5. Problems and solutions

5.1 One problem was paper's susceptibility to damage

Treated well, paper is long-lasting. But exposure to harmful elements will cause permanent damage.

Paper can be damaged or completely destroyed by fire

Warning of forest fires, aromatic with smell of burning

Damaged in pillar box fire
With Post Office label P.125H
"... packet has been accidentally damaged in the post by fire" plus postmasters' initials. Burnt bottom right

Disinfected mail treated by exposure to heat

White central part of entire was held by tongs, discolouration either side is effect of scorching. Before bacteriology was understood there was a widespread belief that various materials, including paper, could carry infectious diseases. When major plagues reached Europe Mediterranean ports tried scorching mail from suspect vessels to kill the germs. (It didn't work).

20th May 1837
Entire from Naples to Florence with red oval dispatch
Reverse has NETTO FUORI E / SPORCA DENTRO applied in Rome, confirming it has been disinfected and Soprintendza Gle-di Sanita a Firenze applied in Florence
Opened at Rome, toasted against cholera and resealed.

5.1 One problem was paper's susceptibility to damage

Web of paper has been thinned before printing, resulting in missing print on thin area of paper.

Eaten by wildlife
Paper is a good food source for some creatures. Wall letter boxes were known to be attractive to snails as a shelter for winter hibernation. If not cleared out in the Spring they could feed off letters in the box.

Top right: Post Office label "Found opened or damaged and officially secured" (largely covering the damage). Left: Post Office label P125H indicating that letter has been eaten by snails

Carried by P & O ship SS Kalyan which was damaged when water entered No.2 hatch during a gale.

Cairo 10 April 1921 to Paris
Two line cachet ACCIDENT EN MER \ CORRESPONDANCE INONDEE
The stamp has been washed off, tax mark **T** applied for non-payment, then crossed out.

Water damage

Singapore to UK 27 November 1937
Carried by Imperial Airways
Cachet: DAMAGED BY / SEA WATER / IN AIRPLANE / ACCIDENT applied in London

5.2 Another problem was periodic shortages
There were different ways of dealing with paper shortages. One was to reduce the amount of paper used.

South Africa's 1941 'War Effort' set was reissued in 1942 with the same designs but reduced to half size to save paper and ink.
Issued in bilingual pairs or strips of three
Registered Durban to Washington
06 May 1944.
Opened and resealed by censor

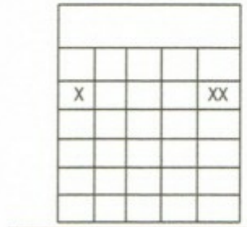
Ladybird started publishing small-sized children's books in the early days of World War II. Each book consisted of 56 pages printed on a single piece of paper 40 inches x 30 inches. This unusual format was a direct result of wartime paper shortages.

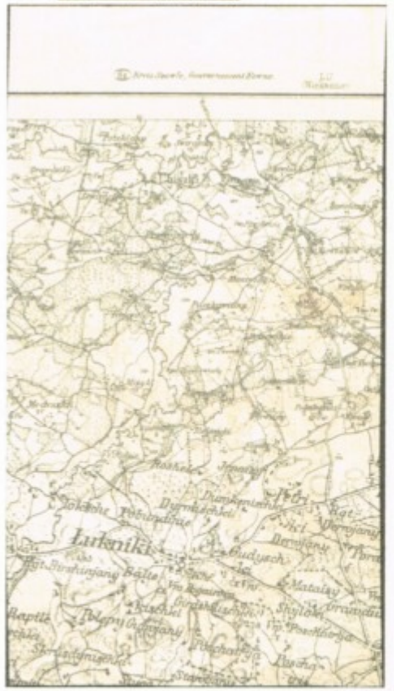
From the outbreak of World War II the British government introduced paper controls. Raw materials were rationed: by 1942 paper mills were only getting around 25% of the 1939 levels of raw materials to make pulp.
Economies were introduced by the British Post Office who amended their greetings telegram service to save paper and ink. In 1940 the size of the telegram was reduced, and in June 1942 an economy form was issued, smaller again in size, printed in black and brown only and on a much inferior paper. The Greetings Telegram service was suspended 30 April 1943, not reintroduced until 20 Nov 1950.

5.2 Another problem was periodic shortages
Another way of dealing with shortages was to use alternative sources of paper.

Latvia was badly affected by World War I. Paper shortages when it declared independence in 1918 forced its post office to use whatever paper was available. The first issue was printed on the back of German ordnance maps of Western Russia. 63 different maps were used, each identified by the marginal inscription, in this case L17 Wieksznie (that being the largest town on the map).

The issue was printed in litho using two printing plates. This block comes from plate two and shows two constant flaws:
Broken head of 'T' in LATVIA = X
White area in bushes at right= XX



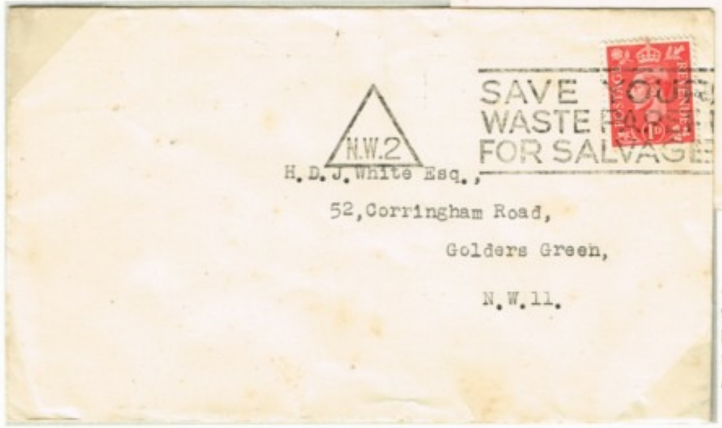


In the latter stages of World War I paper shortages in France resulted in the definitive series being printed on a low quality paper known as GC (Grand Consommation) from its marginal inscription

5.3 A solution to shortages was recycling
In wartime a previously ephemeral material became important. Through slogans the public were reminded to save their waste paper and other materials.

"SAVE WASTE PAPER METALS BONES RAGS"

In the United Kingdom the government issued an order on 11 September 1939 that waste paper merchants were to be granted an increase in payment of £1 a ton



Slogan introduced July 1940.
2½d internal letter rate up to 2 oz

"SAVE YOUR WASTE PAPER FOR SALVAGE"
With triangular postmark of London N.W.2 Sub-District Head Office

"SAVE METALS RAGS AND WASTE PAPER"

Ottawa to Missouri 29 November 1943
Opened, resealed and signed by censor "Opened to verify contents in accordance with requirements of Foreign Exchange Control Board and officially sealed by..." Tied with numbered censor cachet

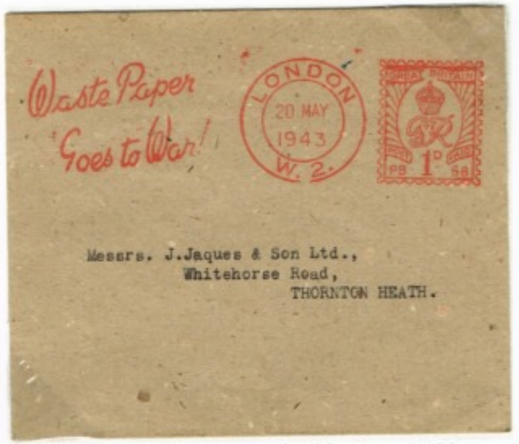
5.3 A solution to shortages was recycling
Various countries used slogans as a cheap way to spread the message about saving scarce commodities.

Pitney Bowes meter 104184
02 June 1945

1945 overprint "Collect waste paper"

White paper was wanted as it needed less bleaching when recycled
Turned cover, reverse used in 1943
Local to Rotterdam 14 January 1944

Envelopes can be reused



"Waste Paper Goes to War!" was the title of an exhibition held at Selfridges department store in London.
Recycling in the UK reached its peak in 1942 when 60% of all paper was recycled.

5.3 A solution to shortages was recycling
Envelopes could be reused. During World War II government departments and the Post Office introduced War Economy labels and reusable envelopes

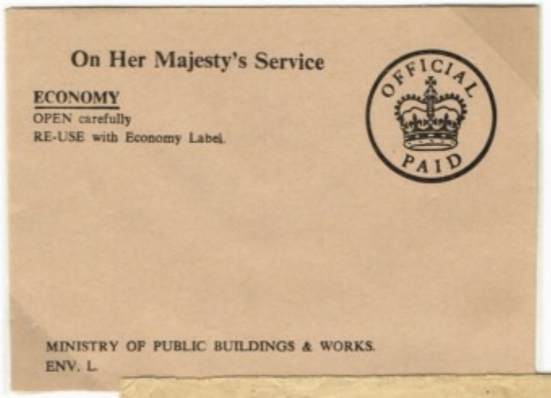
P.C. 110.

POSTAL CENSORSHIP.

This letter is returned to sender because no envelope which has already been used may be adapted for re-use for the despatch of a postal packet destined for the country to which this letter is addressed.

Censorship labels: PC23 Returned to sender by the censor P.C.90 Opened by Examiner 6552 P.C.110 Postal censorship

But care was needed when reusing envelopes
Illegal use of re-use address label
Originally addressed to Limerick, Eire, posted 23 August 1941, the cover has been opened by censor examiner 6552 and returned to sender. The enclosed memorandum explains that re-use address labels may not be used for mail to the Republic of Ireland. The rule was intended to guard against possible hidden messages written on the back of the label



Registered Nassau via Miami to South Australia 04 Dec 1944

5.3 A solution to shortages was recycling
It is not just in times of emergency that paper is recycled.

1962 slogan postmark: "Selling old paper is a source of revenue"

"Earth Day" stamp printed on recycled paper

Postal stationery promoting recycling

"Green mail"

1933 postal stationery urging recycling of paper and other products

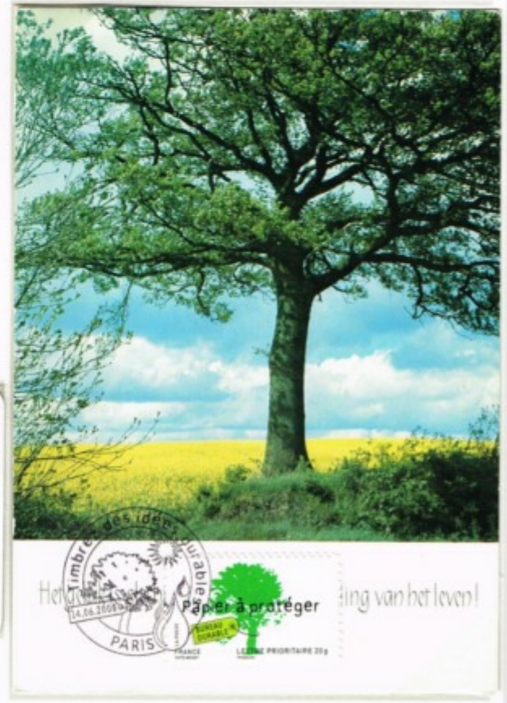
5.3 A solution to shortages was recycling

Postal services promote recycling, They actively use recycled paper, or in some cases non-paper materials.

Postal stationery envelope produced by the Portuguese Post Office using recycled paper. Text on reverse, next to recycling symbols, says "Mail package produced with green paper and cardboard, recycled, and printed with environmentally friendly paints.

Recycling logo, an internationally recognized symbol based on a möbius strip, used to identify a product or material which is suitable for recycling, in this case corrugated cardboard

Booklet of 12 self-adhesive stamps themed "For the planet".
The booklet states:
"This book is recyclable. Coverage is a kraft paper PEFC. Think about selective sorting"



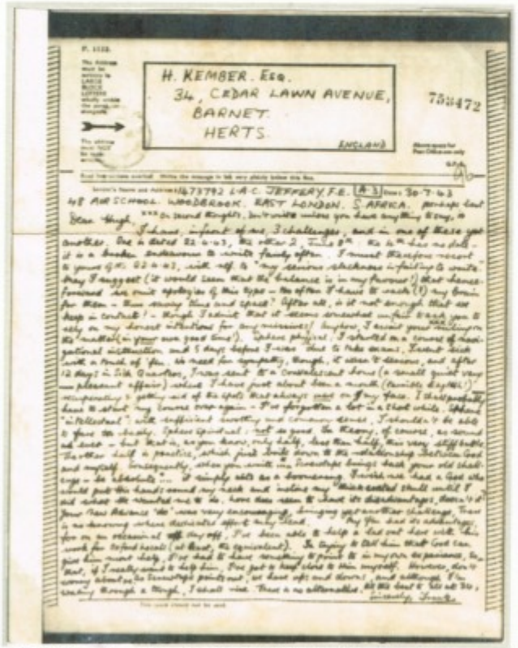
5.4 But a long-term solution is the search for a replacement technology

Recycling can only ever provide a small percentage of the paper needed for written communication. Photographic systems offered an alternative. Microfilm (rolls) and microfiche (flat sheets) started being used from the 1920s, particularly to record, store and make widely available paper-based archives such as census records and newspapers.

University Microfilms was founded in 1938, and initially worked on microfilming items indexed in the Short Title Catalogue (books published before 1801) held at the British Library

Microfilm reader

Microfilm camera



Microfilm had a role in World War II when the Government introduced the Airgraph system (the similar American system was known as V-mail) as a means of reducing the weight and bulk of mail carried between forces serving abroad and the UK. The message was written on an airgraph form, photographed and then sent as negatives on rolls of microfilm. At their destination the negatives were printed on lightweight photographic paper and delivered as airgraph letters

Airgraph letter dated 30.7.43
East London, South Africa to Barnet, Herts

Microfilm chip produced by Kodak, carried by carrier pigeon 18 June 1973

5.4 But a long-term solution is the search for a replacement technology

By the mid-twentieth century microform was being hailed as the ultimate storage system, but within 30 years it was being replaced by CD-ROM (Compact Disc, Read-Only Memory) technology. CDs hold more information in a much smaller space, and can store audio and visual files as well as text and pictures.

Early UNIVAC computers ran on punched card or punched tape

An intermediate step in digital communication was the Flexowriter: an electric typewriter capable of being driven by direct attachment to a computer and by use of paper tape.

Well before the invention of the CD the first computers had been built. In the early days paper was needed for their operation by punched card or punched tape

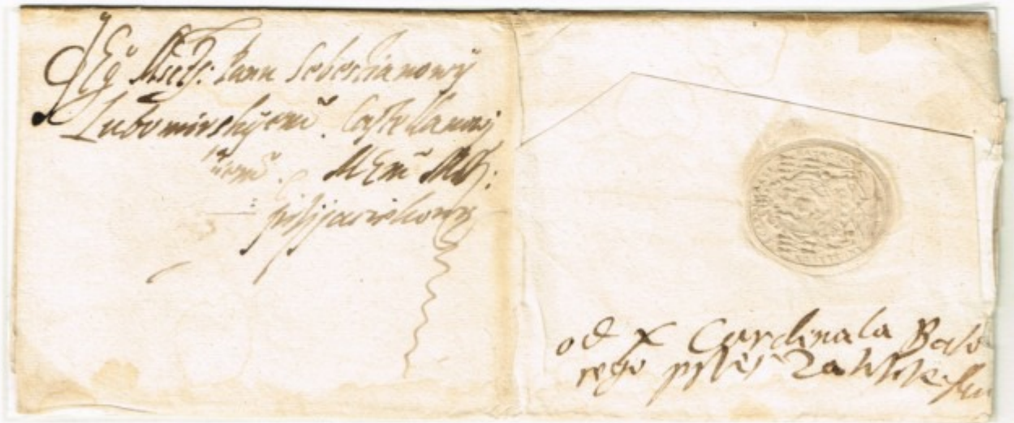
Wiggins Teape provided punched card to IBM, made to an extremely detailed specification

Today we live in a digital world. Materials are stored electronically on laptop or tablet. Paper seems to be redundant as a writing material

Digital version of early document using 'page turn' technology

5.4 But a long-term solution is the search for a replacement technology

We have come a long way from the start of our story; as the miniature sheet says: "From tablets to tablet"



Via early paper, illustrated here with a 16th century letter
Letter dated 24 April [no year]. Addressed to Count Sebastian Lubomirski, 1539 - 1613.
Blind seal and inscription for Cardinal Andreas Bathory, 1562 - 1599. Latest date of letter therefore 1599

However, paper has not yet quite lost its function, as exemplified by this display - which is mounted on paper