide Web pages, instrumentation recordings, E-mail, word processors, spreadsheets, databases, and videoconferencing systems can all generate electronic records. Systems for managing digital records should be integrated with the paper laboratory notebooks and research notes that are still in use by the vast majority of scientific research projects. In many cases, the software that generated data or recorded it should also be kept, since most electronic records would be unreadable without the software.

On a broader level, *where* records are created can cross time zones and continents. The archivist must contend with the trans-national nature of collaborations. Scientific collaborations also cross the boundary between the private and public spheres, making the responsibility for managing the records murky. Clarifying the responsibilities and scope of the archivist's role is a delicate and difficult process in the case of these collaborations.

How are records stored?

The archivist must then determine how records are to be retained. Policies generally exist for the disposition of paper laboratory notebooks, but the archivist must examine whether this policy is effective for electronic records and hybrid systems. Whatever formats are chosen for records retention, archived records will need to be eye readable or easily made so. How long records are to be retained will have an impact on how records are maintained, since different media have different shelf lives.

Lastly, the archivist must contend with where records are to be retained. Answering this question will depend upon policy and pragmatism. Different projects have different access needs and, thus, may need to maintain custody for different lengths of time. In some research organizations, there may be policies for archiving laboratory notebooks, but in practice these policies may never be implemented. Understanding the organizational culture of the institution at which research is being performed, the demands that are made upon research materials, and the data ownership policies that pertain to the records in question will help clarify where and how records are to be kept.

Clearly, this framework needs extensive research and testing to see if it provides a good map between the archival concepts and the scientific vernacular. However, it could be a big step forward for managing electronic records in research science and, most importantly, for gaining the enthusiastic acceptance of scientists for records management. One of the advantages of this framework is flexibility. The principles outlined can be applied to any scientific discipline. The model is also scalable: the same general steps could be followed to appraise the records of a lone researcher or a transnational collaboration. There are no pieces that pertain exclusively to electronic records. Electronic record-keeping systems are not universal and not standardized: any mechanism for managing scientific records must work across a variety of software and hardware platforms and permit the integration of paper records. If each of the steps is documented appropriately, the records will reside in a rich contextual environment.

Most importantly, the framework provides a way to relate arcane concepts to the nonarchivally trained (and suspicious) creator of records. Much of the success of records appraisal rests on the acceptance of records management by the records creators. Scientists have traditionally been wary of permitting their records to fall into the hands of the nonscientifically trained and are increasingly afraid of loss of ownership. Improving communication between archivists and records managers and the scientific community will help meet the needs of both professional communities.

Conclusion

This paper began with a discussion of the primary record of scientific activity, the laboratory notebook, and the problems for electronic records management that all electronic scientific records can engender. It examines why current thinking on electronic records is inadequate for the appraisal and disposition of scientific records. The problems begin with divergent uses of the word "record" in the archival and scientific communities, but do not end there. Much of the research that has been done on the management of electronic records has been for business and government records. There needs to be more research into the management of electronic records for the scientific community, since federal regulations governing scientific research often mandate extensive retention periods.

The laboratory notebook in paper or electronic form is contested ground. Because of its multiple roles as a stage for scientific inquiry, intellectual property, regulatory document, and historical document, there exist numerous professional communities that have a vested interest in the long-term preservation of laboratory notebooks. Increasingly, as scientists and organizations move towards formal electronic laboratory notebooks, the scientific, archival, and regulatory communities will need to communicate to make sure that such notebooks serve the purposes of all in ways that are as intuitive and long lasting as the paper laboratory notebook and as sophisticated (if not more so) as the desktop computer. Even when formal electronic laboratory notebook systems are not being used, scientists and scientific support staff may still be generating electronic "laboratory notebooks" in a more ad hoc fashion. Eliciting the whereabouts and importance of these ad hoc electronic records may require yet more communication between archivist and scientist.

This framework does not address the integration of formal electronic laboratory notebooks with other information systems such as data analysis packages, file management systems, electronic document management systems, and imagebases. Such integration adds more complexity to the electronic records management issues and can make long-term preservation of records even more difficult.

Ultimately, the success or failure of electronic records management in science lies in the ability to bridge a cultural and language gap. In short, archivists must learn to speak to scientists and scientists must be made aware of the work of the archivists. However, many issues are raised about the role of the professional records manager and archivist in the management of contemporary records of science, as well as the responsibilities of the records creators.

Both communities must be made aware that they are documenting the cultural heritage of contemporary science as well as evidentiary records. The archivist of electronic scientific records must consider context as well as content (an issue that archivists are professionally trained to consider), a point that may be lost upon the scientific community. However, the scientist is much more familiar with the environment in which those records are created, and this environment influences policy.

Some authors have suggested that scientific record keeping has changed with the advent of digital media, but to date no one has assessed the extent of these changes.[34] There is interest in the evolving practice of electronic record keeping, but the gap between the scientific community and the archival and records management communities has resulted in a lag in research into scientific electronic records management. Addressing these problems would have an impact on many communities, not the least of which are scientists and records managers. Although the primary beneficiaries would be scientists and records managers, the level of coherent documentation that will be created will prove useful to historians and sociologists of contemporary science. I suggest that a multiplicity of methodological approaches, archival and sociological, will prove to be the most powerful approach for creating a useful and usable framework for scientific records management in the digital age.

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NOTES

1. Howard M. Kanare, *Writing the Laboratory Notebook* (American Chemical Society, 1985): 2.
2. CENSA, the Collaborative Electronic Notebooks Systems Association, in Woburn, Massachusetts, is dedicated to developing accountable record-keeping systems for corporate research and development. More information can be found at <http://www.censa.org>.
3. Gavan McCarthy and Tim Sherratt, "Mapping Scientific Memory: Understanding the role of record-keeping in scientific practice," *Archives and Manuscripts* 24 (1996): 1.
4. Kanare, 1.
5. Both projects are too extensive to discuss in this paper. As needed, concepts from both will be selected and articulated in this paper. The University of British Columbia project has evolved into a larger project of international scope and participation, the InterPARES (International Research on Permanent Records in Electronic Systems) project. For more information, see <http://www.interpares.org>.
6. Richard Cox, "The Record: Is It Evolving?," *Records & Retrieval Report* 10 (March 1994), retrieved June 8, 2000, from the World Wide Web: <http://www.lis.pitt.edu/~nhprc/Pub15.html>.
7. Kanare, 7.
8. Francis L. Macrina, *Scientific Integrity: An Introductory Text with Cases* (Washington, DC: American Society for Microbiology, 1995): 43.
9. Luciana Duranti and Terry Eastwood, "Protecting Electronic Evidence: A Progress Report on a Research Study and Its Methodology," *Archivi & Computer* 3 (1995): 213.
10. Luciana Duranti, Terry Eastwood, and Heather MacNeil, "The Preservation of the Integrity of Electronic Records" project. *Template 1: What is a Record in the Traditional Environment?* (March 5, 1997), retrieved June 8, 2000, from the World Wide Web: <http://www.slais.ubc.ca/users/duranti/tem1.htm>.
11. Duranti, et al.
12. Kanare, 5.
13. Macrina, 43.
14. Duranti, et al., "Preservation." *Template 5: What Is a Record in the Electronic Environment?* (March 3, 1997), retrieved December 3, 1997, from the World Wide Web: <http://www.slais.ubc.ca/users/duranti/tem5.htm>.
15. Wendy Duff, "Ensuring the Preservation of Reliable Evidence: A Research Project Funded by the NHPRC," *Archivaria* 42 (fall 1996): 37.
16. Kimberly J. Barata, "Functional Requirements for Evidence in Recordkeeping: Further Developments at the University of Pittsburgh," *Bulletin of the American Society for Information Science* 23 (June/July 1997): 14.
17. Joan Warnow-Blewett, "Documenting Postwar Science: The Challenge of Change," in *Recovering Science: Strategies and Models for the Past, Present, and Future Proceedings of a Conference Held at the University of Melbourne November 1992*, ed. Tim Sherratt, Lisa Jooste, and Rosanne Clayton (Australian Science Archives Project, Canberra, 1995), retrieved December 3, 1997, from the World Wide Web: <http://www.asap.unimelb.edu.au/confs/recovering/blewett.htm>.
18. It has been noted that the scientific community tends to use "data" and "record" almost interchangeably.
19. S.E. Loeb and Adil E. Shamoo, "Data Audit: Its Place in Auditing," in *Principles of Research Data Audit*, ed. Adil E. Shamoo (Gordon and Breach Science Publishers, 1989): 19.
20. Kenneth E. Freedland and Robert M. Carney, "Data Management and Accountability in Behavioral and Biomedical Research," *American Psychology* 17 (May 1992): 641.
21. Adil E. Shamoo and Zoltan Annau, "Data Audit – Historical Perspectives," in *Principles of Research Data Audit*, ed. Adil E. Shamoo (Gordon and Breach Science Publishers, 1989): 8.
22. It can be argued that the "universality" of scientific method, however, has been called into question by contemporary critics of science, particularly by postcolonial and feminist scholars. However, examining the impact of these critiques of modern science on the record is outside the scope of this paper.
23. In recent years, the most highly publicized investigation of scientific fraud centered on the work of Theresa Imanishi-Kari, a colleague of David Baltimore, the 1975 Nobel Laureate in Medicine. After more than ten years of federal investigation, in which the Secret Service examined the laboratory notebooks of all concerned, all were exonerated of fraud. For an extensive treatment of the subject,

consult Daniel J. Kevles's recent book. *The Baltimore Case: A Trial of Politics, Science, and Character* (Norton, 1998).

24. Joan Warnow-Blewett, "Commentary," *American Archivist* 57 (winter 1994): 116.
25. Helen W. Samuels, *Varsity Letters: Documenting Modern Colleges and Universities* (Metuchen, NJ and London: Society of American Archivists and The Scarecrow Press, Inc., 1992): 116. The author of this paper notes that the hierarchy extends even further, having been personally involved in university-affiliated research projects as a high school student and later as a university student.
26. Luciana Duranti, "The Preservation of the Integrity of Electronic Records," *Proceedings of the DLM Forum on Electronic Records Research.* Brussels, Belgium, 18–20 December 1996 (European Commission, 1997): 61.
27. Hans Hofman, "Off the Beaten Track: the Archivist Exploring the Outback of Electronic Records," in *Playing for Keeps: the Proceedings of an Electronic Records Management Conference hosted by the Australian Archives*, ed. Stephen Yorke. Canberra, Australia, 8–10 November 1994 (Australian Archives, 1995), <http://www.aa.gov.au/AA_WWW/AA_Publications/P4K/Hofman.htm>. The model that Hofman suggests is adapted from the Australian Information Exchange Steering Committee's (IESC) publication, *The Management of Electronic Documents in the Australian Public Service* (1993).
28. Frank Upward, "Structuring the Records Continuum Part One: Post-custodial principles and properties," *Archives and Manuscripts* 24 (1996): 277.
29. Duranti, *Proceedings*, 60–65.
30. Shamoo and Annau, "Data Audit: Its Place in Auditing," 8.
31. Macrina, "Scientific Record Keeping," in *Scientific Integrity,* 44.
32. Some might argue that left out of this proposal are the issues related to the documentation of associated records that are not directly products of research, but support the research: administration of research and published dissemination of results. The existing models of electronic records management (especially the Pittsburgh project) are more suited to the administration and business of research than documenting the research itself, for one. Furthermore, Haas, et al., and Samuels have already done extensive work on documentation of these research-related functions.
33. Samuels, 5.
34. An interesting study would be to examine the practices of record keeping over the last 30 years and note differences and trends in different disciplines.

A ROOM OF ONE'S OWN: WOMEN'S ARCHIVES IN THE YEAR 2000

BY KÄREN M. MASON AND TANYA ZANISH-BELCHER

ABSTRACT: The number of repositories dedicated to collecting women's papers has grown substantially in the past quarter century, with no fewer than 15 established after 1990. This article analyzes that trend, arguing that activists—as well as scholars and archivists—have been at the forefront in establishing these new archives. As the fields of women's history, women's studies, and gender studies have matured, and as women's historians have broadened their vision to include diverse groups, geographic regions, and topics, significant gaps in the documentary record have become evident. Scholars, archivists, and activists have responded to that need with new collecting initiatives and new archives. The authors contend that woman-centered repositories will continue to play an important role in the archival landscape in the coming decades.

Introduction

In 1973 *American Archivist* devoted an entire issue to the theme of women in archives. In addition to pieces on the status of women in the profession, the issue included an article by Eva Moseley on women's collections. She focused primarily on the Schlesinger Library at Radcliffe College and on the Sophia Smith Collection at Smith College, but included discussion of a number of other women's collections. She also raised questions about the nature of separate women's collections that retain their relevance today: Should women's repositories exist at all? If so, what should they collect? Should the work of documenting women's lives and activities be left to women's archives alone? Moseley suggested that women's repositories were an important step forward, but that there might come a time when separate women's collections were not needed.[1]

In the quarter century since Moseley's article, the number of repositories dedicated to collecting women's papers has grown substantially, with many established after 1990. Certainly, the growth of women's studies programs and the establishment of women's history as a legitimate field of study are a large part of the explanation for this phenomenon. But the reasons for founding women's collections have been varied and have come from outside the academy as often as from within. Some recent collections have been started at the request of women's studies programs, others by archivists or

library directors to meet a perceived research need or to focus collecting on a neglected area. Other women's collections have been founded by benefactors offering endowments to support the establishment of women-centered archives. This article discusses some of the women's collections founded in the past decade, examines the reasons for their establishment, and considers some of the archival issues raised by the existence of such collections.

A note on definitions is in order. When we speak of "women's collections," what do we mean? In a 1986 issue of *Special Collections* devoted to women's library and archival collections, Suzanne Hildenbrand commented on the imprecision of the category:

> The definition, classification and selection of women's collections pose numerous problems. Some of these collections stand alone in separate buildings, others are the contents of a file cabinet or two in rooms used primarily for other purposes. Some consist of books that circulate with the general collection, distinguished only by a bookplate. The only guide to whether or not a collection is a women's collection is if the sponsoring institution describes it as such. Most women's materials, of course, are in general collections.[2]

For Hildenbrand, the problem was deciding which repositories to include in her survey of women's collections. The challenge of definition remains today. As the membership of the Society of American Archivists' Women's Collections Roundtable illustrates, "women's collections" can encompass freestanding buildings, endowed positions for women's studies archivists, and mainstream repositories that include women's papers as a significant collecting focus. We confine our analysis to archives that are clearly identified as women's collections, usually by the inclusion of the word "women" in their names. Our discussion highlights trends and provides examples of women's archives founded in the 1990s, but is not exhaustive.

Should Women's Repositories Exist?

The question "Should women's repositories exist?" is really two very different questions, depending on who is asking. Each has its own subtext, posing a challenge to the foundation upon which women's archives have been and continue to be built. The first form of the question challenges the notion that women merit their own repository. It views the very existence of women's archives as privileging women and, in consequence, discriminating against men. The second form of the question sees women's repositories as ghettoizing women, thereby placing women in a secondary status rather than incorporating them into the mainstream of academic study. Both concerns are important and must be addressed.

We suspect that everyone who works in a women's collection has at one time or another been asked—usually by a man, and only half in jest—"When are they going to start a men's archive?" The flip answer is that for most of history archives have been "men's archives": they have collected almost exclusively the papers of men. But a more thoughtful response is that, until recently, archives neglected the papers of women and non-majority groups, instead concentrating their collecting on the papers of men

who held positions of power or influence in American society. As Debra Newman Ham wrote, American cultural institutions, including our archives and historical societies, have been shaped by Euro-Americans. From the colonial period on, the papers that were preserved "tended to focus on literate Euro-Americans, particularly the lives of great men, such as presidents, statesmen, and military leaders."[3] Women's archives help to redress this imbalance.

In its second form, the question "Should women's repositories exist?" speculates on the potential adverse effects of separatism: Does having a separate repository for women's papers marginalize women? This parallels a debate among academics over the merits of separatism versus integration. Judy Lensink made a compelling argument for women's history remaining a separate intellectual field within mainstream academe. In essence, she contended that remaining separate can be an important intellectual tool, allowing scholars to view old subjects with fresh perspectives. Lensink warned that "A highly suspicious subtext is embedded in the ongoing call by concerned historians for 'synthesis,' in which the 'subfields' of women's and ethnic history are cajoled to reenter the confines of History writ large, to 'wrestle inside the ring. A major strength of feminist history," she argued, "is that thinkers stand on the *margins* of 'the' story so as to see it as freshly as possible."[4] We believe that the separatism of women's collections likewise enriches the possibilities for collecting and for documenting groups outside the mainstream. The very notion of a women's repository frees us from some of the blinders of traditional collecting, encouraging us to think in new ways about how to document various groups and subcultures. Iowa State University's Archives of Women in Science and Engineering, for example, seeks the papers not only of prominent and successful scientists, but of those who had patchwork careers, that is, careers interrupted by the demands of family life (moving with a spouse for his job) or curtailed because of discrimination against women by colleagues or employers. This effort to document the social history of women scientists brings a new and oft-neglected dimension to the history of science.

We contend that separate women's collections are critical for two reasons. First, they provide a means of rectifying the earlier neglect of women's papers and preventing such gaps in documentation from occurring in the future. Second, they provide a vehicle to promote and enhance the study of women's history. Women's collections are established for the same reasons that other special subject repositories exist: to document an underdocumented subject or group and thus call attention to it.

Women's archives have a meaning greater than the collections they house. It is symbolically significant to have "a room of one's own," in Virginia Woolf's words, that is, a physical space set aside for women's papers, whether it be a separate building such as the Schlesinger Library at Radcliffe College, or stacks and a reading room within a university library, such as the Iowa Women's Archives at the University of Iowa.[5] Likewise, establishing a program to collect women's papers, even without a separate physical space, like the Archives of Women in Science and Engineering at Iowa State University, validates women's experiences. These tangible commitments to documenting the lives of women make it clear that women's lives and experiences are valued by society. By so doing they encourage women who might never have thought themselves worthy of being remembered through history to donate their papers to an archives.

A Brief Look at the History of Women's Collections in the United States

The creation of repositories dedicated to collecting women's materials has gone through several phases in the twentieth century. As Anke Voss-Hubbard noted in a 1995 *American Archivist* article, the 1930s and 1940s witnessed a heightened effort on the part of the federal government and academic institutions to preserve primary sources. This concern rarely extended to material by or about women. That work was left to feminists. According to Suzanne Hildenbrand, ". . . the 1930s and 1940s saw a remarkable trend towards the establishment of women's collections, as veterans of the feminist campaigns of the early Twentieth century anxiously sought institutional homes for their private papers, and other materials they had collected, in a world suddenly disinterested in, or hostile to, the cause to which they had devoted their lives." Most notable was Mary Ritter Beard and Rosika Schwimmer's attempt to launch a World Center for Women's Archives in the 1930s. Their goals were to promote research on women and to ensure that a record of their campaigns for women's rights, peace, or other issues would be preserved. They hoped that the archives would also serve as an example of activism for other women. The archives foundered in 1940, but Beard had managed to interest librarians at Smith and Radcliffe in collecting women's papers. The Woman's Rights Collection at Radcliffe College and the Sophia Smith Collection at Smith College, both established in the early 1940s, ultimately grew into the premier collections of primary source material on women. The Woman's Collection of the Texas Woman's University Library was started in 1932 to collect writings by and about women in literature, the arts, and politics; in the 1970s it acquired its first large manuscript collection and has become a major repository of the papers of women in Texas and the Southwest.[6]

Martha S. Bell's 1959 survey of special women's collections in libraries included several established in the 1940s and 1950s, such as the Afro-American Woman's Collection at Bennett College, founded in 1946, and the Willa Cather Pioneer Memorial Library in Red Cloud, Nebraska, founded in 1955. Bell defined women's collections as materials segregated from the main holdings of a library or constituting a special library in their own right. While primarily concerned with collections of published volumes, most of the 38 collections on Bell's list also included manuscript materials. Bell reported that "Several excellent collections of books, files of papers, letters, journals, etc., offer scholars extensive and invaluable source material on the history of women, their contribution, collective or individual, to the social, political, and intellectual problems of their times." But as Suzanne Hildenbrand wrote, many of the collections founded prior to the 1970s "languished for decades, poorly supported and understaffed" until "[t]he upsurge of feminist consciousness . . . stimulated enormous growth and development of women's collections."[7]

As women's history emerged in the late 1960s and grew rapidly in popularity during the 1970s, scholars and archivists reluctant to accept this new field of study asserted that there were not enough primary sources to support historical research. Some archivists did take note of the increasing numbers of women's history courses and began actively soliciting women's papers.[8] Others compiled guides to their holdings on women.

These guides were usually brief, typewritten, self-published lists of women's papers held by a particular repository. When the Michigan History Division published a *Bibliography of Sources Relating to Women* held by seven major repositories in the state in 1975, it listed fewer than three hundred collections. Clearly, the vast majority of primary sources by and about women in Michigan remained "hidden from history." A guide published by the State Historical Society of Wisconsin in the early 1970s took the form of a narrative essay in which the authors discussed not only specific collections, but how to locate sources by and about women buried in the society's other collections. This guide grew out of a series of classroom presentations given by the authors for a graduate women's history seminar at the University of Wisconsin.[9]

It was *Women's History Sources*, published by Bowker in 1979, that finally exploded the myth that there were insufficient primary sources to support the study of women's history. In the late 1970s, Andrea Hinding and her staff at the University of Minnesota's Social Welfare History Archives conducted this sweeping survey. They sent questionnaires to repositories around the country asking staff to describe their holdings on women. Field-workers followed, scouring stacks for material on women buried within collections. The resulting guide listed over 18,000 collections of personal papers, organizational records, and oral history collections in more than a thousand repositories representing all 50 states. The scope of the finished product surprised observers and participants alike, as did the realization that this guide represented only the tip of the iceberg. The impact of *Women's History Sources* was, in fact, much greater than the published guide itself. The project caused many archivists to rethink the way they organized and described their holdings, eventually bringing to light countless women's materials hidden in the papers of husbands, fathers, and sons. It could no longer be asserted accurately that there were few resources for the study of women's history.[10]

The 1970s were thus characterized by the reexamination of existing holdings for sources on women, followed by revisions of card catalogs and finding aids to reflect these discoveries. There was also a heightened effort by many repositories to collect women's papers. Some repositories compiled guides to the women's papers among their holdings, and others established discrete women's collections as a subset of their holdings. At the same time, a few distinctive new archives were established to collect the papers of groups not likely to be documented in traditional repositories. The Lesbian Herstory Archives, founded in 1974 in New York City, was staffed entirely by volunteers and housed in a private apartment. The Bethune Museum-Archives for Black Women's History, established in 1979 in Washington, D.C., was the culmination of four decades of work by the Archives Committee of the National Council of Negro Women.[11]

The trend toward separate women's collections accelerated in the 1980s and 1990s. By 1989 there were enough archivists involved with women's collections to support the establishment of a Women's Collections Roundtable in the Society of American Archivists.[12] Archivists sent information about their holdings to the first directory, published in 1992. These archivists represented a wide range of repositories, including distinct women's collections as well as mainstream repositories with a special collecting focus on women. By the time the third directory was published electronically in 1997, the number of entries had grown to 119 individuals and repositories. It was clear

by this time not only that the Schlesinger Library and Smith College could not collect everything, but that a greater effort to document women on local, regional, and state levels was needed. The Schlesinger Library surveyed archives around the country in the early 1990s to locate local and state women's organizational records and to distribute the information to potential donors. The guide that resulted included 78 repositories, reflecting the sea change that had taken place in attitudes toward women's history in the preceding quarter century.[13]

Reasons for the Blossoming of Women's Archives in the 1990s

By our count, no fewer than 15 women's archives have opened their doors since 1990 (see appendix). Two related factors explain this flowering of women's collections in the past decade. First, as the generation that founded the women's movement of the 1960s and 1970s ages, these "second wave" feminists have become concerned about preserving the history of the movement. Concomitantly, some are at a stage in their lives or careers in which they have significant financial resources at their disposal and can provide funding for efforts to preserve this history. Second, the maturing of women's history, women's studies, and gender studies as fields of scholarship has created a need for broader and more diverse primary source materials. Scholars, archivists, and activists have responded to that need with new collecting initiatives and archives.

The involvement of aging feminists in founding women's archives is not surprising. As Anne Firor Scott writes, "women's history in this country has developed in close relationship with women's activism and has itself affected that activism, providing the inspiration and encouragement for many efforts to broaden women's world." Along with their demands for new social, political, and economic roles, feminists of the 1960s and 1970s sought to reclaim their past by uncovering the hidden history of their foremothers. Like their feminist forebears who placed the papers of the suffrage and peace movements in archival repositories, these activists of the 1960s, 1970s, and 1980s now seek to preserve a record of their struggles as inspiration for younger women.[14]

In fact, several of the women's archives founded in the 1990s were born of the same goal that spawned the earliest women's archives in the 1930s and 1940s. That is, activist women outside universities offered endowments to support women-centered archives in order to preserve a record of the women's movement. The Louise Noun–Mary Louise Smith Iowa Women's Archives at the University of Iowa Libraries was founded in 1991 by two prominent Des Moines women. They were Louise Noun, an art collector, historian, and social activist, and Mary Louise Smith, who had chaired the Republican National Committee in the mid-1970s. In the 1960s, Noun had conceived the idea of a women's archive for Iowa while researching *Strong-Minded Women: The Emergence of the Woman-Suffrage Movement in Iowa* (1969). In 1991 she shared her idea with Smith, who believed the papers in such an archives would both preserve the history of women's achievements and spur young women to become involved in public life by the examples they provided. Noun sold the Frida Kahlo painting "Self-Portrait with Loose Hair" at auction in May 1991, netting $1.5 million for an endowment for an Iowa Women's Archives at the University of Iowa. The University of Iowa

Foundation then undertook a campaign to raise an additional half-million dollars for the archives, which opened in 1992.[15] Another example is the Women's Movement Archives, a component of the Women's Collections in the Georgia State University Special Collections Department. This archives was founded in 1995 when a wealthy benefactor donated her personal papers and an endowment to fund a half-time archivist. The collection documents the women's movement in Georgia, but the department also offers other women's materials. In contrast to the Iowa Women's Archives, which has its own staff, stacks, and reading room, the Georgia Women's Movement Archives is a collecting focus within the Special Collections Department at Georgia State.[16]

There is at least one women's archives conceived by university administrators. When Mundelein College, the last four-year women's college in Illinois, merged with Loyola University Chicago in 1991, the college wanted to maintain the women's college tradition of empowering women. To do this they established the Ann Ida Gannon Center in 1994, consisting of a women's studies program, a Heritage Room, and the Women and Leadership Archives. The archives holds the records of Mundelein College, as well as personal papers and the records of such organizations as Women-Church Convergence, Homemakers for the Equal Rights Amendment, and Deborah's Place, which operates shelters for single, homeless women in Chicago. The Women and Leadership Archives collects materials primarily in Chicago and the Midwest.[17]

With the proliferation of women's studies, women's history, and gender studies programs have come increased demands for historical documentation to support research on women. Once viewed as a passing trend, women's history is now recognized as a legitimate field of study. As its practitioners have broadened their vision to include diverse groups, geographic regions, and topics, significant gaps in the documentary record have become evident. Both scholars and archivists have taken note of these deficiencies and have responded by establishing archival programs to fill these gaps. Female faculty members have been instrumental in founding several archives in Texas and the Southwest. Examples abound. Women's history faculty took the initiative in founding a statewide project, resulting in the Nevada Women's Archives at the University of Nevada–Reno (1992) and the University of Nevada–Las Vegas (1994). The Women's Archives at the University of Houston was initiated by the University of Houston Women's Studies Program in 1996 to document Houston area women's organizations. The Archives for Research on Women and Gender at the University of Texas at San Antonio is a joint initiative of the Special Collections and Archives Department and the Center for the Study of Women and Gender. Its mission is to make available primary source materials on women and gender in San Antonio and South Texas.[18] The Center also sponsors the electronic "Guide to Uncovering Women's History in Archival Collections," (1993) (<http://www.lib.utsa.edu/Archives/links.htm>).

In other cases, archivists and library directors have established women's archives in order to meet a perceived research need or to help focus collecting in a neglected area. The Archives of Women in Science and Engineering at the Iowa State University Library was created in 1993 in response to researcher requests for information on women engineers. The Special Collections staff analyzed the collecting scopes of repositories around the country with a science or engineering focus and found that, while some university archives were collecting the papers of their women faculty in engineering

and the sciences, no effort was being made to document the social history of women engineers and scientists. This new archives also supported the goals of a land-grant university and complemented its Program for Women in Science and Engineering.[19]

What Should Women's Repositories Collect?

The challenge for women's archives in the future will be to define, or refine, the collecting scope of their repositories. They must strive to document gaps in the historical record, while avoiding the mistakes of the past. They must not fall into the habit of collecting only what is easy, such as the papers of middle- and upper-class white women and the records of mainstream women's organizations. In a 1994 issue of *American Archivist* speculating on the future of archives a quarter of a century hence, Nancy Sahli suggested that

> Perhaps this is as it has always been, that the dominant culture has defined what will be preserved and transmitted to future generations. For dominant cultures have held the keys to power and to those institutions that both create and preserve the historical record. What we have been witnessing in the past thirty years, however, is the increasing diversification of that culture, accompanied by rising self-consciousness of particular groups in society, groups eager to document their own history and gain access to those bits and pieces of their history that have survived in traditional repositories.[20]

If women's repositories are to alter the archival landscape significantly, they must widen their scope, making it a priority to document hitherto neglected groups. They must promote understanding and knowledge of women from various ethnicities, classes, sexual orientations, political affiliations and beliefs, occupations, and religions. Women's archives must also work together to provide representation for historically disenfranchised groups. Archivists must reach the members of these groups, explain the repository's interest in their lives and experiences, and persuade them to donate their papers. This demands a significant commitment of time and energy on the part of staff. Collection development is a labor-intensive process. It includes publicizing the repository, networking with community leaders, public speaking, and writing to, calling, meeting, and following up with individual donors. To acquire substantial holdings rather than a few scattered collections in each area may well require a special project. Fortunately, projects to document underrepresented groups are often good candidates for grants and other forms of special funding.[21]

Archivists must also work together. The increasing number of archivists specializing in women's collections has resulted in numerous new links between repositories and groups. Archivists at Bowling Green State University and the University of Toledo have launched a collaborative project entitled "Women in Politics in Northwest Ohio: The Historical Legacy."

> This bi-partisan, cooperative project . . . seeks to document the historical role women have played in the political culture of our region. The

> goal of the project is to collect, preserve, and make available records of women political leaders, women's political organizations, and women who have been important behind-the-scenes in political parties and advocacy groups.[22]

The Web pages of each institution alert users, donors, and other archivists to the project and encourage would-be donors to contact the archives.

Archivists at Iowa State University, the University of Iowa, the University of Northern Iowa, and the State Historical Society of Iowa met in 1998 to discuss their efforts to document agriculture in Iowa. Afterwards, each repository drafted a statement of its collecting focus and submitted it to the Special Collections Department at Iowa State. The Department then created Technical Leaflet #1, "Documenting Agriculture in Iowa," which was distributed throughout the state by the Iowa State Extension Service. The meeting and the leaflet helped determine how the Iowa Women's Archives would define the parameters of its project to document rural women in Iowa in cooperation with, rather than in competition with, the other archives in the state.[23] Archivists can also work together on the national level, thanks to the Women's Collections Roundtable of the Society of American Archivists. The round table holds meetings annually at the SAA conference and, since 1992, has periodically published a directory of individual members and institutional repositories. It is an important avenue for sharing information about materials documenting the experiences of women.

As women's collections archivists consider the scope of their collecting, they must pay special attention to record formats that women have tended to create, such as written reminiscences, recordings of oral traditions, personal scrapbooks, ephemera, and artifactual material. Scrapbooks are often regarded by archivists as more trouble than they are worth because of their size, preservation problems, and ephemeral contents. Yet, they often contain information that would otherwise have been lost. Scrapbooks illuminate the personal memories of individuals and illustrate the context of women's identity and experience. Reminiscences written for family members often contain substantive historical information of interest to a wider audience. Likewise, oral histories are particularly important in documenting the lives of women who have not kept written records because they did not perceive their experiences as historically significant. In the words of Judy Lensink, "When women tell their life stories in their own words, a distinct enthusiasm, engagement, and affirmation emerges from within the dominant discourse in which ordinary women's experiences are at best perceived as a subculture. These are stories in which women are the central actors, even if their stories are camouflaged by modesty and disclaimers."[24] Indeed, the real challenge is to persuade women that their reminiscences, ephemera, and oral histories have value and interest outside their families.

Finally, women are taking advantage of new electronic technologies to preserve and disseminate these ephemeral formats. One example is the Jewish Women's Archive, which presents an alternative model for archivists attempting to document a particular subject or group. This virtual archives digitizes primary sources by or about Jewish women from across the country, leaving the originals with their owners. The value of such an endeavor is that it pulls together fragments in far-flung collections and creates

an easily accessible body of primary sources. The archives will also provide resource links to repositories containing archival collections by or about Jewish women. The Jewish Women's Archive is not a project *solely* of professional archivists, but rather of a group of interested persons who wish to educate society about the experiences and contributions of Jewish women:

> The Jewish Women's Archive is for scholars. For activists. For mothers and daughters. For fathers and sons. For researchers, historians, and community members. For people who believe that everyone with a stake in history is a keeper of it and a partner in its transmission.[25]

Providing Access to Women's Collections

The Jewish Women's Archive skirts the boundary between collecting and access, helping archivists to think about some of the problems and possibilities in providing access to their holdings. In the past, researchers faced a number of obstacles when trying to locate women's papers. Women's materials were often not identified as such, or were "hidden" in the papers of male family members or colleagues or in organizational records.[26] As Judy Lensink noted, ". . . many lesser-known and unknown peoples' writings, particularly by women of color, are not being read because they lie obscured in historical archives. The terms, 'fragments, small collections and ephemeral writings' are signposts to unutilized women's documents."[27] Archivists' growing knowledge of women's history has resulted in better finding aids and catalog records for women's papers over the past 20 years.

Since the development of MARC-AMC in the early 1980s, the number of archival repositories cataloging their materials and submitting records to RLIN and OCLC has increased significantly. Researchers' greater access to bibliographic utilities and their familiarity with on-line searching has enhanced their ability to locate relevant collections. The availability of *ArchivesUSA* in electronic form has vastly simplified the use of the National Union Catalog of Manuscript Collections (NUCMC) and the National Inventory of Documentary Sources (NIDS), providing yet another avenue of access to women's collections. The exponential growth and use of the World Wide Web has also furthered access to collections while the new Web-based interfaces, such as Endeavor and Horizon, provide a direct link from the on-line catalog record to individual finding aids on the World Wide Web. The continuing problem of subject access is being addressed by the use of Encoded Archival Description (EAD), which holds great promise because of its powerful subject-searching capabilities and its standard for finding-aid metadata. Currently, the usefulness of EAD is limited by the small number of institutions that have the technological, financial, and staff resources to implement it.

We envision an increase in networking among archivists of women's collections and other activists, scholars, and researchers. The H-Net women's history Listserv and the Women's Liberation Research Network are an examples of this trend. Archivists will also creatively utilize the World Wide Web to create new methods of access and interaction. Various institutions currently maintain lists of women's repositories on their Web sites, giving directory information, describing collecting scope, and providing

links to the Web sites of these repositories. In addition to the electronic "Guide to Uncovering Women's History in Archival Collections," mentioned previously, there are also numerous women's history Web sites that link the user to sites all over the United States and the world. There will also be an international component to this process that will connect women from every continent. The recent Mapping the World of Women's Information Services project, sponsored by the International Information Centre and Archives for the Women's Movement (Amsterdam), offers electronic and book-form links to women's information resources around the globe. We imagine that all of these ideas will be expanded and furthered in the years to come.[28]

Conclusion: Where Do We Go from Here?

The Internet has, thus, already demonstrated its potential for improving access to archival collections. But archivists must take care not to become so infatuated with technology that they forget those who have no access to the Internet; lack the knowledge or skills to use it; or choose not to use it. Women's history grew out of a desire to recover lost voices and experiences; archivists must continue this commitment to inclusivity through our outreach efforts. By making presentations, attending conferences, and producing exhibits, they can publicize their holdings and reaffirm their interest in documenting the lives of women from across the socioeconomic, racial, cultural, and geographic spectrum, representing a diversity of experiences and voices.

We believe that woman-centered repositories will continue to flourish and play an important role in the archival landscape. But women's repositories are not enough and they cannot do it alone. Mainstream repositories still have a responsibility to document the experience of women and, just as importantly, provide access to their holdings. Archivists must analyze their collections to determine what information about women (and other underrepresented groups) they contain. These institutions must also have knowledge of related collections at other repositories—or know how to locate such information—and inform researchers about it. In addition to providing access to these materials, archivists have a wider responsibility to educate the public about these collections and to suggest how they might be used. Archivists must also work to integrate primary sources, including resources for women's history, into K–12 and college curricula[29], and into community and organizational collaborative projects. Sharing the historical treasures we manage by creating finding aids and Web sites, speaking to public groups, coordinating a History Day workshop, or producing exhibits is part of the joy of being an archivist. These activities help assure that people learn of our collections, use them, and understand their cultural value.

The "rooms of their own" that have been established will be joined by others, more likely dedicated to documenting specific groups of women identified by their shared characteristics and experiences. Such archives will be established because each of these groups will need a room of its own, a place (whether physical or virtual) where its identity is affirmed by the history that has been preserved there. These repositories will accomplish the goals of providing documents for research and scholarship, and also fulfill the promise of women's history, giving women a voice.

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Women's Archives in the United States: Repository and URL	City	State	Est'd. Before 1970	Est'd. 1970s	Est'd. 1980s	Est'd. 1990s
Archive of Women in Architecture of the American Institute of Architects <http://www.e-architect.com/reference/library/wominarch.asp>	Washington	DC			X	
Archives for Research on Women and Gender, University of Texas at San Antonio <http://www.lib.utsa.edu/Archives/>	San Antonio	TX				X
Archives of Women in Science and Engineering, Iowa State University <http://www.lib.iastate.edu/spcl/wise/wise.html>	Ames	IA				X
Armenian Women's Archives	Berkeley	CA				X
Brown University, Christine Dunlap Farnham Archives <http://www.brown.edu/Facilities/University_Library/general/guides/archives.html>	Providence	RI				
California State University Women in Music Collection <http://library.csun.edu/~spcoll/hpsclist.html>	Northridge	CA				X
Chicana-Latina Archives, UCLA <http://clnet.ucr.edu/women/archives.htm>	Los Angeles	CA				X
Daughters of the Republic of Texas <http://www.drtl.org/>	San Antonio	TX	X			
General Federation of Women's Clubs, Women's History and Resource Center <http://www.gfwc.org/whrc.htm>	Washington	DC			X	
Georgia State University, Georgia Women's Collections and Georgia's Women's Movement Archives Project <http://wwwlib.gsu.edu/Collections/spcoll/woman/wom.htm>	Atlanta	GA				X
Hadassah Archives	New York	NY				X
History of Women in Home Economics, University of Wisconsin at Madison	Madison	WI				X
International Archive of Women in Architecture, Virginia Tech <http://scholar2.lib.vt.edu/spec/iawaspec/iawaguid.htm>	Blacksburg	VA			X	

Women's Archives in the United States: Repository and URL	City	State	Est'd. Before 1970	Est'd. 1970s	Est'd. 1980s	Est'd. 1990s
Iowa Women's Archives, University of Iowa Libraries <http://www.lib.uiowa.edu/iwa/>	Iowa City	IA				X
Jewish Women's Archive <http://www.jwa.org/main.htm>	cyberspace					X
June L. Mazer Lesbian Collection <http://www.lesbian.org/mazer/>	Los Angeles	CA			X	
Lesbian Herstory Archives <http://www.datalounge.net/network/pages/lha//>	New York	NY		X		
Lesbian Legacy Collection Library & Archives <http://isd.usc.edu/~retter/one.html>	Los Angeles	CA			X	
Maine Women Writers Collection,University of New England, Westbrook College Campus <http://www.une.edu/library/mwwc.html>	Portland	ME				
Midwest Women's Historical Collection, University of Illinois at Chicago	Chicago	IL		X		
National Archives for Black Women's History, Mary McLeod Bethune Council House <http://www.nps.gov/mamc/bethune/archives/main.htm>	Washington	DC	X			
National Museum of Women in the Arts, Library and Resource Center <http://www.nmwa.org/>	Washington	DC			X	
National Society of the Daughters of the American Revolution	Washington	DC	X			
National Women and Media Collection, Western Historical Manuscript Collection <http://wwwlib.gsu.edu/Collections/spcoll/woman/wom.htm>	Columbia	MO			X	
Native American Women Playwrights Archive, Miami University <http://staff.lib.muohio.edu/nawpa/>	Oxford	OH				X
Nevada Women's Archives, University of Nevada, Las Vegas <http://library.nevada.edu/women/index.html>	Las Vegas	NV				X
Nevada Women's Archives, University of Nevada, Reno <http://www.library.unr.edu/~specoll/womarchp.html>	Reno	NV				X

Women's Archives in the United States: Repository and URL	City	State	Est'd. Before 1970	Est'd. 1970s	Est'd. 1980s	Est'd. 1990s
Newcomb College Center for Research on Women, Tulane University <http://www.tulane.edu/~wc/>	New Orleans	LA				X
Rutgers University, Women in Public Life Archives <http://www.libraries.rutgers.edu/rulib/spcol/women.htm>	New Brunswick	NJ				X
Schlesinger Library on the History of Women in America, Radcliffe College <http://www.radcliffe.edu/schles/index.htm>	Cambridge	MA	X			
Sophia Smith Collection, Smith College <http://www.smith.edu/libraries/ca/home.htm>	Northampton	MA	X			
Woman's Collection, Texas Woman's University <http://twu.edu/www/twu/library/wscripts.html>	Denton	TX	X			
Women and Leadership Archives, Loyola University <http://www.luc.edu/orgs/gannon/archives/>	Chicago	IL				X
Women Artists Archive, Sonoma State University <http://libweb.sonoma.edu/special/waa/>	Rohnert	CA				X
Women's Archives, Special Collections Department, Duke University <http://scriptorium.lib.duke.edu/women/>	Chapel Hill	NC			X	
Women's Missionary Union	Birmingham	AL				
Women's Movement Archives	Cambridge	MA			X	
Women's Archives at Oklahoma State University <http://www.library.okstate.edu/dept/scua/women/women.htm>	Stillwater	OK				X
Women's Archives, University of Houston <http://info.lib.uh.edu/speccoll/archwom.htm>	Houston	TX				X

NOTES

1. Eva Moseley, "Documenting the History of Women in America," *American Archivist* 36 (1973): 215–222.
2. Suzanne Hildebrand, "Women's Collections Today," *Special Collections* 3:3–4 (1986): 7.
3. Debra Newman Ham, "Commentary" on "Decolonizing the Body: Kinship and the Nation," by Ramón A. Gutierrez, *American Archivist* 57:1 (1994): 106.
4. Judy Nolte Lensink, "Beyond the Intellectual Meridian: Transdisciplinary Studies of Women," *Pacific Historical Review* (1992): 463–480.
5. Virginia Woolf, *A Room of One's Own* (New York: Harcourt, Brace, and Company, 1929).
6. Anke Voss-Hubbard, "'No Documents—No History': Mary Ritter Beard and the Early History of Women's Archives," *American Archivist* 58:1 (1995): 17. (See also Mary Trigg, "To Work Together for Ends Larger than the Self: The Feminist Struggles of Mary Beard and Doris Stevens in the 1930s," *Journal of Women's History* 7:2 [1995]: 52–85); Hildenbrand, 2; Elizabeth Snapp, "The Woman's Collection; The Texas Woman's University Library," *Special Collections*, 3:3–4 (1986): 101–114.
7. Martha S. Bell, "Special Women's Collections in US Libraries," *College and Research Libraries* 20 (May 1959): 235–242; Suzanne Hildenbrand, 2.
8. At the University of Iowa, for example, archivist Robert McCown began soliciting the papers of women active in politics and of feminist organizations in the early 1970s. As a result, the University's Special Collections Department acquired substantial collections of the papers of women legislators, party co-chairs, local politicians, and persons active in the women's movement, as well as records of organizations such as the Iowa Women's Political Caucus, the League of Women Voters, pro- and anti-ERA groups, and National Organization for Women chapters. These collections became the foundation of the Iowa Women's Archives' holdings when it opened in 1992.
9. Michigan History Division, Michigan Department of State, *Bibliography of Sources Relating to Women* (Lansing, MI: Michigan Department of State, 1975). The phrase "hidden from history" comes from Sheila Rowbotham's book *Hidden from History: 300 Years of Women's Oppression and the Fight Against It* (London: Pluto Press, 1973). James P. Danky and Eleanor McKay, "Women's History Resources at the State Historical Society of Wisconsin" (Madison: The State Historical Society of Wisconsin, 1975, Second Edition). Danky and McKay viewed the State Historical Society of Wisconsin as unusual in the depth and breadth of its sources on women: "The recent interest in women's history has presented problems for historians that parallel those faced by many minority, urban, and working class history researchers—the lack of documentation. This shortcoming has resulted from many collecting agencies using traditional formats and gathering traditional types of items. The outcome has been a lack of materials appropriate to the research task. The State Historical Society of Wisconsin constitutes an exception to the general pattern. Since its founding nearly 130 years ago the Society has collected books, manuscripts, archival materials, pictures, and museum artifacts that detail the accomplishments and positions of women in North American society." Danky and McKay, 1. Another example of this sort of guide is Catherine E. Thompson, "A Selective Guide to Women-Related Records in the North Carolina State Archives" (Raleigh, NC: Division of Archives and History, 1977).
10. *Women's History Sources: A Guide to Archives and Manuscript Collections in the United States*, ed. Andrea Hinding (New York: R. R. Bowker Company, 1979). Coauthor Kären Mason was a writer on the Women's History Sources staff. She recalls the constant sense of wonder and excitement felt by the project staff at the number and variety of collections the project was uncovering. The compilers of *Women in the West: A Guide to Manuscript Sources* remark that "The publication of Women's History Sources marked a significant moment in the field of [women's history.]" Whereas once it had been assumed that there was not enough source material to allow research in women's history, "[t]he guide pointed scholars to the enormous possibilities and challenges of women's history as it identified available materials, suggested new questions, and spurred research." *Women in the West: A Guide to Manuscript Sources*, ed. Susan Armitage, Helen Bannan, Katherine G. Morrisey, Vicki L. Ruiz (NY: Garland Publishing, 1991), xiii.
11. Polly Thistlethwaite, "The Lesbian Herstory Archives: Chronicling A People and Fighting Invisibility Since 1974," *Outweek* (September 24, 1989): 36–39. Brenda Marston, "Women's History Archives: Documenting Women's Lives and Women's Organizations Today," *Feminist Collections* 10:1 (1988): 5–8.

12. Personal conversation, Tanya Zanish-Belcher with Lucinda Manning, one of the founders of the SAA Women's Collections Roundtable, October 5, 1999. The electronic version of the Roundtable Directory is located at <http://www.archivists.org saagroups/womens-collections/index.html>. In its application to SAA, the Women's Collections Roundtable noted its purpose as: 1) to identify and address the concerns of archivists who are interested in or responsible for women's collections; 2) to promote the development, preservation and cooperative acquisition of women's papers and archival collections; 3) to develop a network of interested archivists, librarians, and historians to push for increased funding and support for women's historical collections and archival projects.
13. May Lee Tom, comp., "Directory of Repositories Collecting Records of Women's Organizations" (Cambridge, MA: Schlesinger Library, 1994). The introduction states that the objectives of the network (formed in 1988 to identify repositories interested in collecting records of local, state, or regional affiliates of national women's organizations) and the survey were to: 1) improve sharing of information about organizational archives and coordination of collecting activities among repositories; 2) help organizations find appropriate repositories for their records, and 3) provide information about the location of archives of women's organizations to potential researchers.
14. Anne Firor Scott, "Unfinished Business," *Journal of Women's History* 8:2 (1996): 118. Joan Hoff has also noted the interrelation between women's history and feminism: "Since the 1970s, women's history in the United States has been strongly rooted in the politics of women's liberation—acknowledging the need to find a collective past for the purpose of contributing to a praxis whose goal is women's autonomy and self-realization." Hoff, "Introduction: An Overview of Women's History in the United States," *Journal of Women's History Guide to Periodical Literature*, comp. Gayle V. Fischer (Bloomington and Indianapolis: Indiana University Press, 1992): 9.
15. For a discussion of the founding of the Iowa Women's Archives, see Kären M. Mason, "History Through Women's Eyes: The Iowa Women's Archives," *Books at Iowa,* Number 59 (November 1993): 15–22. Also see <http://www.lib.uiowa.edu/iwa/>.
16. Georgia Women's Collections (Special Collections Department, Georgia State University): <http://wwwlib.gsu.edu/spcoll/woman/wom.HTM>.
17. Valerie Browne, "Women and Leadership Archives for Women's Studies Research," *Feminist Collections* 18:3 (1997): 10–11.
18. University of Nevada–Reno: <http: //www.library.unr.edu/~specoll/womenarc.html>; University of Nevada–Las Vegas: <http://library.nevada.edu/women/>; The Women's Archives, University of Houston: <http://info.lib.uh.edu/speccoll/archwom.htm>; Archives for Research on Women and Gender, University of Texas, San Antonio: <http://www.lib.utsa.edu/Archives/arwg.html>.
19. For a recent article describing the Archives of Women in Science and Engineering, please see the *Women Historians of the Midwest* newsletter, 28:1 (1999): 4–5. Also see the WISE Web site: <http://www.lib.iastate.edu/spcl/wise/wise.html>.
20. Nancy Sahli, "Commentary" on "Decolonizing the Body: Kinship and the Nation," by Ramón A. Gutierrez, *American Archivist* 57:1 (1994): 100.
21. The Iowa Women's Archives received corporate and foundation funding in 1995–1997 to support a project to document the history of African-American women in Iowa. Archivist Kathryn Neal, hired for the project, acquired some 50 collections for the archives during her tenure on the project. Neal also received a small grant from the University of Iowa's Cultural Affairs Committee, which enabled her to hire a graduate student to conduct 10 oral history interviews.
22. "Women in Politics in Northwest Ohio: the Historical Legacy" is located at <http://wwwbgsu.edu/colleges/library/cac/politicalwomen/site.html>. For additional information, please contact Ann Bowers (Bowling Green State University) and Barbara Floyd (University of Toledo).
23. Iowa State University of Science and Technology, Special Collections Department, Technical Leaflet #1, "Documenting Agriculture in Iowa," ed. Tanya Zanish-Belcher (January 1999): <http://www.lib.iastate.edu/spcl/leaflet/01-jan99.html>. The Iowa Women's Archives received funding in 1998–1999 from the Iowa Farm Bureau Federation and Land O'Lakes to collect the papers of Iowa's rural women. Archivist Doris Malkmus has traveled around the state publicizing the project and soliciting papers for the archives. For more in-depth discussions of documentation strategies, please see Joan Warnow-Blewitt and Larry J. Hackman, "The Documentation Strategy Process: A Model and Case Study" (American Institute of Physics, 1986) and Andrea Hinding, "Creating a Concept of Documentation," *Journal of American History* 80 (June 1993): 168–178.
24. Lensink, 472–473.

25. The Jewish Women's Archive is available on the World Wide Web at <http://www.jwa.org/Jwa-1999/index.htm>.
26. For more discussion of this issue, please see Dianne Beattie, "An Archival User Study: Researchers in the Field of Women's History," *Archivaria* 29 (winter 1989–1990): 33–50, and Jacqueline Goggin, "The Indirect Approach: A Study of Scholarly Users of Black and Women's Organizational Records in the Library of Congress Manuscript Division," *Midwestern Archivist* 11:1 (1986): 57–67.
27. Lensink, 471.
28. Examples include: A Guide to Uncovering Women's History in Archival Collections: <http://www.lib.utsa.edu/Archives/links.htm>; Archival Sites for Women's Studies: <http://gwis2.circ.gwu.edu/~mfpankin/archwss.htm>; American Women's History: A Research Guide: <http://frank.mtsu.edu/~kmiddlet/history/women.html>; and Women and Gender Studies Web Sites: <http://www.library.yale.edu/wss/>.
    For information on the Mapping the World of Women's Information Services project, please contact the following: E-mail: mapping@iiav.nl; International Information Centre and Archives for the Women's Movement/ Mapping the World, Obiplein 4, 1094 RB Amsterdam, The Netherlands, <http://www.iiav.nl/mapping-the-world/mtwintro.html>. Examples of a growing trend: International Center for Research on Women: <http://www.icrw.org/>; the Canadian Women's Movement Archives: <http://aix1.uottawa.ca/library/cwma//holdings.html>; and Women's International Electronic University: <http://www.wvu.edu/~womensu/>.
29. Please see the Iowa State University Library's Carver Trust Project, a three-year project designed to integrate electronic resources into core undergraduate classes: <http://www.lib.iastate.edu/commons/index.html>; and the University of Iowa Library's TWIST/Teaching with Innovative Style and Technique Program, another three-year project to create a model training program for librarians and faculty on networked information sources: <http://twist.lib.uiowa.edu/>. Both of these projects are funded by the Roy J. Carver Charitable Trust. Archivists will need to become involved with providing selected primary resources eletronically as well as utilizing these Web sites to assist in documenting the learning experience. See these Web sites for ISU's experimentation efforts: Architecture 271, Human Behavior and Environmental Theory: <http://www.lib.iastate.edu/commons/archsyll.html> and Women's Studies/Zoology 383, Women in Science and Engineering: <http://www.lib.iastate.edu/commons/ws383/1999Fall/home.html>.

WAITING FOR THE GHOST TRAIN: STRATEGIES FOR MANAGING ELECTRONIC PERSONAL RECORDS BEFORE IT IS TOO LATE

BY ADRIAN CUNNINGHAM

ABSTRACT: Over the past decade there has been a considerable quantity of research and published literature that has tackled the issue of electronic records. Almost all of this work, however, has had a governmental or large organizational focus. In the field of personal records, the challenges posed by electronic records have been largely ignored. This paper considers why so little attention has been paid to the management of personal records in electronic form. It revisits suggestions made by the author in 1994 and considers whether or not those suggestions are still viable in the light of the intervening years of research and implementation experience. The paper argues that the strategies suggested in 1994 are still worth pursuing, but that other strategies can also be explored. The paper concludes by calling upon personal records archivists to confront the challenge of influencing the behavior of personal records creators to help ensure that we can preserve a durable and reliable body of electronic evidence of human endeavor for the benefit of future generations.

Some History

In the world of electronic records research six years is probably a couple of generations. Over the past six years the literature on electronic records has consumed countless gigabytes of memory, experienced more than a few new paradigms, and traveled up any number of dead-end streets.

Six years ago I published an article on the management of personal records in electronic form in the Australian journal *Archives and Manuscripts* under the title "The Archival Management of Personal Records in Electronic Form: Some Suggestions."[1] While other articles on electronic records published at that time have since been swamped by a tidal wave of new literature, my 1994 article has been joined by only one other article on the same topic in the intervening period. There it sits in splendid semi-isola-

tion, regarded with suspicion by some and apparently ignored by almost everyone else!

My aims in 1993–94 were modest. More than anything, I wanted to kick start a discussion of a neglected topic. I wished to address and redress the lopsided nature of the electronic records discourse, which was—and sadly still is—completely dominated by the corporate/organizational records perspective. This lopsided discourse is something I have over the years criticized as "corporate myopia," a phrase denoting the failure to recognize that private individuals also create records.[2]

It was my intention in 1994 to present a number of suggestions in the hope that they would get people thinking and talking about the issues involved. My suggestions were presented as being more tentative than definitive. I simply wanted to get some discussion and debate started in the hope that more detailed and authoritative strategies and solutions might follow.

A subsidiary aim of my 1994 paper was to get personal records archivists and manuscript curators interested in electronic records issues. My feeling was that my personal records colleagues considered the whole electronic records issue to be too hard. They seemed to find it easier to keep working with traditional paper formats, seemingly in the hope that someone else might solve the problem for them. In Australia this approach to dealing with problems is called "putting them on the never-never." It was my intention to take the issue out of never-never land and put it squarely on the agenda of personal records archivists.

I believed then and still believe now that the issue requires urgent attention. We cannot afford to postpone dealing with the challenge of electronic personal records until tomorrow. This is because important personal records are increasingly being created in electronic form only. Waiting for a solution rather than working towards a solution effectively consigns into limbo those vital electronic personal records that are created during our period of inactivity. Make no mistake: there is an electronic records time bomb ticking away out there in the land of personal records, and it is up to us to start working out how we are going to defuse it before it blows us all away.

By my own yardsticks, my 1994 article was an abject failure. The past six years have effectively been wasted. While my paper generated a few ripples of interest amongst personal records archivists in Australia, there has not since been a single article or piece of research in the Australian literature on this particular topic that has been written by a practitioner in the field. I could not even persuade my own employing institution, the National Library of Australia, to take my suggestions seriously or to produce a viable set of alternatives. Instead, my library colleagues passed over my suggestions as being too anti-Jenkinsonian for their liking.

My article did, however, generate some interest among electronic records specialists in Australia. This had the positive effect of encouraging them to recognize that personal records are also records and, therefore, worthy of some consideration. The best example of this is a wonderful article by Sue McKemmish called "Evidence of Me ...," which appeared in the May 1996 personal records theme issue of *Archives and Manuscripts*.[3] This article was an attempt to take the study of personal record keeping back to first principles, by exploring the nature of personal record keeping and the broad social mandates for its role in paying witness to individual lives, in contributing to

society's collective memory, and in constructing our cultural identity. While McKemmish did not address the issue of electronic records per se, she set out a research agenda that should be pursued if we are going to devise adequate holistic strategies for managing personal records in electronic form. Sue McKemmish, however, is an academic at Monash University with a background in government records—I only wish that I could have provoked a similar response from a personal records practitioner!

Oddly enough, my 1994 article received more attention from personal records archivists outside of Australia than it did from my compatriots. The most detailed consideration of the specific issues it raised has been Tom Hyry and Rachel Onuf's paper published in *Archival Issues* in 1997.[4] I have been delighted by this development and have had some interesting and illuminating E-mail discussions with the coauthors. Finally, after all this time, the discussion I hoped to generate in 1994 seems to be getting under way—albeit on the other side of the world!

What follows is a reexamination of the suggestions I presented in 1994. Do those suggestions still hold water given what has changed in the wider environment over the past six years? Do my suggestions now look ridiculously misguided? Has my own thinking moved on? What would I suggest today by way of dealing with the same challenges?

In six years an awful lot has happened in the broader electronic records landscape. In that time there has been a shift away from pure theory and assertion to the development, implementation, and testing of practical solutions. Among other things, this progress has included the emergence of a very encouraging and absolutely essential dialog with the vendors of commercial software systems and applications. Admittedly, progress has been on a somewhat limited front. It has addressed the short- to medium-term imperatives of capturing accurate, authentic, reliable, meaningful, and accessible electronic records in corporate/organizational record-keeping settings. While this is a good start (and one always has to start somewhere), the challenge of dealing with the imperatives of long-term preservation and access remains considerable. Nevertheless, useful and interesting work is being carried out in the area of migration strategies and the use of stable, standard storage formats.[5] Given these significant advances, do my 1994 suggestions still stand up to scrutiny?

To recap, the previous article made four main suggestions. These were:

1. I rejected the noncustodial or "distributed custody" approach to the archival management of electronic records that was then being recommended by David Bearman and which has since become an important component of the electronic records strategies of government archives in Australia. Bearman has described custody as an "indefensible bastion," arguing that the best place to manage the migration of electronic organizational records is the business environment in which they have been created and used.[6] While distributed custody may be fine for government records, the transitory nature of personal records creators means that, in Australia, personal records archivists have little choice but to confront the custodial challenge if they are to preserve and provide access to important personal records created in electronic form. In saying

this, however, I am conscious that I can really speak only from an Australian perspective, for in Australia we do not have the phenomenon of enduring family archives that are more common in the upper echelons of some European societies. All the same, even in Europe I would anticipate that distributed custody of personal records could only ever be the exception rather than the rule.

2. I argued in favor of what I called "pre-custodial intervention" by personal records archivists to ensure that personal electronic records were properly created, managed, and documented in the first instance, thus improving our ability to preserve and provide access to those records over the long haul.

3. In the area of custodial strategies I recommended the migration or conversion of electronic records to standard formats and the provision of on-line networked access to electronic records for remote users.

4. I highlighted the need for improved training in information technology for personal records archivists and the employment by collecting archives of specialist IT staff to assist with the technical work that is involved in managing electronic records.

What was the reaction to these suggestions and how do they look six years later?

From the limited reaction I have received I get the impression that few if any people had problems with three of the four above suggestions. The second suggestion is the one that has proved to be contentious. I will give further consideration to this matter shortly, but I should say at this point that I still stand by all of the suggestions I made six years ago. There are others that I would now add to the original mix (more of these later), but there is nothing that I said in 1994 that I would now recant.

The suggestion that personal records archivists should seek to become actively involved in the records creation process has been the one major bone of contention with my 1994 article.[7] It is a suggestion that I do not retreat from. Indeed, if anything, it is a suggestion that I feel far stronger about today than I did then. It is very much in harmony with the so-called "records continuum" school of thought that has emerged (some would say reemerged) in Australia over the past decade. In continuum thinking there is no useful distinction to be made between records management and archival science: it is all simply "record keeping." Continuum thinking posits that the division of records into the separate categories of "current records" and "historical records" impedes the pursuit of a holistic and integrated record-keeping mission. Put simply, in continuum thinking a record is a record is a record—it's just that some records need to be kept for longer than other records, and some records may end up being used by a wider circle of users than other records.[8]

Much of the impetus for continuum thinking has come from the emergence of electronic records. Continuum and post-custodial thinkers argue that the effective long-term management of electronic records requires more than a minor tweaking of tradi-

tional practices. The imperatives of electronic records are such that a whole new set of strategies is required. The old ways of doing things simply will not work in the digital networked environment. According to continuum thinkers archivists cannot afford to be the passive recipients of records that are no longer required by their creators. The traditional post hoc approach to record keeping, which has probably always been unsatisfactory, is patently inadequate in the electronic environment.

The emergence of electronic records has highlighted the fact that we can no longer take for granted (if we ever could) that records once created will remain reliable, comprehensible, authentic, accessible, and durable for as long as they are required to be used. If electronic records are to survive as reliable evidence of human activity, they have to be created and captured into well-designed, well-documented record-keeping systems. These record-keeping systems not only have to capture reliable records, they will have to be migrated across successive software and hardware platforms lest they become the useless casualties of the rapid cycles of technological obsolescence that is one of the defining characteristics of the digital age.

The design of durable, good-quality record-keeping systems is something that cannot be left to chance. We have already witnessed more than enough electronic record-keeping disasters where valuable records have been rendered useless or unreadable because of a lack of foresight and an absence of professional record-keeping expertise during the system design and creation phases of the records life span. To quote one of my Australian colleagues, "durable evidence-rich records don't grow on trees." Good record keeping requires the involvement of record-keeping professionals throughout the entire life of the records. Put simply, if we are to have any electronic records to put into our archives we cannot afford to be squeamish about getting involved in the processes of records creation and record-keeping system design.

This proactive agenda is something that government and organizational archivists are naturally more comfortable with than are personal records archivists. There are good reasons for this, and I certainly do not underestimate the difficulties associated with pre-custodial intervention in the processes of personal record keeping. Governments and organizations are used to regulating the record-keeping behavior of their employees. They are also usually in the habit of employing record-keeping professionals who can help to determine and administer record-keeping policies and procedures. The personal record-keeping domain is a far less regulated one. Personal record keepers are not normally in the habit of employing professional expertise to help them keep their records.

So, is the separation of archivists from the records creation process one of the defining differences between personal records archivists and corporate archivists? My feeling is that, if the answer to this question is going to be "yes," then personal record-keeping archivists are heading inexorably towards antiquarian oblivion. In the greater scheme of things this in itself may not matter very much. Where it does matter is that—if it indeed happens—we will lose forever a vital component of our documentary heritage: that component created by private individuals in all walks of life and in all areas of human creative endeavor. If we are to be true to our professional mission, we have a duty to do our level best to ensure that essential evidence of private human activity is captured in reliable and durable record-keeping systems.

Objections Overruled

As far as I can discern there are three main objections to personal records archivists becoming involved in the creation phase of personal record keeping. These are as follows:

1. It is not always possible to discern the ultimate historical significance of records while they are being created.[9]

This is a point that I am happy to concede readily. But this concession in no way undermines the validity of my argument. Quite simply, it is nonsense to argue that, because a strategy will not work in all cases, it should not be used at all. Of course no one could have known before November 1963 that the personal records of Lee Harvey Oswald would be of such all-consuming interest after his death. But it is equally true that it was apparent from a young age that Albert Einstein was going to be a major figure of the twentieth century and that every effort needed to be made to preserve the records of his work and achievements. We cannot know what will happen in the future, but there are things about the present that we do know will be of enduring interest to society in the future. We should not be derelict in our duty to the future by neglecting those people in the present who we know are significant. It is a cop-out to argue that, because there are people in the present whose significance will be revealed only in the future, we should ignore everyone—even the Albert Einsteins of the world—until they reach the end of their lives.

Shifting the archival appraisal/selection decision closer to the time of records creation is not necessarily a bad thing in any case. It is in line with classical (as opposed to Schellenbergian) appraisal theory that records should be appraised on the basis of their contemporary functional context and significance, not through a process of second-guessing the shifting whims and trends of historical research.

Moreover, my exhortation towards pre-custodial intervention does not preclude the application of traditional post hoc strategies for those individuals whose significance does not become apparent until late in life or posthumously. The application of such post hoc strategies is likely to be far less successful in preserving complete and comprehensible records of the individual concerned, but it may nevertheless capture something of value to posterity.

2. Pre-custodial intervention is far too labor-intensive.

Certainly the provision of one-on-one guidance and assistance in personal records creation is likely to be labor-intensive and is likely to be pursued only in the most significant of cases. All the same, some front-end investment of time is likely to pay dividends in the long run. Just think of all the time that is currently spent on the detailed arrangement and description of poorly maintained personal records fonds and how much time might be saved if the records arrived in the repository in perfect and complete order and under full intellectual control. A bit of time invested by the archivist earlier in the process is likely to save a lot more time that would otherwise be

needed later on in sorting out the undocumented mess that is acquired by the archives—a process that I have heard described quite accurately I think as "picking up after the kids."

Admittedly, some records creators will be difficult if not downright impossible to work with. Still, this is no excuse for not trying. As with any worthwhile endeavor there will be some successes and some failures. The trick is to minimize the failures through the application of patience and professionalism.[10]

In any case, there are more types of pre-custodial intervention than the provision of one-on-one guidance. Pre-custodial intervention can encompass a range of activities. It might include the production of guidelines on record keeping targeted at particular groups of personal records creators such as scientists and creative writers. It might also include working with software developers and vendors to encourage the incorporation of good record-keeping functionality and self-documenting features in the desktop authoring applications favored by personal records creators. These kinds of pre-custodial interventions hold the promise of getting the good record-keeping message to the greatest number of personal records creators for a relatively small investment of well-targeted professional effort.

3. The involvement of archivists in the processes of personal records creation will lead to self-conscious and unnatural record-keeping practices.

This is the Jenkinsonian objection to which I alluded earlier. Sir Hilary Jenkinson had an enduring attachment to the notion of record keeping as being an entirely objective, unself-conscious, and natural activity. He deplored any occurrence of record keeping for posterity, arguing that such practices did not generate authentic, truthful, and reliable records. While Jenkinson's ideas should not be dismissed out of hand, his emphasis on objectivity and truthfulness sits somewhat uncomfortably in our postmodernist present. Personally, I am less inclined to emphasize the Jenkinsonian "records as objective truth" mantra than Terry Cook's "records are contingent and need to be understood in the full context of their creation" argument.[11] Certainly, I have seen plenty of examples of self-conscious record keeping in my time.[12] While the self-consciousness of the record-keeping behavior of the records creator needs to be discerned and understood by anyone using such records, it does not make them non-records—nor does it make them any less valuable as evidence: it is simply a different kind of evidence.

It has always intrigued me that the Jenkinsonian objection to continuum-based record keeping has been so common in the personal records sphere, but is virtually unheard of in the organizational sphere. Why should proactive, professional record keeping pose a philosophical problem only for personal records and not any for other types of records? One possibility is that organizations need professional record-keeping assistance more for their short-term accountability and efficiency requirements than for the sake of posterity. Conversely, a collecting archivist advising a creative writer is likely to be interested only in the imperatives of posterity. This is perhaps the one defining difference between the regulated record-keeping domains of governments and organizations and the largely unregulated record-keeping domains of private individuals. Even here, however, there are exceptions. Some categories of personal record keeping are more

heavily regulated than others. These regulations can take the form of occupational conventions, professional codes of conduct and other record-keeping warrants. Architects and scientists, for example, are required to keep good records or else risk losing their professional standing. Members of such groups may be more inclined to welcome some professional record-keeping assistance without bothering to worry too much about what is in it for the professional record keeper.

So, while the Jenkinsonian objection cannot be discounted, it is not in my view a reason for inaction. Rather than deny the partiality or self-consciousness of records, these things should be recognized as reality, and the records should be managed accordingly with adequate contextual metadata that support full interpretation and analysis.

The Future: It's in Our Hands

Those readers who have read my somewhat tentative and exploratory 1994 article may have detected a greater degree of stridency in my current message. While in part this may reflect a greater confidence in my message, it is mostly a reflection of my frustration at the lack of activity and discussion in the area of electronic personal records.

While the rest of the archival profession has been busy reinventing itself to meet the challenges of the digital age, I get the impression that the collecting archives and personal records sectors of our profession—at least in Australia—have been operating on a "business as usual" basis. I am, however, not without some optimism that my North American colleagues are more prepared to open up discussion on these vital issues than are many of my compatriots.

Indeed, our procrastination may, ironically, turn out to be in some ways advantageous. This is because we may now be in the position to adapt some of the more successful electronic records strategies that have been devised in the government/corporate records sectors.

In Australia, government and corporate record keeping is being transformed as a result of the widespread adoption of the 1996 Australian Standard on Records Management (AS 4390).[13] This world's first national best practice standard has also provided the basis for a new international standard on records management, which is currently being finalized by the International Standards Organisation as ISO 15489. While neither of these standards has been written with personal record keeping in mind, it is my belief that the conceptual framework and record-keeping strategies presented in these documents can be of enormous use to personal records archivists.

Taking the lead from AS 4390, the National Archives of Australia has developed a comprehensive suite of manuals, guidelines, and standards that are designed to assist Australian government agencies to design and implement record-keeping systems to ensure the creation, retention, and use of accurate, reliable, and authentic electronic records.[14] Operating within a records-continuum-based conceptual framework, AS 4390 recommends a rigorous methodology based on an analysis of the functions and activities of an organization and identification of the record-keeping requirements or warrants for each of those functions and activities. Record-keeping systems then need to

be designed and implemented in ways that ensure that these record-keeping requirements are satisfied.

There is no reason this methodology could not be adapted to the design and implementation of personal record-keeping systems. Indeed, an extremely useful research project could involve researching the generic record-keeping requirements of particular categories of personal records creators: creative writers, lawyers, architects, politicians, etc. This research could then inform the production of booklets based on the AS 4390 methodology that would provide guidance to these individuals on how to create and maintain adequate records to meet their record-keeping requirements. I should stress here that one of the sets of record-keeping requirements accommodated by the AS 4390 methodology is "community expectations," which encompass the cultural and historical imperatives of archives. These record-keeping requirements need to be researched for each function or activity performed. In addition, the record-keeping requirements embodied in laws, regulations, professional codes of best practice, and so forth, should be researched by a combination of literature review and personal interview, in the manner pioneered by Wendy Duff in her research into record-keeping warrants.[15]

For too long, personal records archivists have been too ready to leave to pure chance the creation and retention of personal records documenting significant events and activities. Collecting archives have been built on the random remainders of those record-keeping systems that just happen to be halfway decent.

The advent of electronic records presents us with a golden opportunity to improve both our societal record-keeping practices and our professional documentation outcomes. To do this properly we need to conduct more research into the dynamics of personal record keeping, the societal warrants for personal record keeping, and the functional requirements for evidence in personal record keeping.[16] A good start would be some pilot research projects with some individual records creators.

Failure to pursue a more active agenda will leave us patiently waiting at the railway station for the goods train of life to deliver the unreliable electronic leavings of our society's movers and shakers. Years of passive and patient pacing of the platform will come to an end, I fear, when the whistle blows and the train pulls into the station and we finally come to the realization that it is full of ghosts and that ghosts do not satisfy our researchers' need for solid, reliable, and authentic evidence of the past.

ABOUT THE AUTHOR: Adrian Cunningham currently holds the position of Director, Recordkeeping and Standards and Policy, at the National Archives of Australia. Before making the switch from private to government records in 1998, Adrian worked for many years as a private records archivist for the State Library of New South Wales, the Pacific Manuscripts Bureau, and the National Library of Australia. He has postgraduate qualifications in history from the Australian National University and a degree in Library and Information Science. He has been a member of the National Council of the Australian Society of Archivists since 1995 and was President of the Society (1998–2000). He is also a member of the International Council on Archives Committee on Descriptive Standards.

NOTES

1. Adrian Cunningham, "The Archival Management of Personal Records in Electronic Form: Some Suggestions," *Archives and Manuscripts* 22:94 (May 1994): 105.
2. Adrian Cunningham, "Beyond the Pale? The 'flinty' relationship between archivists who collect the private records of individuals and the rest of the archival profession," *Archives and Manuscripts* 24:20 (May 1996): 26.
3. Sue McKemmish, "Evidence of Me ...," *Archives and Manuscripts* 24:28 (May 1996): 45.
4. Tom Hyry and Rachel Onuf, "The Personality of Electronic Records: The Impact of New Information Technology on Personal Papers," *Archival Issues* 22:37 (1997): 44.
5. For a useful overview of much of this work, see Charles M. Dollar, *Authentic Electronic Records: Strategies for Long-term Access* (Chicago: Cohasset Associates, 1999).
6. David Bearman, "An Indefensible Bastion: Archives as a Repository in the Electronic Age," *Archives and Museum Informatics Technical Report* 13 (1991).
7. As far as I am aware, these "Jenkinsonian" objections have never appeared in print. They have been brought to my attention by way of informal personal comments and communications from a variety of Australian private records practitioners. Indeed, the fact that the objections have not appeared in print has itself been a disappointment to me. I had hoped that the arguments presented in my 1994 paper would provoke some helpful debate in the literature. Despite my urging, none of my colleagues felt sufficiently motivated by the issue to publish their objections in any kind of rejoinder piece.
8. Sue McKemmish, "Yesterday, today and tomorrow: a continuum of responsibility," in *Proceedings of the Records Management Association of Australia 14th National Convention, 15–17 Sept 1997* (Perth: RMAA, 1997).
9. Shirley Spragge, "The Abdication Crisis: Are Archivists Giving Up Their Cultural Responsibility?," *Archivaria* 40:175 (fall 1995): 176.
10. After delivering this paper I became aware of a very interesting project being pursued by the Manuscript Division of the National Archives of Canada, which involves making contact with Justices of the Supreme Court of Canada to assist them with the design and documentation of their personal electronic record-keeping systems. Reports on this project by its coordinator, Lucie Paquet, should appear in the Canadian archival literature in due course.
11. Terry Cook, "Electronic Records, Paper Minds: The Revolution in Information Management and Archives in the Post-Custodial and Post-Modernist Era," *Archives and Manuscripts* 22 (November 1994): 300–329.
12. Adrian Cunningham, "The Mysterious Outside Reader," *Archives and Manuscripts* 24 (May 1996): 130–145.
13. Standards Australia, *Australian Standard AS 4390—1996 Records Management*, Sydney, 1996.
14. See <http://www.naa.gov.au/recordkeeping/>.
15. Wendy Duff, "Harnessing the Power of Warrant," *American Archivist* 61:1 (1998): 88–105.
16. Chris Hurley, "Beating the French," *Archives and Manuscripts* 24:12 (May 1996): 19; and Adrian Cunningham, "From Here to Eternity: Collecting Archives and the Need for a National Documentation Strategy," *Lasie* 29:32 (March 1998): 45.

PUBLICATION REVIEWS

Architectural Photoreproductions: A Manual for Identification and Care. By Eleonore Kissel and Erin Vigneau. New Castle, Delaware: Oak Knoll Press, 1999. $65.00. 118 pp. Index, color illustrations, appendices, and bibliography. Soft cover. Available from Oak Knoll Press, 310 Delaware Street, New Castle, DE 19720 and from SAA, Chicago, IL (members $60.00; nonmembers $70.00).

In the foreword to Eleonore Kissel and Erin Vigneau's *Architectural Photoreproductions: A Manual for Identification and Care*, Lois Olcott Price writes, "Custodians of these prints have, for years, puzzled over them, shaken their heads and put them back in the drawer or back in the roll and out of their minds because there has been no readily available source of information about them." The appearance of this manual might well prompt many of these custodians to return to their drawers with renewed determination and inspiration, book in hand. Others may find themselves pondering already processed collections, verifying description, or reworking a holdings maintenance plan. Specialists in managing architectural material (many were consulted in the preparation of the manuscript) will applaud the forward movement of an agenda set during a 1994 working meeting in Montreal, "Documenting Twentieth Century Architecture." Calls for research included a need for intensive study of the properties of the media in two phases: before 1930 and after 1930. "We are largely ignorant of the nature and qualities of many photomechanical processes in use during the twentieth century, and of the behavior of many of the papers and media used in daily practice for original drawings." (Nicholas Olsberg, "Documenting Twentieth-Century Architecture: Crisis and Opportunity," *American Archivist* 59 [spring 1996]: 134)

Modestly begun to provide in-house guidance for processors and conservators at the New York Botanical Gardens, *Architectural Photoreproductions* is the result of more than a decade of preservation work, information gathering, and collaboration orchestrated into a tightly focused, well organized, and handsomely designed publication. During early stages of research into various processes, which included searching conservation, architectural, printing, and photographic literature, both historic and contemporary, the authors identified a major problem: an almost complete lack of images depicting the duplication of architectural drawings. Over the course of more than a year while working with the Lord & Burnham collection (approximately 140,000 drawings), they searched for actual examples of as many photoreproductions as they could find, gradually developing and refining a methodology for identification that relied primarily on close visual examination. The criteria they developed for inspection, based on a synthesis of printed source material and hands-on experience with the records, eventually became the heart of the manual. Its scope is the identification and preservation of reproductions commonly produced in North American architectural practice from 1860 to approximately 1960. Integral to the text are dozens of color illustrations of prints from the New York Botanical Gardens, the Frederick Law Olmsted National Historic Site, and the Canadian Centre for Architecture. Designed for use by individu-

als with no special training in preservation, photography, or architecture, the book succeeds because it is true to the media it represents in its visual orientation and meticulously thorough in complementing the visual with substantial textual information.

Users of manuals are often tempted to browse for solutions, foregoing front matter. In this case, it is time saved and not time wasted to start at the beginning. Lois Olcott Price's foreword, a concise and engaging history of the evolution of architectural printmaking, explains how we came to find such a "bewildering array of processes" in our collections. Judith Reed's introduction chronicles the research that began with the Lord & Burnham project, highlighting the collaborative nature that is often true of this sort of project. The authors' preface contains not only guidance for using the manual, but certain cautions and suggestions worth noting. Dates, for example, can be misleading, characteristic odors are not reliable criteria, and conservation treatments are purposely not addressed. The authors also point out that several duplicating processes were used for very short periods, and a "mystery print" may turn up within a collection.

Three sections, also best not ignored, precede the 12 chapters that describe 12 processes. The first, a glossary, is presented not simply as reference, but as a tool to assist in the identification of photoreproductive prints. The terms are specifically defined to illuminate their use in the text, and there is not one that is superfluous. The second section is introductory to the third: a flowchart. It is here where most who are new to working with architectural prints, with a document nearby, will dip into identification. Based on a series of questions tied to several visual criteria, the flowchart leads to a tentative answer. The next step is to read the chapter pertaining to the specific process. This may seem self-explanatory, but the key word is "tentative." The authors make clear—and testing the methodology affirms—that no one factor can be used in reaching a conclusive decision. Confirmation beyond the flowchart usually requires examining chapter illustrations and closely reviewing the text. Clues are found in the nature of support (the material on which a drawing or print is produced), the color of the image line, the way the line sits on the image, the color and the appearance of the ground (the background), the appearance of the surface, the condition of support, manufacturer's stamps, trade names, and characteristic degradation to the prints themselves or to adjacent materials. There may be much going back and forth from flowchart to various chapters as these criteria are explored, at least in the beginning, and it is here where the system slightly breaks down. There are no page numbers connecting the chart and further description, adding a tedious task to the examination process.

Consistency within the text of each chapter is sound, which in a manual is always valuable. Each contains segments on identification (general and specific visual clues to follow), support, synonyms (there has been little uniformity in terminology in the trade), manufacturing process, and history and use. A final aspect deals with degradation that may be present or could possibly occur, along with storage and handling suggestions. Following each chapter are two or more pages of finely reproduced color reproductions of representative prints: full views, highly magnified views, and examples of typical degradation. These illustrations are not intended to stand alone: they are carefully selected to enhance textual descriptions and, in their quality, are the main justification for the cost of the book.

The 12 chapters are presented in two parts. The first nine describe processes that are photoreproductions and the following three describe photomechanical reproductions, distinguishing between prints that have residual chemicals in their makeup and prints that are made with nonreactive carbon, ink, and dyes. Prints produced using a photographic process always contain chemical residues and are more unstable than prints using a photomechanical process. This is important to understand for both housing and preservation. It is, in fact, this aspect that initially drove the project upon which the book is based. Identification was critical for separation of processes exuding chemical by-products to drawings and other prints and for determining housing requirements in a holdings maintenance program. For many readers in similar situations, the chapter sections that deal with degradation that may occur will be particularly appreciated. Should these prints be housed in buffered or unbuffered folders? What is the effect of light on this process? Which prints can be housed together, which should be segregated, and why?

In general, the authors recommend that photoreproductions be segregated from one another and from originals, while photomechanical reproductions may be housed in contact with original drawings. However, recommendations for housing incompatible reproductions and original drawings in as many polyester sleeves as necessary and for separating prints that are sensitive to alkaline environments from buffered paper folders may be prohibitively expensive for some repositories. If this is the case, the manual will be as helpful in developing plans for periodically assessing contact degradation as it is for conservation planning. Also useful for planning and management are several appendices, including general notes on storing architectural material, notes on exhibition and handling, and guidelines for copying historical oversized prints (the digital method is considered the "gentlest" way to duplicate the processes described).

This is not the comprehensive manual to managing architectural records that has long been desired by many in the archival profession. Instead, it concentrates on one well researched piece of the landscape and presents its findings in a format that will appeal and be extraordinarily useful to a broad audience. It would be wonderful if it were followed by similar sharply defined publications to file under "Architecture" on our archival bookshelves.

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Manual for South Carolina Religious Archives and Recordkeeping. By Jeanette Bergeron. Columbia, South Carolina: South Carolina State Historical Records Advisory Board, July 1999. 102 pp. Also available on-line at <http://www.state.sc.us/scdah/churcharchives.htm>.

Starting from Scratch: Creating a Synagogue Archives. By Kevin Profitt. Cincinnati: American Jewish Archives, 1994. 36 pp. Also available on-line at <http://www.huc.edu/aja/create1.htm>.

Introductory manuals focusing on specific types of archives have long been a staple in archival literature. What is new about these two volumes is that they have been published in print form as well as on-line. Also, these works remind us that archival publishing is not only the realm of professional associations and commercial publishers. The South Carolina manual was published by the South Carolina State Historical Records Advisory Board using a mixture of NHPRC and state monies. *Creating a Synagogue Archives* was published by a moderate-sized archival institution that is a leading repository for Jewish records in the United States.

Jeanette Bergeron and Kevin Profitt have both written very readable and accessible works aimed at nonprofessional archivists working in religious archives. Bergeron's work "deals with policies and practices for Christian church settings . . . the guidelines it offers will help many other South Carolina religious organizations set up and operate an archives program and conduct the daily management of their records" (pg. 5). Her goal was to create a "practical manual of tips and guidelines *for small budgets*" [italics original] and she has succeeded. Profitt's work is focused on synagogues, which he describes as "the basic institution of American Jewry" (pg. 7). He continues by saying that synagogues' archives "constitute one of the most important sources of American Jewish life and thought that can be found" (pg. 7). Overall, the focus of Bergeron's book is more "how to" and concentrates on organizing the archival collections, whereas Profitt's approach is more administratively focused and aimed at helping congregations build an archival program. This seems to indicate that the anticipated audience of these works is different. Bergeron speaks to individuals who will actually carry out archival functions; Profitt introduces the importance of the archives and the significance of archival functions to synagogue boards or to some other governing body.

Bergeron's work is divided into chapters that proceed from "What are archives?" and move on to the tasks of identification and appraisal, accessioning, arrangement and description, preservation, and establishing retention schedules. The South Carolina manual, however, also notes such topics as electronic records, writing congregational histories, oral history, and what to do if a congregation disbands. The text is full of checklists, examples (e.g., accession registers and inventories), sample collections management, access, and preservation policies, and a sample disaster plan.

By covering so much ground, Bergeron often skims over topics. For example, the "What are archives?" chapter concludes with a start-up checklist. Several items on the checklist, such as selecting an archives committee, have not been previously discussed nor are they discussed later in the work. There are, however, references to the page numbers next to several of these checklist items, such as selecting a storage area and

developing a collection management policy, that are treated later in the South Carolina manual.

The South Carolina manual also contains some contradictions. The sample retention schedule lists items as permanent that are not noted in the list of records to be turned over to another repository if the congregation disbands. While there may be reasons for this, no explanation is provided. The retention schedule also lists types of records, a maximum retention period, and recommendations for disposal. Although it cautions churches to check with their legal counsel prior to implementing a retention schedule, this one would have been more useful if it had listed the authority or warrant for retention or destruction.

Bergeron's electronic records chapter is a single page and suggests that important materials be printed out. The only preservation strategy mentioned is backing up files. This is the weakest—and a misleading—section in the manual. The author could have provided some elementary and practical basics, such as a discussion of technological obsolescence, discussed the problems with printing out items from relational databases, and mentioned some of the key tenets of electronic records management.

Profitt's manual is divided into six broad areas: authorization and support; collection policy and appraisal; physical facility and supplies; organization and procedures; preservation and conservation; and access, reference, and security. Unlike Bergeron's work, there are a few selected footnotes to major articles and works that elucidate the points mentioned. Each topic is explained clearly and, as noted above, the focus is on "why," not on "how." Individuals interested in carrying out the actual archival work can use Profitt's work as a reference to very practical resources. Readers are also reminded that they can contact the American Jewish Archives for advice or examples of policies and forms.

Profitt does not deal with electronic records. In this way, the work implicitly considers synagogue records as noncurrent records. It does not introduce the idea that the current records of the synagogue, now often in electronic form, will one day also become archives and that special procedures are required to ensure their survival.

Both works provide limited references in terms of brief bibliographies and lists of archival supply vendors and archival organizations. Bergeron also supplies a small glossary of major archival terms. Interestingly, Bergeron refers to Judith Ellis's *Keeping Archives*,[1] the Australian work in the bibliography, and uses it as the basis for the glossary. No mention is made of North American sources, such as the Society of American Archivists' *Archival Fundamentals Series*. Additional resources and reading would have been particularly useful in the electronic records section. This omission may prove confusing to neophyte archivists operating in United States religious archives. Profitt refers to both Ellis and the *Archival Fundamentals Series*,[2] as well as to a series of articles, as mentioned above. Another interesting feature of these bibliographies is that neither refers to what I would consider seminal works on religious archives by Robert Shuster and James O'Toole.[3] Finally, Bergeron refers only to local or to South Carolina archival associations, whereas Profitt refers to national archival associations. One reason for this may be that Bergeron's audience is local; Profitt's is national. Still, by posting this on the Internet, the audiences are international.

The on-line versions of these works are roughly equivalent to the printed versions. The *Manual for South Carolina Religious Archives and Recordkeeping* is available on-line as a .pdf file using Adobe Acrobat. *Creating a Synagogue Archives* is available in Hypertext Markup Language (HTML) format, but few additional hypertext links have been added to either. Although the text still holds up, it is particularly interesting to note that *Creating a Synagogue Archives* was not updated before being mounted on the Web. While publishing these works on the Internet is definitely a plus, one wonders if more enriched and interactive versions with links to organizations, suppliers, and other archives might have provided a value-added product that would have led volunteers and nonprofessionals to reliable Web sites containing archival resources and information. However, there are substantial benefits of putting these types of things on-line. One advantage is that others, outside the immediate intended audience, can also use the manuals and profit from them. Secondly, as this gray literature becomes visible, other organizations will not reinvent the wheel and write their own manuals. Although several records management manuals were drafted by different religious groups during the 1990s, none of these has been mounted, in total, on the Web.[4] Interestingly enough, though, briefer records management information is available on each of the sponsoring organizations' Web sites. In conclusion, increasing availability of archival information raises the consciousness about archives. While getting Web-based information to people continues to be a challenge, it is nice to see that there is at least some good archival information out there to point to and that archivists are exploring the potential of networked information.

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NOTES

1. Judith Ellis ed., *Keeping Archives* Second Edition (Port Melbourne, Victoria, Australia: The Australian Society of Archivists, 1993).
2. *Archival Fundamentals Series* (Chicago: Society of American Archivists, 1990–1993).
3. Robert Shuster, "Documenting the Spirit," *American Archivist* 45:2 (1982): 135–141, and James M. O'Toole, "What's Different About Religious Archives?," *Midwestern Archivist* 9 (fall 1984): 91–101.
4. Evangelical Lutheran Church in America, *Active Records Management: Guidelines for Synods and Congregations of the Evangelical Lutheran Church in America* (Chicago: ELCA, 1996). *Retention of Active Records: Advice for Congregations of the ELCA* is available on-line at <http://www.elca.org/os/records.html>, and Mark Duffy, *Records Management for Congregations: Financial and Common Business Records* (Austin, Texas: Domestic and Foreign Missionary Society of the Protestant Episcopal Church in the USA, 1995). The "General Records Retention Schedule of Congregations" is available on-line at <http://episcopalarchives.org/records.html>.

Creating a Collection Development Policy for Local Historical Records in Public Libraries, <http://www.shsw.wisc.edu/archives/whrab/wapl_manual.html>. By the Wisconsin Historical Records Advisory Board and Wisconsin Association of Public Librarians, April 1998.

Creating a Collection Development Policy for Historical Records, <http://www.shsw.wisc.edu/archives/whrab/wclh_manual.html>. By the Wisconsin Historical Records Advisory Board and Wisconsin Council for Local History, September 1998.

Since the 1980s, collection development has become a regular topic of discussion in archival literature. Institutional collection development policy increasingly has been viewed as the foundation of the appraisal process, and various frameworks to guide institutions in drafting their own collection development policies have emerged. The most recent models to assist repositories with the process of writing a collection development policy are two manuals issued by the Wisconsin Historical Records Advisory Board (WHRAB). These publications are products of the Best Practices Project administered by the Wisconsin Historical Records Advisory Board between January 1997 and December 1998, with funding from the National Historical Publications and Records Commission. Among the goals of this undertaking were to establish best practices for the care of historical records and to disseminate the resulting product to the local libraries and historical societies that have responsibility for collecting historical records. To this end, WHRAB worked with the Wisconsin Association of Public Librarians (WAPL) to produce *Creating a Collection Development Policy for Local Historical Records in Public Libraries* in April 1998, and with the Wisconsin Council for Local History (WCLH) to draft *Creating a Collection Development Policy for Historical Records* in September 1998.

Since large sections of these two publications are identical, it is possible to consider them together. The goal of the manuals is to provide basic information about collection development policies to individuals with little or no training in archival management who have professional responsibility for historical records. Each manual begins with a prefatory section tailored to its target audience—local public libraries or historical societies—explaining the origins of the manual and emphasizing the role that historical records play in building a community's collective memory. The manuals then outline how to create a collecting policy, offering step-by-step instructions, an analysis of the merits of a written collection development policy, and a sample collecting policy accompanied by questions that an institution should address in drafting its own policy. Discussion then turns to areas related to the implementation of a collection development policy, such as archival appraisal, acquisition, deaccessioning, and outreach. In addition, a glossary of archival terms, a bibliography for further reading, contact information for the Wisconsin Area Research Center Network, deed of gift forms, and collection survey forms are included in each manual.

A nice feature of these publications is that the introductory section on caring for historical records recognizes a distinction between taking initial steps towards best practice and arriving at ideal practice. These manuals emphasize that, while many

repositories simply lack the resources to provide the optimal level of care for collections, all repositories can take basic measures towards responsible stewardship of historical records, and that this process begins with planning for appropriate collection growth. To this end, users of these manuals are urged to "implement minimal best practices" today (decide what you do and do not want to collect and find out what other repositories are collecting). Once these preliminary steps have been taken, repositories can "work toward ideal practice" tomorrow (create a written collection development policy and update it regularly, house records appropriately, and provide effective access to collections).

A key strength of these publications is that they couple discussion about how to create a collecting policy with a consideration of how to actually implement the resulting policy. The manuals summarize benefits that can be derived from collecting policies. Readers are advised that policies must flow from the mission of the parent institution, be flexible, and be updated regularly. The guidelines for drafting a collecting policy are typical of those provided elsewhere in the literature related to collection development. Repositories are urged to define the purpose and mission of their collection; to identify their users; and to outline the focus of their collection, specifying both materials that will and will not be collected and taking into account the collecting priorities of other institutions. Finally, institutions drafting collection development policies are urged to define the terms under which they will add items to their collection, remove material from the collection, accept items on loan, and cooperate with other repositories. Both manuals note that, "the more you use your policy, the better you will understand how it can help you in your work." In other words, a written collecting policy is not an end in itself: its usefulness is tied directly to the effectiveness with which it is employed.

The next section considers how a well-formulated collection development policy can assist in other aspects of archival work. The majority of this discussion focuses on the role of the collecting policy in assisting in archival appraisal (as distinguished from monetary appraisal) and in the acquisition of material. The list of sample appraisal questions would be potentially problematic as an oversimplification of the selection process were it not for the manuals' injunction that the questions should not be treated as a formula for appraisal. Likewise, the consideration of acquisition, or transfer of ownership, avoids similar pitfalls by emphasizing that the discussion covers only the basics of legal ownership. Shorter sections discuss how a collecting policy can be used as a guide for deaccessioning and as a tool for public outreach. Additionally, *Creating a Collection Development Policy for Historical Records* contains an overview of special considerations and legislation covering local government records in Wisconsin.

While these manuals are explicitly intended to provide an introduction to archives in general and collecting policies in particular for individuals with little training in archival management techniques, it is unfortunate that the bibliographies for further reading are so limited. Precisely because the target audience for these publications is one that is expected to have minimal exposure to archival management techniques, these manuals could have been used as a vehicle to alert readers to the variety of professional literature that is available to assist them in caring for historical records. The reading list for *Creating a Collection Development Policy for Historical Records* is especially thin,

and includes only one reference to an item that is not part of the SAA *Archival Fundamentals Series*. The bibliography for *Creating a Collection Development Policy for Historical Records in Public Libraries*, which is partially annotated, does a better job of drawing on library and archival literature.

The contact information and overview of legislation for local government records provided in these publications are specific to Wisconsin and, thus, the manuals will have the greatest utility for Wisconsin-based repositories. Most of the information presented is general, however, and should be helpful to public libraries and historical societies, regardless of their location. Other state archives and historical societies could provide a useful service to local repositories that care for historical records by making similar statewide contact lists and relevant records legislation available on their Web sites.

Despite such minor limitations, *Creating a Collection Development Policy for Local Historical Records in Public Libraries* and *Creating a Collection Development Policy for Historical Records* present a wealth of useful information about drafting and implementing collection development policies. They should be valuable tools for individuals with little training in archival management. WHRAB, WAPL, and WCLH are to be commended for their efforts to reach this important group that cares for a sizable portion of the historical record, and for making the manuals available on-line in order to allow for the widest possible dissemination.

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