Stamps That Glow

Luminescent Tagging on Stamps of Other Nations

The Experimental Years

Presentation By:
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Presented at:
Central Florida Stamp Club - 20 November 2025

Stamps That Glow
Previous Presentations

Luminescent Tagging on United States Stamps

Part I – The Experimental Years

Presented at:
Central Florida Stamp Club - 16 November 2017
FLOREX – 2 December 2018
APS Stamp Chat – 9 September 2020

Part II – Evolution of the Technology

Presented at:
Central Florida Stamp Club - 16 November 2017
FLOREX – 2 December 2018
APS Stamp Chat – 18 September 2020

Part III – Hidden Art

Presented at:
Central Florida Stamp Club - 7 November 2019
FLOREX – 15 December 2019
APS Stamp Chat – 25 September 2020

Most Common Question

What about other countries? What did they do?

It's All About Sorting the Mail

Post Office Sorting Room - 1935

And Canceling Letters

Feeding the Canceling Machine - 1951

Like Most Postal Innovations It Started In Great Britain

Post Office Research and Development Center
Dollis Hill, London

First Opened in 1921as a Center for
Telecommunications Development

Most recognized for:
- Trans-Atlantic Telephone Cable – 1937
- WW II Colossus Computer – 1943
  – built at Dollis Hill, moved to Bletchley Park, used to decode German Communications

Conducted Brighton Letter Sorting Experiment Using the Transorma – 1935
- Transorma was first successful sorting machine
- Manufactured by the Dutch company Werkspoor

Established vision for the future flow of mail – 1946
- Machines automatically facing the mail pieces
- Machines “reading” each address and sorting the mail

Performed Technological Research and Experimentation – 1957
- Implementation of the modern British Post Codes
- First tagging of postage stamps

Other Nations Bought Into The Vision

1949 – The Central Postal Technical Office was established in Darmstadt. Among other logistical and financial functions, it was tasked with optimizing the postal service's efficiency and efficiency. To this end it undertook developments to improve the sorting and handling the mail.

1953 – The Post Office Department commissioned and tested a hand-made automatic mail sortation system at postal headquarters in Ottawa.

1956 – A prototype coding and sortation machine, capable of processing all of the mail then generated by the City of Ottawa, was built by Canadian manufacturers and assembled in the city's Langevin Building.

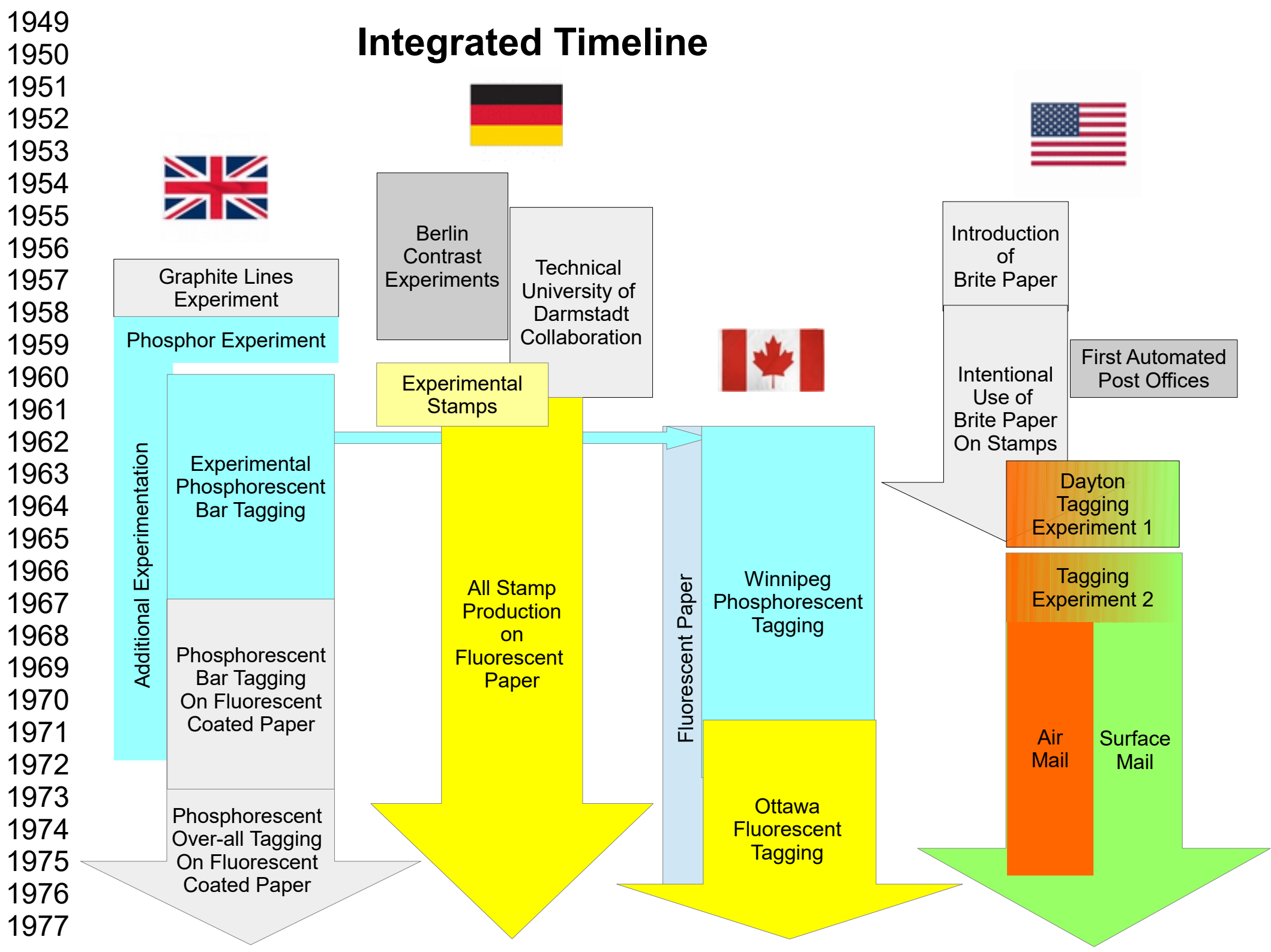
1957 – Visitors to the Universal Postal Union Congress in 1957 were impressed, but a change of government brought about turning further development over to a contractor who was unable to complete the work.

1953 – President Eisenhower's Postmaster General, Arthur Ellsworth Summerfield, Jr., made the decision to improve and automate all facets of mail processing in the United States.

1959 – The Mail-Flo system with other automated mail processing machines made the Washington, DC post office the most mechanized post office in the United States

1960 – The completely automated post office of tomorrow was opened in Providence, Rhode Island.

Integrated Timeline



Naphthadag Automatic Sorting Machine at Southampton

Picture from ebay

- Used graphite lines on the back of the stamps to detect stamp position on the envelope.
- Detectable abnormality when high voltage electromagnetic field passed through the envelope
- Operational testing at Southampton revealed problems
  - damp mail
  - interference from metal objects (ie: pens, paper clips)
- Poor operational performance led to adding phosphor to the face of the stamps

1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976

Graphite Lines

1957 Printing – Unwatermarked

1958 Printing – Watermarked St. Edward's Crown Multiple

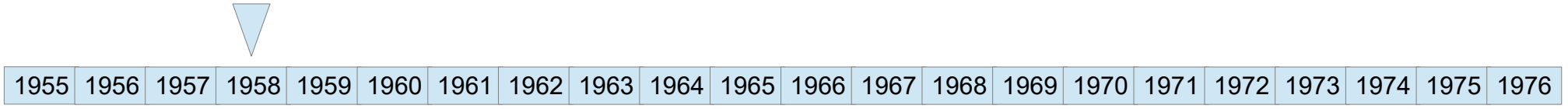
1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976

Introduction of Phosphor Tagging

According to Charles F. Forster, Senior Research Chemist at the Research and Development Center, Dollis Hill, during 1958 Geoff Copping, the engineer in charge of the Automatic Letter Facing machine experiments, asked if a phosphor substance could be used on postage stamps in place of the graphite lines then under trial.

Picture of hand painted phosphor bands of varying width and alignment.

Picture from “The Dollis Hill Find” by Edward Klempka



Introduction of Phosphor Tagging

1957 Watermarked St. Edward's Crown and E2R Multiple

- The graphite lined stamps were overprinted with phosphorescent bands.
- Created for the Phosphor-Graphite Sorting Machine Trials at Southhampton.
- Issue date 18 November 1959

1958 Watermarked St. Edward's Crown Multiple

No Tag

Tagged

All stamps photographed under long-wave UV light

1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976

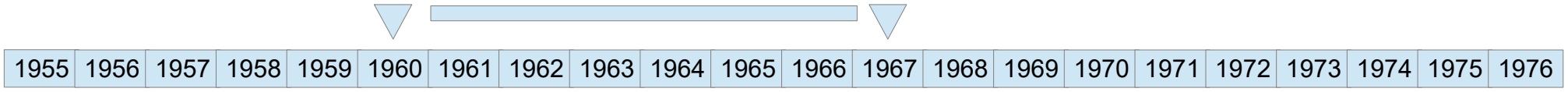
Phosphor Experiments

Success of the Phosphor-Graphite Sorting Machine Trials at Southhampton led to:

- **A full set of definitive stamps, ½d to 1s6d (Scott 353p – 360p, Gibbons 723 – 744) with phosphor bands**
  - Issued for general sale and use
  - First stamp issued on 11 June 1960 and last issued in November 1967
- **Many new questions and further experimentation at Dollis Hill**
  - Phosphor in the paper or applied to the paper?
  - Phosphor bands or phosphor all over?
  - Applied before or after printing stamp image?
  - What color phosphor?
  - What duration after glow?

    - Many variants of the 2d and 3d stamps (Scott 356p – 358p, Gibbons 726 – 729) were created and experimentally used in live mail

    - Many of the experiments are well documented in *The Dollis Hill Find* by Edward Klempka



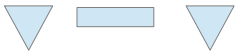
Additional Phosphor Experimentation

Starting with the 1960 Europa issue (Scott 377– 378, Gibbons 621– 622) Great Britain started experimenting with fluorescently active paper and inks

Over the next few years stamps printed on paper with various levels of brightness were overprinted with various phosphor bar configurations

- 1960 – Experiments with green phosphor
- 1961 – Experiments with Blue phosphor

On 18 May 1962 the Post Office announced that a whiter (fluorescent) paper was being used for the current printing of the 2s 6d and 5s stamps (Scott 371 & 372, Gibbons 595 & 596)



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First UK Phosphor Commemoratives

Beginning with the 1962 National Productivity Year issue (Scott 387p–389p, Gibbons 631– 633) through the 1967 British Wild Flowers issue (Scott 488p– 493p Gibbons 717– 622), all commemorative stamps were issued as both untagged and phosphor tagged

- 30 separate issues
- 88 stamps
- All tagged with phosphor bars

1962 National Productivity Year

1967 British Wild Flowers

Master Lambton
Scott 514, Gibbons 848

- Beginning in 1967 with the Machin issue (Scott 494-513, Gibbons 723-744) all stamps were normally printed with phosphor bands
- The 1967 Painters issue (Scott 514-516, Gibbons 848-850) was the first commemorative issue comprised of only tagged stamps

1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976

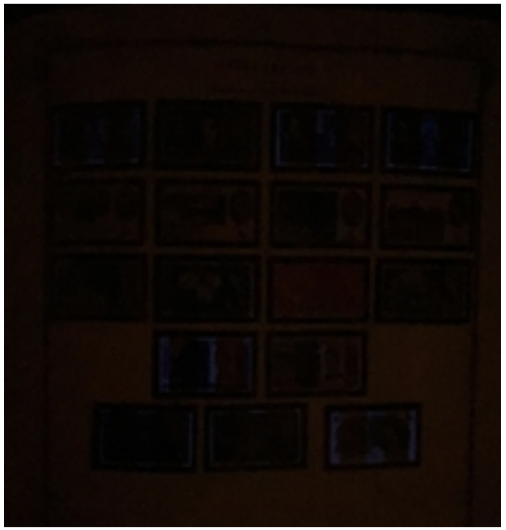
Viewing and Photographing UK Phosphor Tagging

- UK phosphor is very close in color to the fluorescent characteristics of the paper
- Phosphor continues to fluoresce after the UV illumination is removed
- Application characteristics influence the duration of the after glow
- No after glow uniformity between stamps

Long-Wave UV Illumination

Illumination Removed

1-2 Seconds Later



3-4 Seconds Later

Phosphor Coated Paper

Following the 1967 adoption of phosphor bands on all stamps,

- experiments conducted printing stamps on fluorescent cream colored chalk-coated paper
- phosphor added to the chalk coating in the paper making process
- Initially used the 1s6d Machen (Scott 508, Gibbons 743c) issued 8 Aug 1967
- shifted to the 10p Reddish Machen (Scott 634, Gibbons 829) when the decimal currency was introduced

Scott 665, Gibbons 898

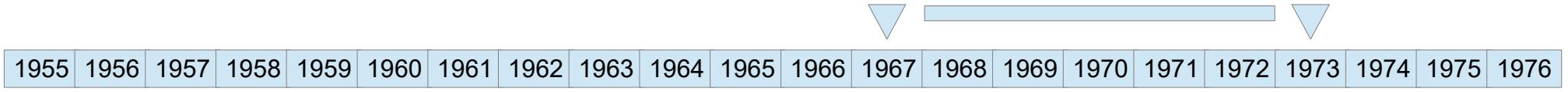
Beginning with the 1972 British Polar Explorers issue (Scott 664-667, Gibbons 897-900)

- all issues were printed on fluorescent white chalk-coated paper [except for the British Architecture Village Churches (Scott 671-675, Gibbons 904-908)]
- tagging applied by overprinting with phosphor bars in various configurations

Scott 691, Gibbons 925

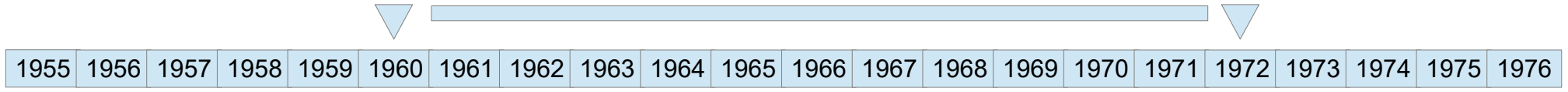
Beginning with the 1973 British Explorer issue (Scott 689-693, Gibbons 923-627)

- most all issues printed on the fluorescent white chalk-coated paper
- tagging applied by overprinting with an overall phosphor.

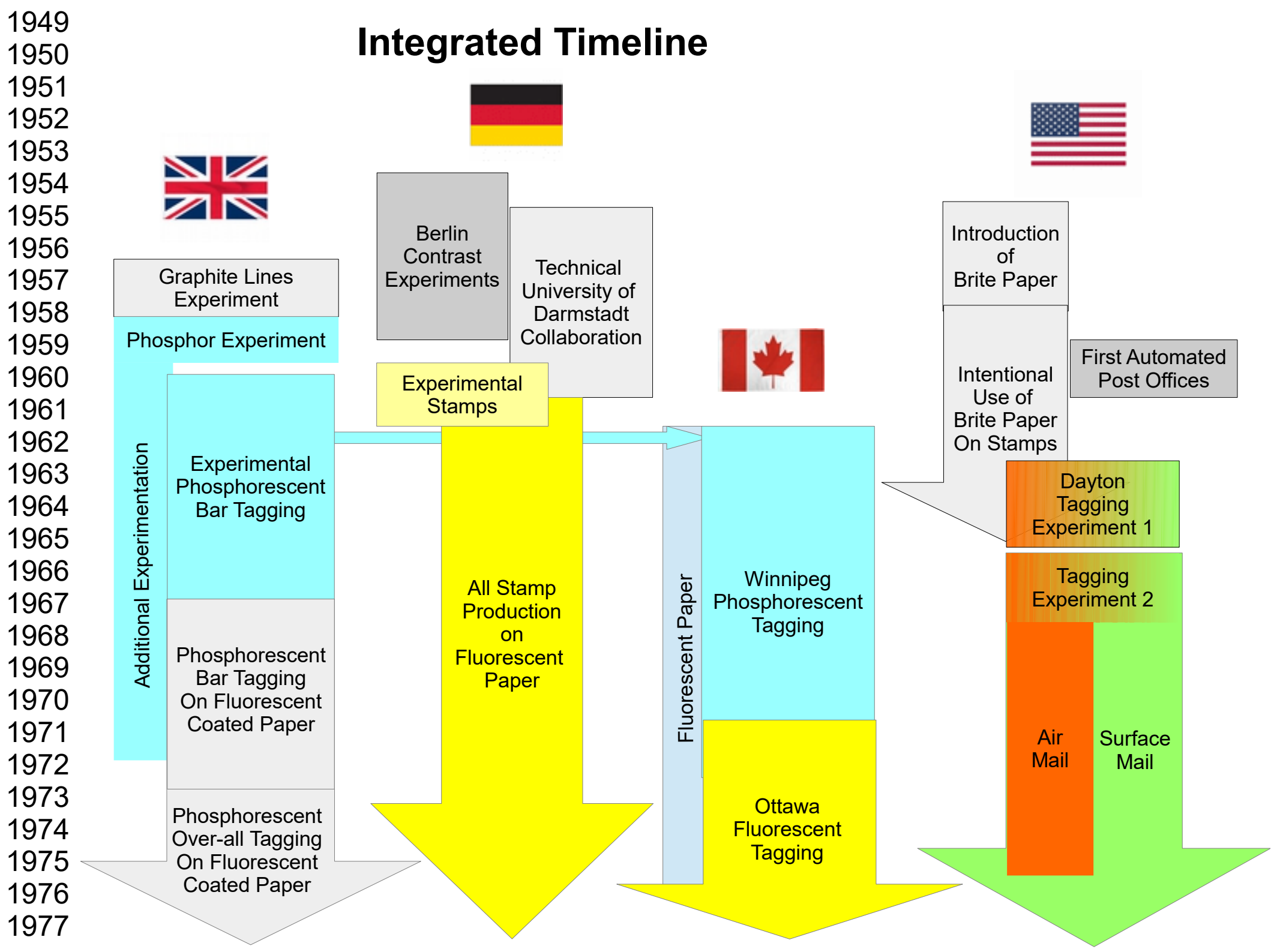


UK Phosphor Experimentation and Implementation

1957	Naphthadag Automatic Sorting Machine at Southampton
1958	Introduction of phosphor bar tagging
1960	Initial experiments with fluorescently active paper and inks
1960	Green phosphor [phosphorescent] stamps
1961	Blue phosphor [phosphorescent] stamps
1962	Introduction of a whiter (fluorescently active) paper
1965	Violet phosphor [phosphorescent] stamps
1969	Introduction of all-over phosphor [phosphorescent] stamps.
1972	Introduction of phosphor [phosphorescent] coated paper
1972	End of the Dollis Hill Trials.



Integrated Timeline



Luminescence – Phosphorescence – Fluorescence

Luminescence – the emission of light not caused by incandescence and occurring at a temperature below that of incandescent bodies.

Phosphorescence – any luminous radiation, especially of visible light, emitted from a substance after the removal of the exciting agent (external radiation, such as light or x-rays).

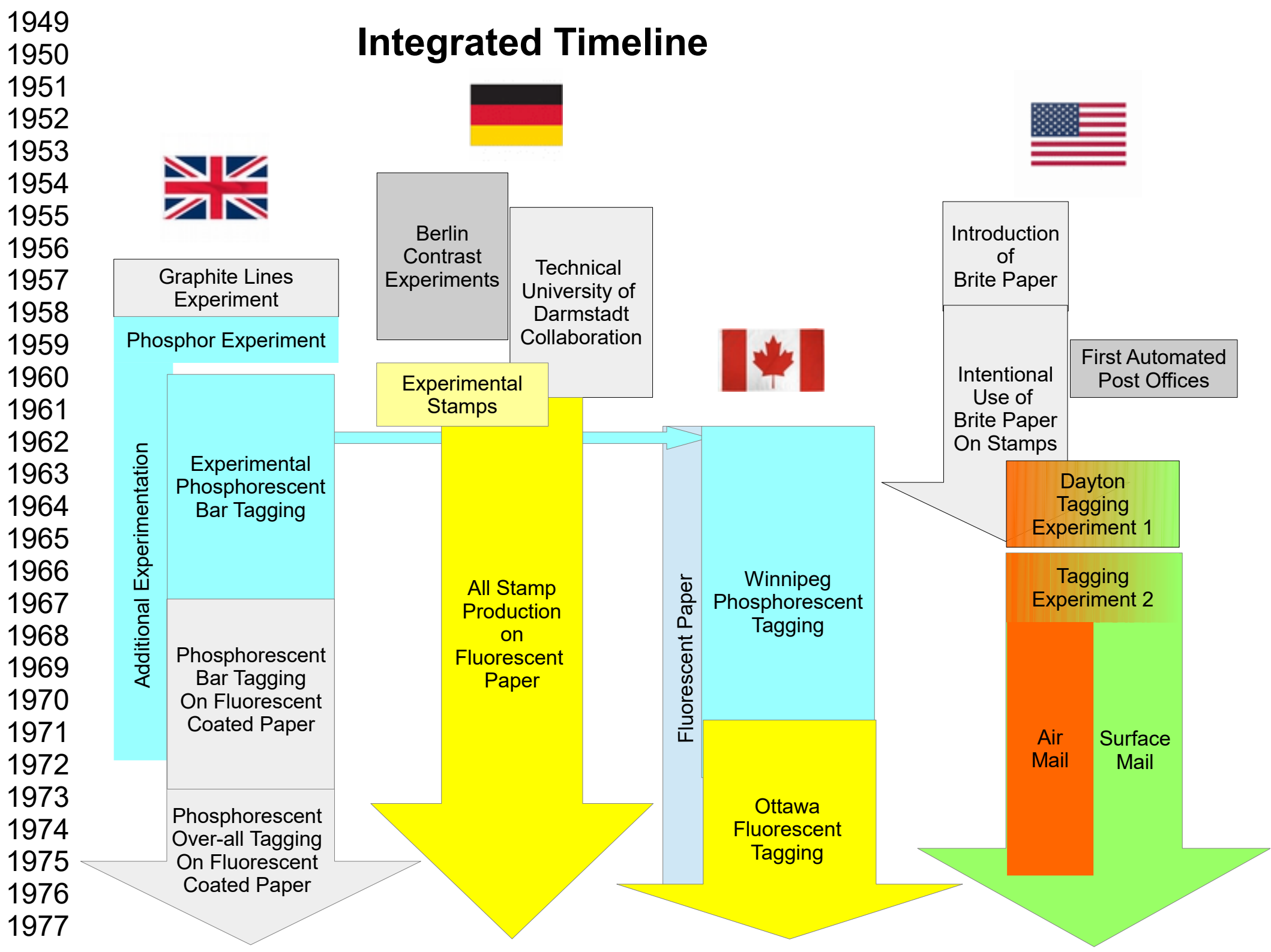
UK chose to use phosphorescent agents excited by UV light to tag their stamps. The phosphorescent taggant produces a short, often faint, afterglow when the UV light source is removed.

Fluorescence – the emission of radiation, especially of visible light, by a substance during exposure to external radiation, such as light or x-rays.

The US and Germany chose to use fluorescent agents responsive to UV light sources to tag their stamps. The fluorescent taggant stops emitting light when the UV light source is removed.

Canada experimented with phosphorescence and fluorescence before settling on fluorescent agents.

Integrated Timeline



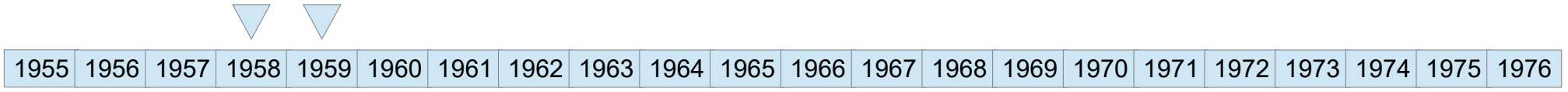
German Contrast Detection

- Beginning in 1954 the Central Postal Technical Office initiated experiments to detect the stamp by measuring the contrast between the stamp and the envelope.
- In November 1958 the Standard Elektrik Lorenz (SEL) company chosen to test the light-dark contrast technique
  - trials run at the Berlin SW 11 post office.
  - visible incandescent illumination used to illuminate the envelope
  - photocells measuring the reflected light were expected locate the stamp.
- The Berlin cityscapes issue was the target for the trials
  - the light gray 8 Pfg. Neukölln Town Hall stamp (Scott 9N124, Michel 143) lacked sufficient contrast
  - on 14 February 1959 reissued in dark red-orange (Scott 9N125, Michel 187)

Scott 9N124
Michel 143

Scott 9N125
Michel 187

In 1961 the location of stamps by the detection of reflected visible incandescent light was abandon as unsuitable, because only 75% to 80% identification reliability could be achieved



Collaboration with the Institute at Darmstat

In the early to mid 1950s the Central Postal Technical Office began collaborating with the Institute of Cellulose Chemistry at the Technical University of Darmstadt to develop technology to automate locating the stamp on the envelope.

- Dr. George Jayme, the head of the Institute of Cellulose Chemistry and Gerhard Bauer, a research chemist led the effort
- Their approach was to use fluorescence to enhance the contrast

Jayme and Bauer drew from the new industry practice of whitening paper giving the *brite* paper fluorescent characteristics

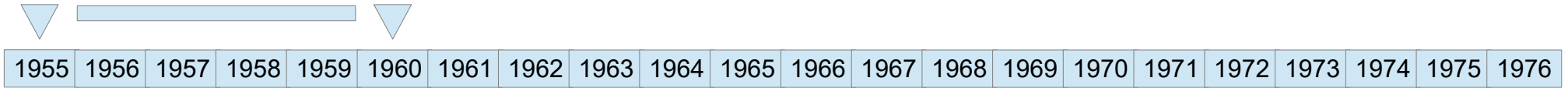
- 1956 Envelopes made from *brite* paper began appearing in the mail
- 1958 First United States stamps randomly printed on *brite* paper

On 19 February 1960 Dr. George Jayme and Gerhard Bauer filed a patent application titled a “Process for producing fluorescent postage stamp papers”

- Their approach embedded the fluorescent dye uniformly throughout the paper pulp
- The resulting paper was fluorescent throughout

Back in the UK, as Charles Forester reported in lectures and journal articles, there was frequent international visitation and collaboration at Dollis Hill

- On 19 September 1960 the United Kingdom introduced the experimental use of fluorescent paper.



Collaboration with the Institute at Darmstat

- Shortly after Dr. George Jayme and Gerhard Bauer filed their patent application, the Central Postal Technical Office had six (6) values of the 1954 Heuss definitive series, and two (2) values from the subsequent 1956-57 Heuss issues printed on the experimental Jayme-Bauer fluorescent paper and experimental Lumogen paper.
- These stamps, distinguishable from the usual issues only under ultraviolet light, were put on sale to the public at post offices in the Darmstadt area starting August 1, 1960

Heuss Definitive Stamps Reprinted on Jayme-Bauer Fluorescent Paper
Top Row Under Ambient Illumination
Bottom Row Under Long-Wave UV Illumination

Scott 704 Michel 179y	Scott 706 Michel 181y	Scott 708 Michel 183y	Scott 709 Michel 184y	Scott 710 Michel 185y	Scott 711 Michel 186y	Scott 755 Michel 259y	Scott 756 Michel 260y

Note yellow tinge of the Jayme-Bauer paper under Long-wave UV
Note bright yellow of the Experimental Lumogen paper under long-wave UV

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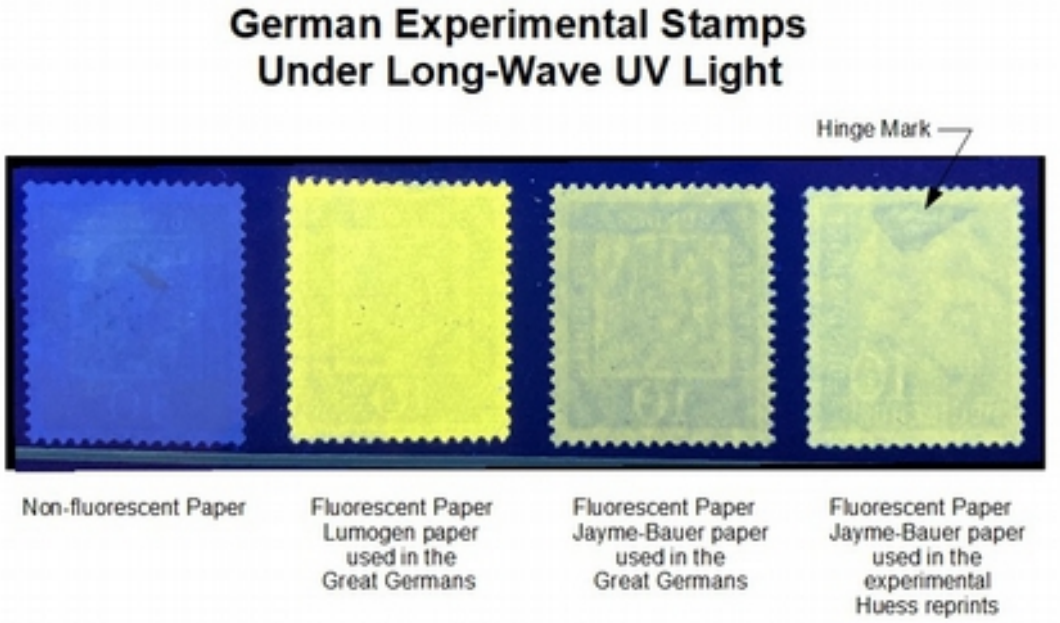
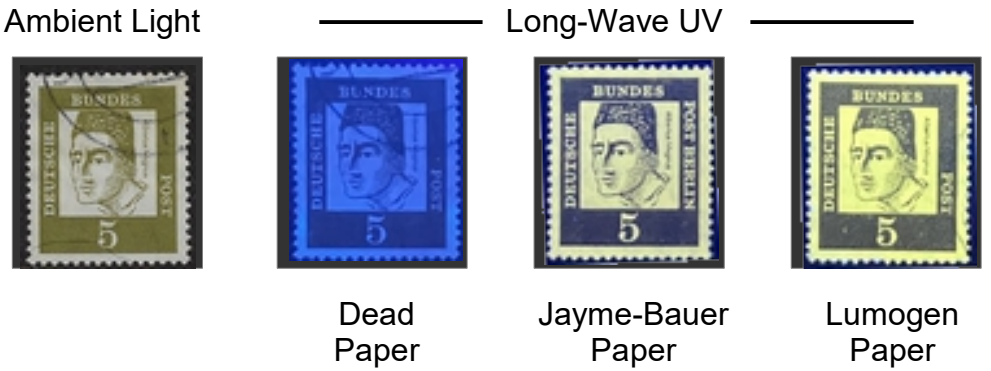
- Original fluorescent paper produced by Dr. George Jayme and Gerhard Bauer at the Institute of Cellulose Chemistry
  - fluoresces a pale yellow-white
  - known as Jayme-Bauer paper
- Central Postal Technical Office desired greater contrast to differentiate the stamp from the envelope
  - Chose a BASF Lumogen dye
  - fluoresces bright yellow

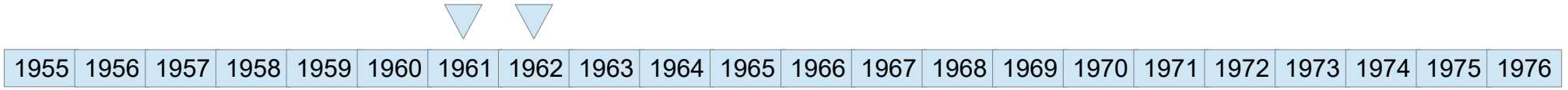
Famous Germans Issue

- designed to support Berlin light-dark contrast experiment
- intended for all to be issued on fluorescent paper
- multiple paper types used



Famous Germans on Multiple Papers





Random Fluorescent Issues?

Explaining the Apparent Random Mix of Fluorescent and Dead Paper Issues

- Multiple issues printed on both dead and fluorescent paper
- Some issues printed on two different types of fluorescent paper
- Appears random when viewed in catalog sequence
- Explanation becomes clear when viewed in order of date issued.
- Official explanation was a shortage of paper
- Printers did not realize there was more than one type of fluorescent paper
- When fluorescent paper ran out they used dead paper

Scott	MICHEL	Value	Description	Berlin	Fluorescent	Ordinary
9N192	198	20 Pfg	Louise Schroeder	X	06/03/1961	
9N179	202	10 Pfg	Great Germans – Albrecht Dürer	X	06/15/1961	
827	350	10 Pfg	Great Germans – Albrecht Dürer		06/15/1961	06/15/1961
9N181	204	20 Pfg	Great Germans – Johann Sebastian Bach	X	06/28/1961	
9N184	207	40 Pfg	Great Germans – Gotthold Ephraim Leasing	X	06/28/1961	
829	352	20 Pfg	Great Germans – Johann Sebastian Bach		06/28/1961	06/28/1961
832	355	40 Pfg	Great Germans – Gotthold Ephraim Leasing		06/28/1961	06/28/1961
840	363	10 Pfg	Gottlieb Daimler's Car of 1886			07/03/1961
841	364	20 Pfg	Gottlieb Daimler's Car of 1887			07/03/1961
9N193	215	10 Pfg	Synod Emblem & St. Mary's Church	X	07/19/1961	
9N194	216	20 Pfg	Synod Emblem & St. Mary's Church	X	07/19/1961	
9N195	217	20 Pfg	Berlin Bear with Record, TV Set, & Radio Tower	X	08/03/1961	
9N120a	140y	3 Pfg	Brandenburg Gate	X	08/03/1961	
9N177	200	7 Pfg	Great Germans – St. Elizabeth of Thuringia	X	08/03/1961	
9N178	201	8 Pfg	Great Germans – Johann Gutenberg	X	08/03/1961	
825	348	7 Pfg	Great Germans – St. Elizabeth of Thuringia		08/03/1961	08/03/1961
826	349	8 Pfg	Great Germans – Johann Gutenberg		08/03/1961	08/03/1961
842	365	7 Pfg	The Letter in Five Centuries		08/31/1961	
843	366	20 Pfg	Cathedral Speyer			09/02/1961
9N176	199	5 Pfg	Great Germans – Albertus Magnus	X	09/18/1961	
9N180	203	15 Pfg	Great Germans – Martin Luther	X	09/18/1961	
9N189	212	1 DM	Great Germans – Annette von Droste	X	09/18/1961	
838	361	1 DM	Great Germans – Annette von Droste		09/18/1961	
824	347	5 Pfg	Great Germans – Albertus Magnus		09/18/1961	09/18/1961
828	351	15 Pfg	Great Germans – Martin Luther		09/18/1961	09/18/1961
844	367	10 Pfg	EUROPA – Doves			09/18/1961
845	368	40 Pfg	EUROPA – Doves			09/18/1961
9N182	205	25 Pfg	Great Germans – Balthasar Neumann	X	10/07/1961	
9N183	206	30 Pfg	Great Germans – Immanuel Kant	X	10/07/1961	
830	353	25 Pfg	Great Germans – Balthasar Neumann		10/07/1961	
831	354	30 Pfg	Great Germans – Immanuel Kant		10/07/1961	
846	373	10 Pfg	Reis Telephone			10/26/1961
9N185	208	50 Pfg	Great Germans – Johann Wolfgang von Goethe	X	12/01/1961	
9N187	210	70 Pfg	Great Germans – Ludwig von Beethoven	X	12/01/1961	
9N188	211	80 Pfg	Great Germans – Heinrich von Kleist	X	12/01/1961	
833	356	50 Pfg	Great Germans – Johann Wolfgang von Goethe		12/01/1961	
835	358	70 Pfg	Great Germans – Ludwig von Beethoven		12/01/1961	
836	359	80 Pfg	Great Germans – Heinrich von Kleist		12/01/1961	
847	374	10 Pfg	Wilhelm Emanuel von Ketteler			12/22/1961
844	367	10 Pfg	EUROPA – Doves		02/15/1962	
9N186	209	60 Pfg	Great Germans – Friedrich von Schiller	X	04/12/1962	
9N190	213	2 DM	Great Germans – Gerhart Hauptmann	X	04/12/1962	
834	357	60 Pfg	Great Germans – Friedrich von Schiller		04/12/1962	
839	362	2 DM	Great Germans – Gerhart Hauptmann		04/12/1962	
848	375	20 Pfg	Drusus Stone and Old View of Mainz		05/10/1962	

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Commemorative Stamps on Fluorescent Paper

First German stamps issued only on fluorescent paper:
- 10 Pfennig Albrecht Dűrer stamp (Scott 9N179, Michel 202)
- 20 Pfennig Louise Schroeder issue (Scott 9N192, Michel 198)
  (Also first German commemorative issued on fluorescent paper)

Both put on sale in Berlin on 3 June 1961

(Scott 9N192, Michel 198)

The Letter Through the Change of Five Centuries

Federation of German Philatelists Nuremberg exhibition, 31 August through 5 September 1961

Deutsche Bundespost commemorated the event with:
- A special exhibition titled "The Letter of the Future."
- The first commemorative on fluorescent paper for use throughout West Germany, a 7 Pfennig stamp depicting a Nuremberg mail carrier from around 1700 (Scott 842, Michel 365).

(Scott 842, Michel 365)

Beginning with the 10 May 1962
20 Pfennig Drusus Stone issue (Scott 848, Michel 375)
Commemorating the 2000th Anniversary of Mainz
- all stamp issues, printed only on fluorescent paper

(Scott 848, Michel 375)

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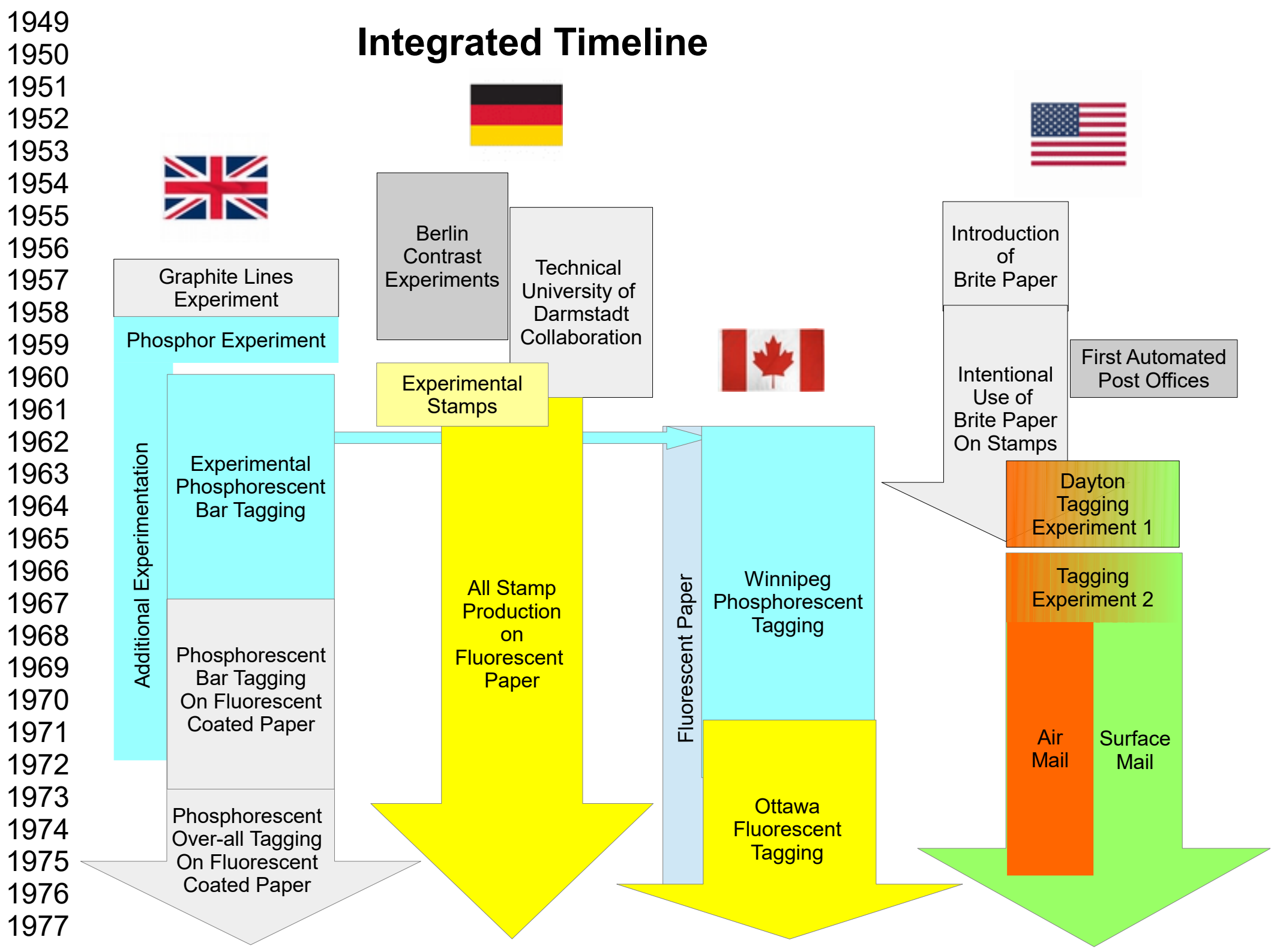
Integrated Timeline



Winnipeg Trials

Canadian delegation to the British Post Office showed a keen interest in the British Automatic Segregator-Facer-Canceller system (ASFC/SEFACAN)

- 1961 – Canadian Bank Note Company was directed to print Lettalite B2 phosphor bars on the 1¢ to 5¢ Wilding portrait stamps (Scott 337p-341p)
  - 4¢ used for local postage received one wide bar placed centrally
  - others received two bars on the vertical margins
- 14 January 1962 the tagged stamps went on sale in Winnipeg, Manitoba
- Goal was to saturate the Winnipeg area with tagged stamps so they would be in common use by the start of the experiment

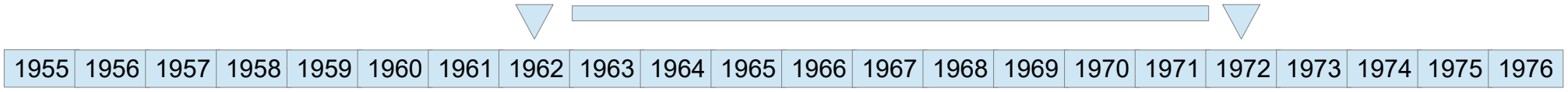
- Because the phosphorescent printing ink was based on a vegetable drying oil, yellowing has occurred with age
- Phosphor rubs off stamps and tracks to other locations

Winnipeg Trials

- The Automatic Segregator-Facer-Canceller (ASFC) was made in Britain with expected operation in Winnipeg by the middle of 1962
- Delivery was late delaying ASFC first use to summer 1963
- Cameo series stamps (Scott 401 – 405) were issued in 1963 before the ASFC was put in use
- Lettalite B2 phosphor bars were printed on the on the 1¢ to 5¢ Cameo series sheet stamps (Scott 401p – 405p)
  - 4¢ received one wide bar placed centrally
  - others have two bars on the vertical margins
- The experiment ran until 1972 when the phosphorescent Winnipeg tagging was replaced with the fluorescent Ottawa tagging
- Over the 10 year experiment 77 stamps issued with Winnipeg tagging
- The last stamps issued with Winnipeg tagging were the 1972 Christmas issue (Scott 606p – 609p)
- The Lettalite B2 phosphor used for all Winnipeg tagging
  - Often glows fluorescently
  - Exhibits an after-glow like stamps of Great Britain

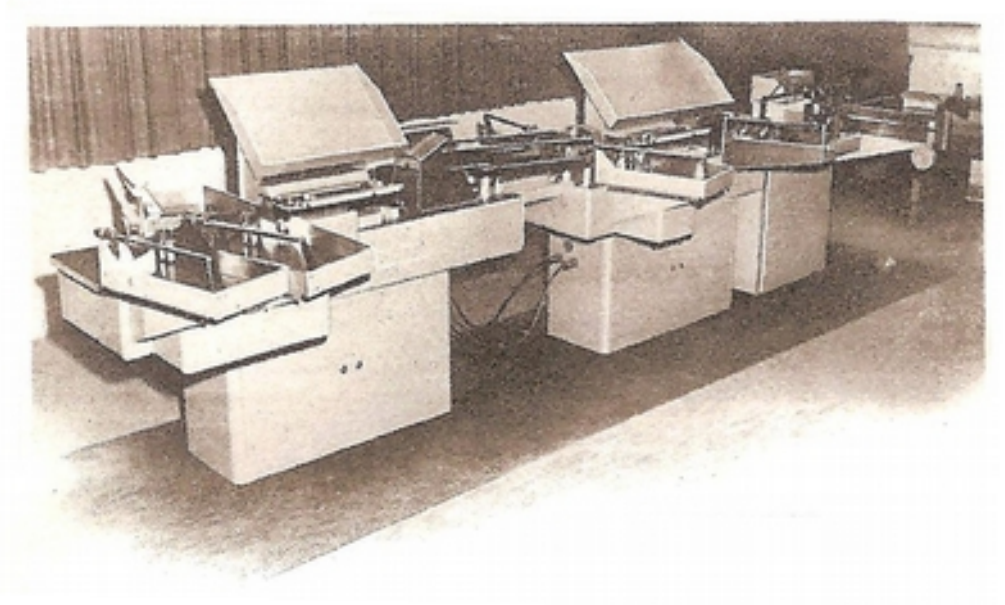
Scott 401p – 405p

Scott 606p – 609p



Experimental Use of Fluorescent Paper

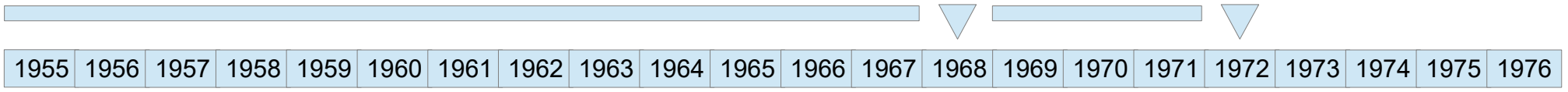
- Facer-canceller machines were first developed in the Netherlands in the 1950s
  - British and German experimentation used machines from the Netherlands
  - Pitney-Bowes had the licensing agreement for North America
- SEFACAN was a slow and cumbersome machine
- Pitney Bowes Mark I Facer-Cancellers Installed throughout Canada
  - Proven performance (Germany & USA)
  - Faster than the SEFACAN
  - Utilized fluorescent detection



Stamps on Fluorescent Paper

- 1953 – 1968 more than 57 issues printed on a mix of fluorescent and non-fluorescent papers
- 1968 Henri Bourassa issue (Scott 485) was first issue only printed on fluorescent paper
- 1968 – 1972 six (6) additional issues printed on only fluorescent paper (Scott 493, 499, 534, 554 & 558)
- 1972 introduction of Ottawa Tagging

Henri Bourassa
Scott 485

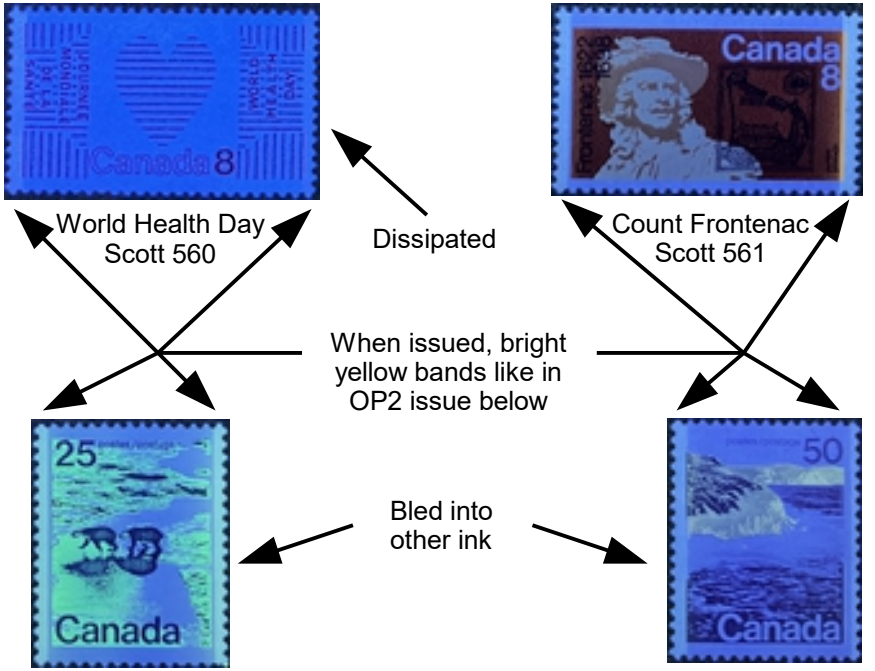


Ottawa Tagging

Fluorescent Ink Tagging

OP4 – In Ink for Photogravure Printing

- First use 1972 World Health Day issue
- Used on 9 different stamps
- Fluorescent component migrated
  - Into paper
  - Into other ink
  - Faded away (dissipated)
- Photogravure ink reformulated to use OP2



OP2 – In Ink for Lithographic Printing

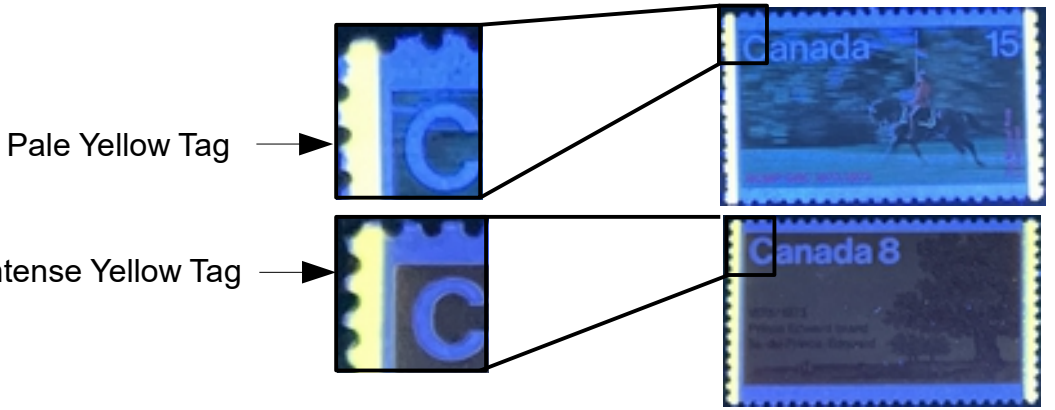
- First use 1¢ brown Centennial issue
- First commemorative 1972 Plains Indians of Canada issue
- Fluorescent component did not migrate

Scott 562 & 563
Plains Indians of Canada

1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976

Other Fluorescent Dyes

- After the problem with the OP4, Canada experimented with other fluorescent dyes
- Color and intensity of tagging varies with the different dyes
  - Example of two different yellows (Presumably OP2 and Lumagen)



  - 1995 Holocaust issue (Scott 1590) glows green

  - Stamp from1994 souvenir sheet (Scott 1534) glows blue

Ottawa Tagging Configurations

Style 1
2-bar (GT2)

First Use 1972
Scott 560
(668 shown)

Style 2
4-bar (GT4)

First Use 1981
Scott 887
Variant has gaps
around image

Style 3
2-bar inset

First Use 1982
Scott 909

Style 4
4-bar + (GTX)

First Use 1987
Scott 1151

Style 5
4-bar + (GTX)

First Use 1992
Scott 1455

Style 6
4-bar inset

First Use 1993
Scott 1466

Style 7
4-bar to shape

First Use 2002
Scott 1933

Style 8
All-over (FCP)

First Use 1994
Scott 1523

Style 9
3-bar (GT3)

First Use 1991
Scott 1374

Style 10
All surrounding white space

First Use 1996
Scott 1594

Style 11
Inset frame (circle)

First Use 2000
Scott 1838

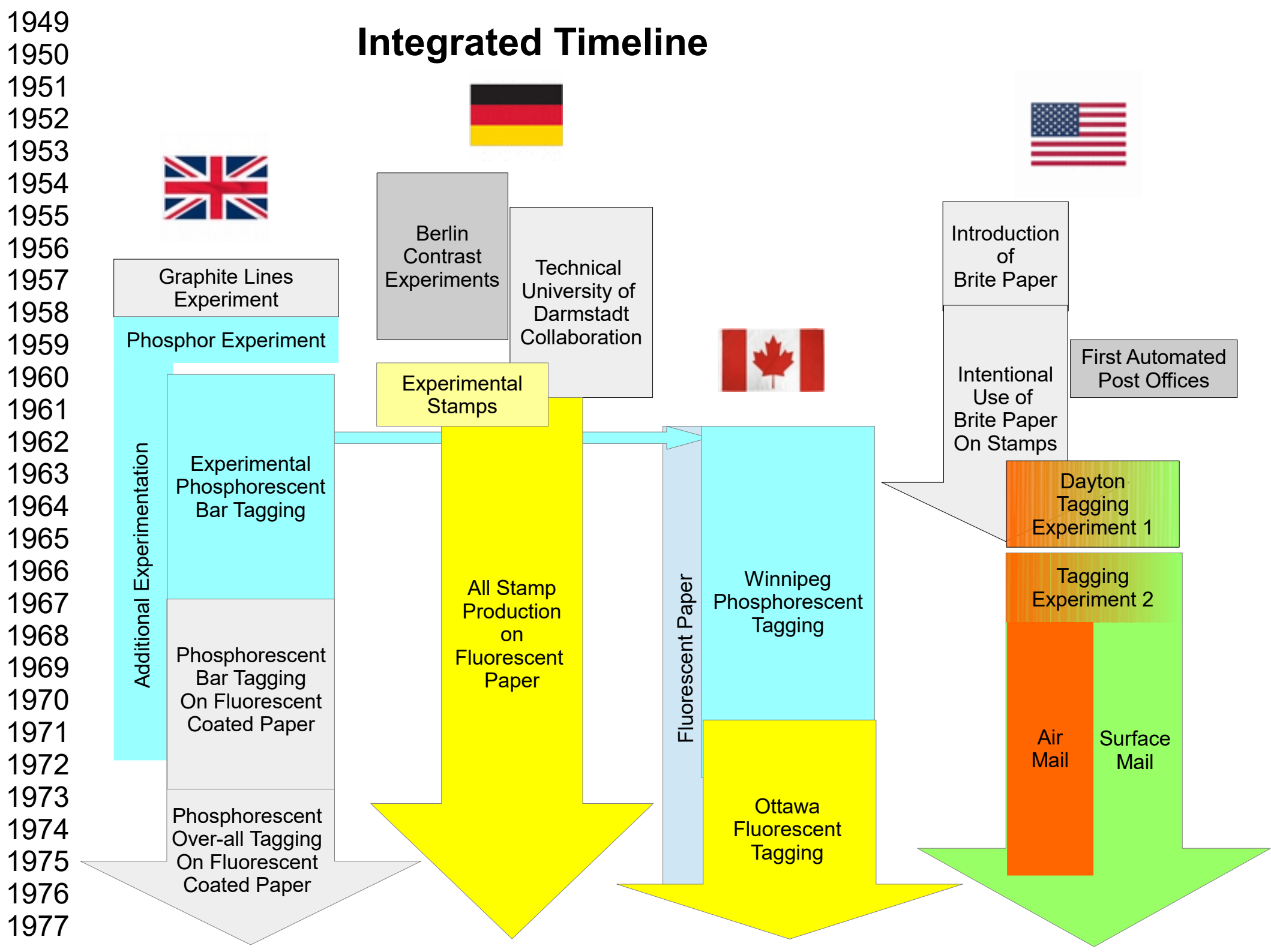
No Style Designation
Inset frame (image)

First Use 1994
Scott 1507

Style designations from Unitrade Catalog in the order introduced
The 1-bar tag is a 2-bar Style 1 with the stripe of taggant printed off register

1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976

Integrated Timeline



Tagging of United States Stamps

The United States Post Office Department was last to enter the race to explore the benefits of the luminescent tagging on postage stamps.

- First luminescently tagged stamp (Scott C65a)
  - Issued 1 August 1963in Dayton, Ohio
  - Focus was to separate airmail from surface mail
  - US approach fluoresced under short-wave UV
    - Airmail stamps glowed orange
    - Surface mail stamps glowed green

Scott C64a

Image of Scott C64a
Under short-wave UV illumination

- Addressing the evolution of tagged United States stamps is the subject of two separate presentations
  - Part I – The Experimental Years
  - Part II – Evolution of the Technology
- A third presentation addresses the use of tagging as art in both United States and foreign stamps

Stamps That Glow

Luminescent Tagging on United States Stamps

Part I
The Experimental Years

Part II
Evolution of the Technology

Part III
Hidden Art

1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976

Summary

- Luminescent tagging started in the UK
- Other countries, such as Switzerland, did laboratory experimentation and evaluations
- Only the four countries in this presentation actually issued experimentally tagged stamps and did trials on live mail
- Fluorescent and phosphor tagants can be applied in various forms:
  - printed on the stamp
  - applied to the paper as a coating before printing
  - embedded in the paper during paper manufacture
- Today:
  - UK uses a bright white paper that fluoresces white under long-wave UV overprinted with a phosphor that fluoresces pale blue (almost impossible to see) under short-wave UV illumination
  - Germany uses a white paper that fluoresces bright yellow under long-wave UV illumination
  - Canada uses a bright white paper that fluoresces white under long-wave UV illumination with the tagant printed as bars or a frame that fluoresces bright yellow under long-wave UV illumination
  - USA uses a variety of methods to tag the stamp so that it glows green (previously also orange) under short-wave UV illumination:
    - overprint the tagant in various configurations (block, overall, etc.)
    - print on paper coated with the fluorescent tagant
    - print on paper with the fluorescent tagged embedded in the paper
    - print with fluorescent ink in the stamp image