Established in 1954, the University Archives is the official repository for the records of the administration, of departments, clubs and societies, and of persons involved in, or closely connected with, the University. It also houses a collection of photographs of University interest, both prints and negatives, and University publications of all kinds. The reading room and repository are on the 5th floor of the Fisher Library, and the records are available for research use by all members of the University and by the general public. Restricted access conditions may apply to some records. The reading room is open 9-1, 2-5, Mondays to Fridays. Copies of records and illustrations can be supplied for exhibitions, publications and course work.

The Archivist is responsible to the Registrar for the care and preservation of the University Archives, which include the records of the Senate, the Academic Board and those of the many administrative offices which control the functions of the University of Sydney. The implementation of the University's Archival Policy includes the transfer of administrative records and the deposit of records of academic departments, individuals, clubs and societies. Other duties of the Archivist include the distribution of published material under the deposit provisions of the Copyright Acts, and the mounting of exhibitions, illustrating aspects of the University's history.

The provision of information to officers of the Administration is an essential duty of the Archivist, but the University's Archives do not operate as a general information centre. The purpose of the University Archives is to provide for the safe keeping of records from which researchers may extract information, and one of the most important duties of the Archivist is the preparation of finding aids in order to facilitate such research.

Access to records designated as archival is permitted only under the direct control and supervision of the Archivist, or recognised staff of the Archives. Access by approved persons may be permitted provided that, in general, the records are older than thirty years. Intending researchers are required to complete an application form. The conditions of access to records other than official material vary according to the conditions of deposit.

ARCHIVIST'S NOTES
March, 1988

We are publishing two important articles in this edition of Record, both of which raise issues of some significance to the University of Sydney. The first is by Mr David Wood. Mr Wood, as many University people are aware, was for many years Assistant to the Vice-Chancellor, and was involved in the work carried out by the Vice-Chancellor's Office from 1949 to 1976. Amongst the myriad tasks of that Office, Mr Wood prepared papers for the Vice-Chancellor, and was familiar with all important budgetary matters of that period. Mr Wood's article deals with a topical issue, fund-raising by the University.

Following the release of the Federal Government's 'Green Paper', the University community has had much to ponder upon. The University News of 15 March 1988, for example, quoted the University of Sydney Senate's response to the Green Paper thus: "... the strong thrust in the Green Paper towards increased governmental control could actually discourage private benefactors, who may conclude that what the Government controls the Government should pay for". Mr Wood reminds us that this may not be a new phenomenon, when he suggests that something similar occurred in 1952, following the passing of the States Grants (Universities) Act, 1951. He further suggests that the University of Sydney might well be in a position to improve on past efforts at fund-raising.

The second article is by Dr Margaret Dwyer, Research Fellow in the University Archives. Dr Dwyer is on secondment to the Archives, and holds the Diploma in Information Management-Archives. Her article deals with the problem of retention and disposal of records in the case of the records of academic departments.

Dr Dwyer begins her article with a quote illustrating the attitude of some University staff regarding records: "when in doubt, keep it". Such an attitude would be deplored by most archivists. It illustrates an uncritical, ad hoc approach to records management, and merely postpones a decision involving thought and archival expertise.

Because of the conservation problems inherent in all records including those of the 'new technology', Dr Dwyer is in fact saying that we need to very critically examine all records before making the decision to retain them in perpetuity. The high cost of conservation techniques may well dictate the quantum of records kept.

1.
SOME OF THE MAJOR APPEALS FOR FUNDS
IN THE 'TWENTIES AND 'FIFTIES
AND ASSOCIATED MATTERS
(PART 2)

THE CENTENARY APPEAL : 1950-1952

(Note: Mr Wood has drawn our attention to
the fact that the latest C.P.I. figures were
announced after the publication of the Septem-
ber 1967 Issue of Record. He has very kindly
supplied the Archives with new figures which
should be used in relation to the tables on
page 11 of the September issue of Record.
The revised figures are in an Appendix at
the conclusion of this article.)

The Centenary Celebrations were held over the
three year period 1950-52. On 6 October 1950
a ceremony was held in the Great Hall commor-
ating the centenary of the passing of the
Act of Incorporation on 1 October 1850. The
oration was delivered by the Prime Minister,
Mr R. G. Menzies. Four months later, on 5
February 1951, the first meeting of the Senate
was commemorated by a ceremony in the Senate
Room at the University in the presence of the
Governor of New South Wales, Lieutenant-General
Sir John Northcott.1

The main celebrations took place in 1952, to
commemorate the centenary of the arrival of the
first three professors and the admission of the first
students in October, 1852. During the
week 26-31 August, delegates from universities
throughout the world celebrated this centenary.
It was an exciting period. There were orations,
receptions, dinners, open days, church services
and a party at Government House. The weather
was fine for the celebrations. Perhaps the
most colourful of all the ceremonies took place in
the Great Hall on 29 August when nineteen
honorary degrees were conferred.2

The Senate had decided that the celebrations
should encompass an Appeal for funds to gradu-
ates and to the general public and had appointed
a committee under the Chairmanship of the Vice-
Chancellor, (Professor S. H. Roberts), to organ-
ize the Appeal.3 The Committee, in addition to
its Chairman, comprised:

The Chancellor, Sir Charles Blackburn
The Deputy Chancellor, Mr Justice E.D. Roper
The following representatives of the
Standing Committee of Convocation:
Mr J.N. Britton
Dr C.R. Laverty
Mr Murray Gosper
Mr E. Andrew
Mr H.D. Black
Hon. C.E. Martin
Professor D.H. Myers
Professor A.D. Trendall
and the Director of the Centenary Celebra-
tions, Mr R.C. Clark.4

Early in 1950 a full-time Director, Mr R.G.
Clark, was appointed, after advertisement
from outside the University, initially for
one year, at a salary of £2,000 p.a., which
was regarded then as a large salary.5 An
Appeal Office was set up in the city by Mr
Clark in preparation for the launch of the
Appeal on 7th June 1950. This took place in
the Town Hall and was well attended by a
large number of citizens together with many
members of the staff in academic dress. A
Guard of Honour from the Sydney University
Regiment, attended by the Eastern Command Band,
was inspected by the Governor of New South
Wales, Lieutenant-General Sir John Northcott.
The Lord Mayor of Sydney, Alderman E.C. D'Leo,
presided and addresses were given by the Gov-
ernor, the Chancellor, Sir Charles Blackburn,
by the Vice-Chancellor, Professor S.H. Roberts,
and by the Chief Justice of New South Wales,
The Hon. K.W. Street.6 The objects of the
Appeal were to raise funds to provide:

"A. A permanent Endowment Fund to provide
income which will allow for expansion
in the University's own chosen
direction.
B. A permanent fund for new extensions
of a capital nature.
C. A living endowment for annual sub-
scriptions." 7

The financial objectives of the Appeal, as
stated by Professor Roberts, were as follows:
£214,000 to cover the expected 1950 deficit
£200,000 each year in the future for
equipment, maintenance, and
to increase staff salaries.
£250,000 each year in the future for
expansion and research.8

Professor T.G. Hunter, Professor of Chemical
Engineering, who had been successful in rais-
ing donations from industry for his own de-
partment, on 3rd July 1950 was appointed as
a full-time Liaison Officer to the Appeal in
order to secure continuous University coopera-
tion and to marshal the full resources of the
University in supporting the Appeal.9 The
main method used was "direct-by-mail appeal"
to graduates and to citizens "in the higher
income bracket" and by "personal approach" to
business organizations. By the end of July
1950, £23,359 had been raised, and, despite
all the efforts by Mr Clark, by Professor
Hunter, and particularly by members of the
Standing Committee of Convocation, only
£32,780 had been contributed by the end of
1950. Mr Clark was replaced by Professor
Hunter as Director of the Centenary Appeal
as from mid-January 1951.10
Largely because the Appeal had revealed the need for improved public relations, on 27 February 1951, Mr A.A. Gamble, Senior Lecturer in the Faculty of Architecture, was seconded for one year to conduct the Information and Public Relations Services within the University under the direction of the Vice-Chancellor. Professor Hunter reported on 27/2/1951 that the "personal approach" had been more successful than the direct-by-mail approach. Some 52 personal approaches to business organizations (banks, cement industry, chemical industry, motor industry, etc.) had resulted in £33,650 by the end of 1950 as against £5,436 resulting from circulars sent to 17,000 graduates at a cost of £1,355. He reported also that the Sydney Morning Herald had given almost daily publicity to the University during 1950, particularly after the Appeal was launched.11

In June 1951, a circular was sent to all graziers in New South Wales requesting donations of bales of wool and this was sponsored by the Graziers' Association. Forty-five bales were promised. Two months later, in August 1951, the Lord Mayor made, as part of the Centenary Appeal, a public appeal for Halls of Residence. By mid-February 1952, a total of £233,336 had been subscribed. Professor Hunter returned to his Department of Chemical Engineering at the end of February 1952 and his place as Director of the Appeal was taken over by Mr Gamble. It was decided to close the Appeal as from 31st December 1952.12

Towards the end of 1952 the most important single donation was made. This was an amount of £100,000 donated anonymously for the purpose of building a new Chemistry School.13 Although this was not of the magnitude of the Bosch donation in the 75th Anniversary Appeal in 1927, it did have the important effect of initiating consequential State Government Grants, towards the building of the new Chemistry School, of £250,000 per annum for the four years 1954-1957. The Chemistry School Building was subsequently completed at a total cost of £1,600,000 in 1958, after a further £250,000 had been included in the capital allocations following the Murray Report. The anonymous donor was also revealed as being Mrs Brightie Phillips, whose husband had been connected with the chemical industry.14

The final meeting of the General Committee of the Centenary Appeal was held on 27 March 1953. The total amount contributed was £239,844. This included:

- Anonymous donation - £100,000
- Appeal to the graziers - £6,927
- Halls of Residence Appeal - £2,179
- Graduates: 1995 contributors - £13,320

Professor Roberts in his report to this meeting included the following:

"... but for the general economic deterioration in Australia from the middle of 1951 onwards, ... Professor T.G. Hunter's efforts would have resulted in much more money being subscribed to the Appeal ... This applied to the Graziers' Appeal and the Lord Mayor's Halls of Residence Appeal."15

The writer recalls that one of the reasons given at the time for the relatively small contributions to the Appeal related to the recent entry by the Commonwealth Government into making permanent recurrent grants to the Australian Universities under the (then) recently passed States Grants (Universities) Act 1951. Many people considered then that company and personal income taxation rates were already too high, and, bearing these new grants in mind, those with such attitudes considered there was good reason not to contribute to the Appeal.

The writer has calculated that the increase in prices according to movements in the C.P.I. from the early 'fifties to 1966 is about eight times. Hence, the £239,844 (above) represents about £4,000,000 in 1966 prices. A large proportion of the donations was for specific purposes. The balance of the proceeds of the Centenary Appeal, some £32,000, was used to erect the War Memorial Great Gate and Gallery of Fine Arts in Science Road in memory of members of the University who lost their lives in the 1939-45 war.16

From the end of March 1951, Professor and Mrs Roberts were abroad. Professor A.D. Trendall was appointed Acting Vice-Chancellor in Roberts' absence. During the conferring of degrees ceremony when he reported on the affairs of the University, Trendall commented on the somewhat meagre contributions by the graduates of the University to the Centenary Appeal 1950-52. This was emphasised rather unfairly in the press and he decided to send to each graduate of the University a letter setting out what he had actually said. The Senate was impressed with this, and, believing that one of the reasons for the smallness of the response by graduates to the appeal had been the lack of communication between the University and its graduates, decided, on the suggestion of H.D. Black, that the Vice-Chancellor be asked to write a letter to the graduate body each year in the future. This was the commencement of the annual "Vice-Chancellor's Letter to Graduates", later replaced by the quarterly Gazette.

FROM 1953 ONWARDS - THE EMERGENCE OF THE VARIOUS RESEARCH FOUNDATIONS

Professor H. Wessel was appointed to the Chair of Physics in 1952.17 He soon became dissatisfied with the research grants voted by the
Research Committee and began to seek donations for research purposes from various business organizations.

Professor Messel was given the impression in his talks with representatives of business firms that one of the reasons for the failure of the Centenary Appeal had been the lack of a defined aim that could readily be understood by the public. He then proposed the concept of the "Research Foundation", which had been successful in the U.S.A., under which individuals and business firms made contributions each year, with various rates for "governors" and "members"; in return, contributors received current research information, invitations to attend seminars, and, of some importance, an invitation to attend an annual meeting of the Foundation, followed by a formal dinner. He chose as the aim of the Foundation he was proposing, the need to foster postgraduate research and to encourage honours graduates to accept research studentships. Up to that time, it had been the normal practice for research students to proceed overseas. The name he chose was "The Nuclear Research Foundation" (much later renamed "The Science Foundation for Physics"), and the establishment of a Foundation with this name was duly approved, together with a constitution, by Senate on 8 June 1953.18

The Nuclear Research Foundation gained much financial support from business organizations and considerable publicity from the press. The aims were readily understood and were endorsed by diverse groups in the community, which Professor Messel was called upon to address on many occasions throughout 1953 and 1954. The Foundation was launched in the Great Hall in 1954. The Premier of New South Wales, Mr J.J. Cahill, had agreed to announce a special grant of £50,000 from the New South Wales government to the Foundation at this dinner.19 After this had been done, the Commonwealth Treasurer, Sir Arthur Fadden, was placed in an embarrassing position when he was invited to match this from Commonwealth sources; because for some time the Australian Vice-Chancellors' Committee had been pressuring him against making earmarked grants to universities. However, towards the end of the evening he did pledge £50,000 from the Commonwealth, to the delight of Professor Messel and those present. Present were Fellows of Senate and representatives of business firms. The writer was also there, in place of Harold Maze, the then Registrar, who was indisposed. Dress was formal: white tie and decorations. Thus was launched the first Research Foundation.

The concept of the Research Foundation was subsequently adopted by many other bodies throughout the University. In each case an aim was defined and a scale of contributions drawn up within a constitution that required Senate approval. By 1986 there were twenty-nine Foundations in the various faculties, based more or less on the original concept. In the Annual Report of the University for 1986 there is a special section on the Foundations. The Aims were set out as follows:

"Aims
To seek financial and other support for the promotion and development of research in the University.
To promote links between the University and various forms of activity in business, government, the professions and the community."

The Foundations listed were:

**Faculty of Arts**
- Australian Language Research Centre
- Celtic Studies Foundation
- Frederick May Foundation for Italian Studies
- John Power Foundation for Fine Arts
- Near Eastern Archaeology Foundation

**Faculty of Medicine**
- Birth Defects Foundation
- Medical Foundation
- Melanoma Foundation
- Peripheral Nerve Research Foundation
- Save Sight and Eye Health Institute

**Faculty of Science**
- Earth Resources Foundation
- Foundation for Inorganic Chemistry
- Nutrition Research Foundation
- Pharmacy Practice Foundation
- Research Foundation for Information Technology
- Science Foundation for Physics

**Faculty of Engineering**
- Electrical Engineering Foundation
- Chemical Engineering Foundation
- Civil and Mining Engineering Foundation
- The Warren Centre for Advanced Engineering

**Faculty of Dentistry**
- Dental Health Education and Research Foundation

**Faculty of Veterinary Science**
- Dairy Husbandry Research Foundation
- Deer Research Foundation
- Postgraduate Foundation in Veterinary Science
- Poultry Husbandry Research Foundation
- J. D. Stewart Veterinary Science Foundation

**Faculty of Economics**
- Accounting and Finance Foundation
- Graduate School of Management and Public Policy Foundation

**Faculty of Architecture**
- Planning Research Centre 20
After the September 1987 issue of Record was published, it was announced that the Consumer Price Index (all groups - Sydney) for the period 1st July 1986 to 30th June 1987 increased by 9.3%. In consequence the C.P.I. as set out on page 11 of the September 1987 issue of Record increased from 1,812 for the year 1986, to 1,980 for the year 1987. Hence the following increases apply in terms of the 1987 Consumer Price Index:

<table>
<thead>
<tr>
<th>APPEAL FOR FUNDS</th>
<th>AMOUNT RAISED</th>
<th>At time of Appeal</th>
<th>In 1986 Prices</th>
<th>In 1987 Prices</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) 1924 : For a Carillon</td>
<td>£</td>
<td>$</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>(b) 1926 : For Cancer Research</td>
<td>128,397</td>
<td>440,000</td>
<td>481,000</td>
<td></td>
</tr>
<tr>
<td>(c) 1927+8 : For 75th Anniversary (Inc. Bosch Donation and Rockefeller Grant)</td>
<td>445,575</td>
<td>12.0 mill.</td>
<td>13.1 mill.</td>
<td></td>
</tr>
<tr>
<td>(d) 1950-52 : For Centenary of University</td>
<td>239,844</td>
<td>4.0 mill.</td>
<td>4.4 mill.</td>
<td></td>
</tr>
</tbody>
</table>
The concept of the Research Foundation is unique to the University of Sydney. The Vice-Chancellor, Professor John M. Ward, commenting in an article on Business and University Co-operation, said:

"The number of Foundations is now over 25 and still growing. They are a special feature of the University of Sydney with no apparent counterpart elsewhere in Australia."^21

How much money the Foundations have raised during the past 33 years could only be ascertained after a detailed investigation. However, it is a considerable amount. For example, the Science Foundation for Physics since 1953 has raised over $34 million; the Medical Foundation has received some $6,000,000 since it started in 1978, and, since 1983 when the Warren Centre was established to mark the centenary of engineering education in the University, over $2,000,000 has resulted during the first four years of the appeal for funds. The long list of grants, bequests, donations and gifts in kind in the 1986 Annual Report (pp.124-130), comes to a total of about $20,000,000; much of this sum, including contributions to the various Foundations, is for the support of research. Further, a not inconsiderable amount included in this sum is for contract research which may prove beneficial to the donors.

CONCLUSION

It looks as though the numerous Foundations have taken over a major role in University fund-raising, apart, of course, from the continuous appeal to graduates and citizens of New South Wales for bequests and donations which occurs in each annual issue of the Calendar and elsewhere. Certainly no general University appeal for funds has been made since the Centenary Appeal, 1950-52. However, despite the important effect on fund-raising by the Foundations during the past 35 years and despite the fact that in 1986 the total for grants, bequests and donations reached the figure of $20 million, partly because of the Foundations, does that amount of $20 million compare satisfactorily with those Appeals of the 'Twentyies and the 'Fifties?

It was calculated above that the Carillon Appeal in 1924 raised some $440,000 in 1986 prices; that the Cancer Research Appeal in 1926 raised about $3.6 million in 1986 prices; that the 75th Anniversary Appeal in 1927 together with the Rockefeller Gift in 1930 raised some $12 million in 1986 prices, and that the Centenary Appeal in 1950-52 raised about $4 million in 1986 prices. At first glance, the $20 million in 1986 received as grants, bequests and donations appears to compare favourably with those early Appeals for funds. But when one compares the size of the University and the number of its graduates in the 'Twentyies (an enrolment of about 2,500, with some 8,000 graduates), in the 'Fifties (an enrolment of about 8,000 with some 17,000 graduates) and in 1986 (an enrolment of 18,000 with about 60,000 graduates), could one conclude that the University should be capable of raising more money each year from grants, bequests and donations than that $20 million in 1986?

It is good, indeed, to learn of the establishment of the Office of Graduate and Community Relations, which, it is hoped, will harness the goodwill of the graduates and the community.

- D.R.V. Wood
Honorary Assistant
University of Sydney
History Research Project

References

1. G66/4/9, Centenary Celebrations Committee, Special Senate Meeting.
2. GI/1/29, Minutes of Senate, 29 August 1952.
3. GI/1/28, Minutes of Senate, 5 September 1949.
4. Ibid., 3 April 1950.
5. Ibid., 5 December 1949.
7. Ibid., p.12.
8. Ibid., p.9.
10. G66/1/1, Centenary Celebrations Committee, Minutes of Joint Executive Committee, 23 November 1950.
11. Ibid., 27 February 1951.
12. Ibid., 28 March 1952.
13. Ibid.
16. Ibid.
17. GI/1/29, op.cit., 11 August 1952.
18. GI/1/30, Minutes of Senate, 8 June 1953.
19. Ibid., 5 April 1954.
THE CONSERVATION OF ACADEMIC DEPARTMENT/
SCHOOL RECORDS IN ARCHIVES — PRIORITIES

Not so long ago, June 18, 1987 to be precise, an eminent academic recommended that the Archives adopt a retention/disposal policy of "when in doubt, keep it". Our survey of records from offices of academic departments and faculties deposited in the University Archives suggests that this view may not be an exception. Few appear to be aware of the resources required to preserve records in Archives; hence, the decision to include 'conservation' as a major theme of this article.

My discussions with academics revealed that those who do appreciate the need to select only those records with significant archival value for retention in the Archives perceive the selection process as problematic. The subject of records disposal/retention is studied in specialised tertiary courses in records or archives management. In this article, I only aim to alert the reader to some of the issues influencing the decision: to retain or not to retain.

The colloquial use of the word 'archives' possibly explains countless misunderstandings between archivist and non-archivist at the University and elsewhere. So, I begin with a definition:

"Archives are 1) the non-current records of an organization, institution or individual which are selected for preservation because of their continuing value, 2) the repository or building where the archival material is stored, 3) an agency responsible for the selection, preservation, documentation and making available of archival material."1

There are no University By-laws which specify any requirement on the part of schools or academic departments to either create or retain records. Moreover, an examination of the relevant current files relating to the retention and disposal of official records did not reveal any policy or procedure pertaining to departmental records. The official copy of most documents relating to the administrative operations of faculties and academic departments is held in the records of an officer of the University administration, e.g. vice-chancellor, bursar, registrar.

SURVEY OF FACULTY/DEPARTMENT/SCHOOL RECORDS

Over the years, the University Archives has accessioned 140 shelf metres, equivalent to 14 cubic metres, of records from department, school and faculty offices. A survey of a sample of these records was carried out in 1986-87 in order to evaluate their archival value. The first step was to arrange and describe the records of selected organizations to the item level.2 The item descriptions indicated that department/school records could be arranged in sub-groups according to their function3 in research, teaching, general departmental/school administration, activities of other university and non-university organizations, and a sixth sub-group best described as memorabilia. An attempt was then made to arrange the items into series.4

The survey revealed idiosyncratic records management procedures within faculties, schools and departments; apart from printed works, departmental editions/copies of official University records such as examination results and personnel files, and records of a 'housekeeping' nature, relatively few of the documents are adequately authenticated to serve as authoritative sources of information; some records appear not to have been the property of the custodial department e.g. undergraduate students' reports. Archivally valuable documents include certain pieces of correspondence with officers of the University administration dated prior to 1969, the year when the University began a program to reform its records management procedures.

A selection of the results of the survey is reproduced on pages 8 and 9. In this listing, the descriptions are at the series level, and are much abbreviated due to the limitations imposed by the computer software available to the Archives. It should be noted that archivally valuable records created by faculties, such as minutes of meetings, are in the custody of the Registrar who transfers them to the Archives when they are no longer in current use.

None of the records are on archival quality paper5 and thus conservation treatment is essential if the document is to be available to users in 2085 A.D. To illustrate the costs of conservation, I quote figures from a report on a project to conserve the minutes of the University Senate: 2 volumes (1000 pages) covering the years 1851-1854 and 1884-1888 cost approximately $3000.

I have spoken often to people who are reluctant to accept that most 20th century paper has a potential life of the order of 50 years; they cite documents which have endured for hundreds of years. Nevertheless, methods and materials have changed since those documents were created. A speaker at a symposium, sponsored by the American Chemical Society in 1976, quoted directions for paper-making, written in 1025 A.D., passed on to Europeans and resulting in a long-life paper, viz.:

"According to ibn Badis, the flax is soaked in quicklime, rubbed with the hands and spread out in the sun to dry. It is then returned to fresh quicklime. This is repeated a number of times. Then it is washed free in the quicklime many times, pounded in a mortar, washed, and introduced into molds of
### List of Series of Departmental Records in Archives

The records from 14 departments/schools/faculties (out of a total of 36) were surveyed at the item level, as described in the text. A selection of the results is shown; Biological Sciences is incomplete. The degree of authentication of documents within series is variable. Abbreviations have been necessary as the computer database available to Archives was designed for Central Records.

<table>
<thead>
<tr>
<th>Dept./School/Faculty</th>
<th>Sub-group (function)</th>
<th>Series Title (abbreviated)</th>
<th>Date Range</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRICULTURE FAC:G29/1</td>
<td>RESEARCH</td>
<td>SOIL WATER(OTHER)/ASHBY</td>
<td>1938-1948</td>
<td>0.6 CM</td>
</tr>
<tr>
<td>AGRICULTURE FAC:G29/2</td>
<td>TEACHING</td>
<td>ADMINISTRATION</td>
<td>1918-1947</td>
<td>3 CM</td>
</tr>
<tr>
<td>AGRICULTURE FAC:G29/4</td>
<td>TEACHING</td>
<td>ORGANIZATIONS NON-UNI</td>
<td>1911-1947</td>
<td>3 CM</td>
</tr>
<tr>
<td>AGRICULTURE FAC:G29/5</td>
<td>ADMINISTRATION</td>
<td>MICROBIOLOGY</td>
<td>1947-1968</td>
<td>1 CM</td>
</tr>
<tr>
<td>AGRICULTURE FAC:G29/6</td>
<td>ADMINISTRATION</td>
<td>PERSONNEL</td>
<td>1912-1983</td>
<td>17 CM</td>
</tr>
<tr>
<td>AGRICULTURE FAC:G29/7</td>
<td>ADMINISTRATION</td>
<td>PUBLIC RELATIONS</td>
<td>1910-1981</td>
<td>123 PHOTO+</td>
</tr>
<tr>
<td>AGRICULTURE FAC:G29/8</td>
<td>ADMINISTRATION</td>
<td>MISCELLANEOUS</td>
<td>1914-1961</td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE FAC:G29/9</td>
<td>ORGANIZATIONS NON-UNI</td>
<td>ADVIS COUNCIL SCI-IND/ETC</td>
<td>1917-1925</td>
<td>1.4 CM</td>
</tr>
<tr>
<td>ANATOMY DEPT: G63/01</td>
<td>RESEARCH</td>
<td>ACQUISITIONS</td>
<td>1918-1950</td>
<td>4 CM</td>
</tr>
<tr>
<td>ANATOMY DEPT: G63/02</td>
<td>TEACHING</td>
<td>EXAMS (DIP PSYCH/OTHER)</td>
<td>1926-9/1957-62</td>
<td>2CM</td>
</tr>
<tr>
<td>ANATOMY DEPT: G63/03</td>
<td>TEACHING</td>
<td>WILSON/ANDERSON C/POITS T/</td>
<td>1911-1920</td>
<td>18CM V10</td>
</tr>
<tr>
<td>ANATOMY DEPT: G63/04</td>
<td>TEACHING</td>
<td>EXAMS UNDERGRAD/POSTGRAD</td>
<td>1865-1951</td>
<td>6CM</td>
</tr>
<tr>
<td>ANATOMY DEPT: G63/05</td>
<td>TEACHING</td>
<td>EXAMINATIONS</td>
<td>1890-1914</td>
<td>2 VOL</td>
</tr>
<tr>
<td>ANATOMY DEPT: G63/06</td>
<td>ADMINISTRATION</td>
<td>MISCELLANEOUS</td>
<td>1890-4/1926-8/1953</td>
<td></td>
</tr>
<tr>
<td>ANATOMY DEPT: G63/07</td>
<td>ADMINISTRATION</td>
<td>PUBLIC RELATIONS-MUSEUM</td>
<td>1892-1918</td>
<td>11 VOL</td>
</tr>
<tr>
<td>BIOCHEMISTRY:G27</td>
<td>ADMINISTRATION</td>
<td>CORRESPONDENCE</td>
<td>1954-1962</td>
<td>6 CM</td>
</tr>
<tr>
<td>BIOCHEMISTRY:G27</td>
<td>ADMINISTRATION</td>
<td>FINANCES/INCL MAINTENANCE</td>
<td>1944-1975</td>
<td>15 CM</td>
</tr>
<tr>
<td>BIOCHEMISTRY:G27</td>
<td>ORGANIZATIONS NON-UNI</td>
<td>AUS ACAD SCI-BIOCHEM CTEE</td>
<td>1953-1963</td>
<td>6 CM</td>
</tr>
<tr>
<td>BIOCHEMISTRY:G27</td>
<td>ORGANIZATIONS NON-UNI</td>
<td>NSW STATE CANCER COUNCIL</td>
<td>1956-1969</td>
<td>20 CM</td>
</tr>
<tr>
<td>BIOCHEMISTRY:G27</td>
<td>ORGANIZATIONS NON-UNI</td>
<td>UNESCO-AUS NAT ADVIS CTEE</td>
<td>1954-1960</td>
<td>7 CM</td>
</tr>
<tr>
<td>BIOCHEMISTRY:G27</td>
<td>ORGANIZATIONS UNI</td>
<td>PGRAD MEDICAL FOUNDATION</td>
<td>1965-1966</td>
<td>5 CM</td>
</tr>
<tr>
<td>BIOCHEMISTRY:G27</td>
<td>ORGANIZATIONS UNI</td>
<td>PROF BOARD/CHAIR/J STILL</td>
<td>1958-1966</td>
<td>0.5 CM</td>
</tr>
<tr>
<td>BIOCHEMISTRY:G27</td>
<td>RESEARCH</td>
<td>REPORTS/CORRESPOND KCVD</td>
<td>1947-1976</td>
<td>2 CM</td>
</tr>
<tr>
<td>BIOCHEMISTRY:G27</td>
<td>TEACHING</td>
<td>SYLLABI/CLASS NOTES/OTHER</td>
<td>1953-1970</td>
<td>13 CM</td>
</tr>
<tr>
<td>BIOLOGICAL SCI:650/01</td>
<td>RESEARCH</td>
<td>HASWELL (ASCRIBED TO)</td>
<td>1882-1925</td>
<td>126 VOL</td>
</tr>
<tr>
<td>Subject</td>
<td>Volume</td>
<td>Notes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>---------</td>
<td>---------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biological</td>
<td>SC1:G50/02</td>
<td>Research</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SC1:G50/03</td>
<td>Research</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SC1:G50/04</td>
<td>Research</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SC1:G50/05</td>
<td>Research</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SC1:G50/06</td>
<td>Research</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SC1:G50/08</td>
<td>Teaching</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SC1:G50/09</td>
<td>Teaching</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SC1:G50/10</td>
<td>Teaching</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SC1:G50/11</td>
<td>Teaching</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SC1:G50/12</td>
<td>Teaching</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SC1:G50/13</td>
<td>Teaching</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SC1:G50/14</td>
<td>Administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SC1:G50/15</td>
<td>Administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SC1:G50/16</td>
<td>Administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SC1:G50/17</td>
<td>Administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemistry</td>
<td>G9/01</td>
<td>Research</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G9/02</td>
<td>Teaching</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G9/03</td>
<td>Teaching</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G9/04</td>
<td>Administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G9/05</td>
<td>Administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G9/06</td>
<td>Administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G9/07</td>
<td>Administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G9/08</td>
<td>Administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G9/09</td>
<td>Organizations Non-UNI</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G9/10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antartic</td>
<td></td>
<td>Expedition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marine</td>
<td></td>
<td>Biology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crocker, Prof R.L.</td>
<td></td>
<td>Manuscripts/Related</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dakin/Morris/Wharton/lee</td>
<td></td>
<td>Copies of Reports</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miscellaneous</td>
<td></td>
<td>Lecture Notes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haswell (Ascribed to)</td>
<td></td>
<td>Printed Notes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Botany (Uni/High School)</td>
<td></td>
<td>Exam Papers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lawson, Proe A.A.</td>
<td></td>
<td>Lecture Notes/Etc</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lawson/Harrison</td>
<td></td>
<td>Lecture Notes (MSS)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Examinations</td>
<td></td>
<td>ZOLOGY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zoology Dept</td>
<td></td>
<td>Copy of Handbook</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miscellaneous</td>
<td></td>
<td>Correspondence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personnel</td>
<td></td>
<td>Biographic Records</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Establishment</td>
<td></td>
<td>Correspondence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment/Personnel</td>
<td></td>
<td>Photographs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Examinations</td>
<td></td>
<td>PAPERS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Examinations</td>
<td></td>
<td>RESULTS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buildings</td>
<td></td>
<td>Photographs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personnel</td>
<td></td>
<td>CORRESPONDENCE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teaching</td>
<td></td>
<td>CORRESPONDENCE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miscellaneous</td>
<td></td>
<td>Records</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Relations</td>
<td></td>
<td>Photographs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government (NSW)</td>
<td></td>
<td>Copy of Report</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miscellaneous</td>
<td></td>
<td>RECORDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1912-1926 (4 VOL+14F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1890/1934-1958 (4 CM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C.1950-C.1960 (8 CM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1947 (7 FOLIO)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1886-1952 (8 ART+3 CM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1904-1916 (8 CM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1968-1975 (11 VOL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1915-1927 (1 VGL+3 CM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1880/1905-1911 (8 CM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1912/UNDATED</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1907-1931 (1 VOL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1959-1964 (3 CM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1949-1978 (4 CM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1928-C.1935 (7 ART)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1960-1964 (2 CM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1960-1965</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1971-1936 (7 VGL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1914-1954 (1 VOL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C.1880-1901 (18 ART)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1934-1947 (2 CM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1938-1947 (0.5 CM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1885-1928 (1 VOL+13 F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1886-1904 (C.1946)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1913 (11 VOL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1886 (3 VOL)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
the proper measure. Care is exerted so that the thickness of the paper is regular. It is then left to dry. It is treated with rice water or bran water. Starch is also used for this purpose. It also helps to glaze the surface of the paper.  

In England and Europe in the 17th century, paper was commonly made from linen and cotton rags [cotton lint consists of 98 per cent cellulose on a dry weight basis] often in limestone country, a source of alkaline water; and analyses of 17th century paper indicate an alkaline pH.  

In recent times, mechanical wood pulp [groundwood], often made from wood chips, replaces flax and cotton. Size, made from rosin [an acidic exudate from wood], and alum [also pH acidic] replace rice water or other source of starch [pH neutral]. Iron milling machinery replaces mortar and pestle and introduces into the paper: iron, which has been demonstrated to enhance the oxidation of cellulose and the degradation of paper. The degradative effects on cellulose due to mechanical stress are illustrated in the following quotation:

"In the milling processes, mechanical energy is continuously transferred to the cellulose polymeric system having either two consequences: energy is absorbed by, or dissipated from, the system. If energy is dissipated efficiently, there will not be any stress-induced chemical changes. However, if the energy is absorbed efficiently by the system, mechanically activated reactions can result in - loss in fibre length - or in the extreme case, the disintegration of the fibre."

EVALUATING CONSERVATION TECHNOLOGY

An alternative approach to coping with the expense of conservation may be taken if only the information content of the records is deemed worthy of retention. This alternative is termed transfer technology.

Firstly, I will discuss the most recently developed technology - the optical digital data disc. An evaluation by Australian Archives concludes,

"It is readily recognizable that the storage of source documents on magnetic disk or tape is not cost effective now and will not be in the future."

The report criticizes the assertion, "that, since the electronic image is in digital format, it can be copied to a new disk if it begins to deteriorate."

by arguing that this claim "is based on the premise that deterioration occurs at a slow rate and is easy to detect early".

Moreover, the life-time of the materials in the disk is limited.

"Vendors currently claim lifetimes of 5 to 30 years."

In contrast, there are established specifications and guidelines for the use of microfilm to preserve information. Further the New South Wales Evidence (Reproductions) Act, 1967, No. 44 as amended 1981, provides for the use of microfilm as evidence in a court of law if the film incorporates an appropriately worded affidavit. The evidential value of computer-based information is a matter for debate. It is hoped that the University Archives will obtain facilities for the storage of microfilm within the next five years. Then, priority would have to be given to microfilming the minutes of the various bodies of the University administration, e.g. Senate, Academic Board, Faculties.

A less expensive technique for transferring information is xerography, using acid-free paper. [The xerographic process, one form of electrophotography, is used in the well-known Xerox Corporation's copy machine.] This procedure was advocated by speakers at the Conference of the United States National Archives and Records Administration on Preservation Photocopying in Libraries and Archives in December 1986. Nevertheless, the results of experiments undertaken by the United States Government Printing Office's Paper and Physical Testing Division should be considered before embarking on a large-scale information transfer project using xerography. The Division attempted to answer the question,

"Will xerographically-produced publications last as long as conventionally-printed products?"

Their results demonstrated that this question could not be answered by experimental simulations using the 'accelerated aging of paper' technique.

Conditions for admitting photocopies as evidence in a law suit are established in a case history documenting the interpretation of the Evidence Act, 1996, No. 11 (N.S.W.).

There can be no doubt that the process of photocopying exposes paper to stresses which reduce its life expectancy. Whereas personnel of the Australian Archives Conservation Section question the value of xerography as a conservation technique, I discovered a widespread belief that the photocopying procedure has no significant effect on the copy paper because the time involved is so brief. The time for chemical bonds to break can be much shorter. No doubt, it is easier to appreciate the destabilizing effects of photocopying on paper if one is familiar with the forces determining the structure and
stability of cellulose at a physicochemical level.

For practical purposes, it seems reasonable to assume that xerographic copies on acid-free paper will have a significantly longer life than copies on Xerox paper, provided one takes into account the observation:

"When xerographic documents are stored for long periods, toner flows and sticks to the adjacent sheet of paper in a stack. The amount of sticking depends on the type of toner, the pressure between adjacent sheets, the temperature, and the time." 19

A survey of patents 20 taken out by the Xerox Corporation, and literature on developments in toner/ink technology suggests that there is no documentation in the development of archival quality products. Xerox Corporation has failed to respond to the Archives' request for documentation on the subject.

The current cost of one A4 ream of Archive Text is $425, approximately 8 times the price of Xerox Corporation paper.

ARCHIVAL VALUE OF RECORDS

In deciding how to spend the budget allocated for the conservation of the University's archival records, it is necessary to determine priorities - based on the relative value of the various records, firstly as documentary evidence and secondarily, for the information therein.

Evidence

In general, records have high archival value if they constitute documentary evidence of policy and practice at the University. However, many records have evidential value for a limited number of years only. These include financial records, and documents with legal value, such as research contracts. Legal advice obtained by the University in 1983 opined that the University should retain data, created in fulfilling a research contract, for 20 years in case of legal action. The appropriate store for such records is a semicurrent records repository, not an Archives. 21

Departments do create many records of an official nature requiring retention in the Archives; valuable of their evidential value, to the University; examination results for example. However, it is the official copy of these records, filed with the University Administration, which is transferred to the Archives.

Although departments are not required by Bylaw or Regulation to retain the minutes of their departmental Board meetings, the original [signed] set of documents does have evidential value. To date, no minutes of departmental/school Board meetings have been deposited in the Archives. It is the practice of the Archives to accession minutes of University bodies as soon as they are no longer required for current use; the original sets of minutes of Academic Board and Senate meetings for 1984 were transferred to Archives in 1987.

Information

The University lacks the resources to retain in perpetuity all the documents which University personnel accumulate in their endeavours to further the advance of knowledge. In fact, many such documents are comprehensible only to the creators. Further, it can be argued that the academics own the intellectual property in their lecture notes and research records,22 and would not be pleased if a department transferred their records to Archives, thus making them official University documents. Such series of records listed on pages 8 and 9 were deposited in the Archives after the death of the academic.

Printed class notes and other materials copyrighted by the department are far from unique; they should be deposited in a University collection of printed works.

Authenticity

"Identifying and documenting the provenance of records is an essential part in establishing their authenticity as evidence." 23

Provenance is defined as the agency (office or person) that created or accumulated and used the records in the course of its affairs; often, this may involve a chain of custodians.

The Archives' survey showed that the provenance of many records received from departments is inadequately documented. Many records are copies - whether they are faithful reproductions of the original documents is open to question. Notable exceptions have been undergraduate student reports and theses. However, these have been presumed the property of the students as none was accompanied by evidence that the student had transferred ownership to the University; it is not the University Archives' practice to retain such records.

It is only in relatively recent years that the problems of authentication and the selective retention of records have been addressed in the public service in Australia. In 1976, the New South Wales Government established a Records Management Office

"to advise the Public Service Board and departments on ways of achieving sound records retention and disposal policies."24

The following quote from a recent report of a Science Faculty ad hoc committee is pertinent in this context:

"The Faculty is badly in need of more staff with specialized management and administrative skills because it is unrealistic to expect the academic staff to provide these."
The Archives' research project on the subject of departmental records/archives has lead to (i) the conclusion that the University of Sydney would benefit considerably if more resources were devoted to its records management program, and (ii) a recommendation that the University consider the question: Should significant resources be devoted to the preservation of documents of dubious authenticity in the University Archives?

Acknowledgements

I am grateful for the cooperation of Ms M. McGivern and Mr I. Batterham (conservators with Australian Archives), Ms A. Gordon and Mrs I. Reynolds (Registrar's Admin. Data Processing), Associate Professor A. Hunt and Mr K. Schwieters (Faculty of Science Dean's Office), Ms M. Taylor for her typing and proof-reading skills, and Mr K. Smith for his part in dialogues which led to the development of the themes in this article.

Footnotes/References


2. An item has been defined according to M. Cook, The Management of Information from Archives (Gower, England 1986) p.89, viz. "the lowest physically convenient unit of archival material: a folder, volume, bundle or box".

3. Following Cook's alternate definition viz. "sub-groups may be formed which correspond to ..... functional groupings in the material itself". Cook, Ibid. p.87.

4. This attempt had limited success; in some cases, the records of a department could best be described as a random collection of documents which had accumulated over the years. In defining a series, Cook (Ibid. p.88) emphasises its unitary character: "an organized assembly of archives or records which belong together in a system".


6. Also referred to as 'acid-free' or 'permanent paper'. The paper 'Archive Text' used by the University for the original copies of minutes of Academic Board, Faculties and Senate meets the American National Standards for permanent paper based on the source of the paper pulp, alkaline reserve and tests of mechanical strength. "Permanence is the degree to which paper resists chemical action which may result from impurities in the paper itself or agents from the surrounding air," The manufacturers claim that Archive Text has a life of 500 years on the basis of standard tests, viz. folding endurance and tear resistance of samples of paper subjected to artificial aging (72 hours at 100 degrees centigrade is equated to 25 years of normal storage). A manufacturer's leaflet states, "After the equivalent of 200 years, Archive Text retained more than half its original strength." "Normal, non-permanent book papers .... lose more than 50 per cent of [their] strength within 10 years."

The alkaline reserve, specified for permanent paper, acts as a buffer against acid gases of the atmosphere, such as hydrogen chloride, which greatly enhance the rate of breakdown of cellulose, the key material in the matrix of paper. Cellulose is composed of long chains of glucose sugar residues; the physicochemical properties of these chains cause them to aggregate into fibres, mostly in a crystalline conformation; non-crystalline [amorphous] regions absorb moisture from the atmosphere and give paper its plasticity. Exposure of paper to various constituents in the environment results in the scission of these chains especially due to chemical reactions known as oxidation and hydrolysis. As oxidation and hydrolysis continue, the amorphous regions of the chains are destroyed, thus, the fibres can no longer bind water molecules - they become brittle and the cellulose matrix disintegrates. In an environment without acid gases, relatively dry and low in oxidizing agents, the rate of breakdown of cellulose is extremely low. However, the New South Wales State Pollution Control Commission's monitoring stations within a few kilometre radius of the University detected levels of acid gases well above the World Health Organization goal during some months. A spokesman for the Commission said that other significant gaseous pollutants in the same localities were ozone and oxides of nitrogen, while sulphur dioxide was no longer a major pollutant as it had been in the 1970s.

Like oxygen and ozone, the oxides of nitrogen are oxidizing agents. In a humid environment, oxides of nitrogen, like sulphur dioxide, will form acids and so contribute to the breakdown of cellulose by hydrolysis. Sydney is often humid; the University Archives lacks facilities to control humidity.


Footnotes/References (Cont.)

6b. (Cont.)


6d. A. Blazej and M. Kosik, "Degradation Reactions of Cellulose and Lignocellu-


6e. J. S. Arney and A. J. Jacobs, "Accelerated Aging of Paper - the relative impor-


6f. State Pollution Control Commission, "New South Wales Air Quality Monitoring Re-


7. J. C. Williams, op. cit. p.38.

8. R. L. Whistler and C. L. Smart, "Polysacchar-


10. Refer to J. C. Williams, footnote 6c.

11. D. N. - S. Hoh, "Mechanochemistry of Cellu-

losic Materials" in "Cellulose and its Derivatives", op. cit. p.76.


15. Conference papers are published in Restaur-


17. The following extracts, taken from Williams, E. M., "The Physics and Technology of Xero-

graphic Processes", John Wiley, New York, Brisbane (1984) pp.8, 11, 211, are indicative of the violence of the photocopying process. To transfer the image, the paper is subjected to corona discharges.

"Charge can remain trapped in the matrix of cellulose fibres for many seconds."

It has been claimed (ref. 17a) that exposure to oxygen and ozone generated in a corona discharge improves the bonding of cellulose fibres, an effect attributed to the surface oxidation of cellulose generating cross-

linkages between sugar residues in neigh-

bouring chains of cellulose. Cross-linking has been reported to characterize aging [degenerating] paper (ref. 17b); thus, this type of "improved bonding" may be short-term and actually reflect a signifi-

cant deterioration in properties of paper governing permanence.

Pulsing the toner [ink powder: often a blend of styrene and acrylic co-polymers with carbon black] into the paper, involves pressure at elevated temperature;

"paper contains about 35 per cent air-

space which must be squeezed out to achieve intimate contact between paper, toner and steel rollers."

Illustrations (scanning electron micro-

graphs) showing toner particles embedded in the matrix of cellulose fibres are in-

cluded in the report of a paper given at a conference on electrophotography in 1981 (ref. 17c).

17a. M. K. Wilson & E. J. Parks, "An Analy-

sis of Aging of Paper - Possible re-

actions and their effects on measur-


17b. E. L. Graminski, "Stress-Strain Be-


17c. R. B. Prime, "Relationships between Toner Properties, Fuser Parameters, and Fixing of Electrophotographic Images", Photographic Science and Engi-


18. Personal communications.


21. The need for a repository for semi-current records was discussed in M. R. Dwyer, Record, (1987) No. 2, pp.3-5.


- Margaret R. Dwyer
SUMMARY LIST OF RECORDS ACCESSIONED
IN THE UNIVERSITY ARCHIVES, JULY TO
DECEMBER, 1987

(Note: Restricted access conditions may
apply to some records on this list.)

The list is compiled in accession number
order, together with transferor, where
known. It does not include publications
received, unless such material is part
of a record group.

882 Boxall J. Supplement to the 1935
Medical Year Book.
883 Thursday Lunch Club. Records.
1978-1987
884 Engineering Club. (Mr B. Campbell).
Additional Records of the Engineer-
ing Club. 1953-1957
1976-1982
887 Pollak, John Kurt (Dr). Personal
Archives. c.1961-1978
888 Registrar, Office of. (Mr A. Mason).
Records relating to disciplinary
hearings. 1981-1984
889 Le Fevre, Raymond James Wood. (Dr
Catherine G. Le Fevre). Personal
Archives of Raymond James Wood Le
Fevre. 1926-1986
890 Brewer, Ilma Mary (Dr). Additional
Personal Archives. 1966-1987
891 Walker, Alice Ruth. (Mrs Maria
Linkenbagh). Personal Archives of
Alice Ruth Walker. 1928-1986
892 Association for the Journal of
Religious History. (Mr A. E.
Cahill). Additional records of the
Association. 1977
893 History of the University Project.
D.60 Cassette Tapes. 1985-1987
894 McKenzie, Bertha (Miss). Notes re
shields, crests and initials on
buildings within the University
of Sydney. 1987

14.