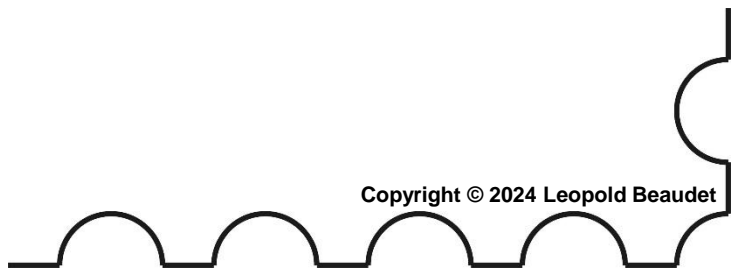


# Constant Plate Flaws on Elizabethan Stamps

---

Leopold Beaudet



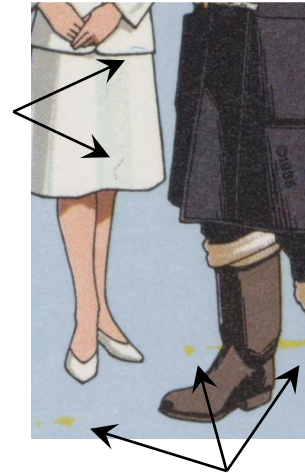


# Outline

---

- Introduction
- Printing processes and printers
- Engraving
- Engraving and photogravure
- Lithography with cameras
- Lithography with computers

# Introduction





# Why the varieties were selected

---

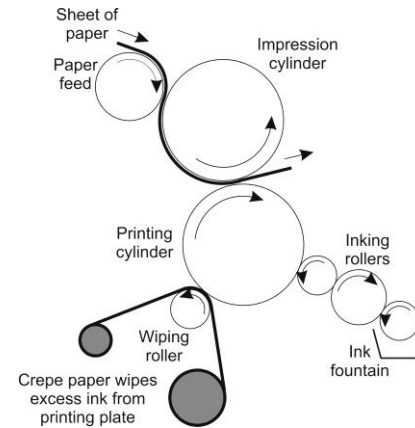
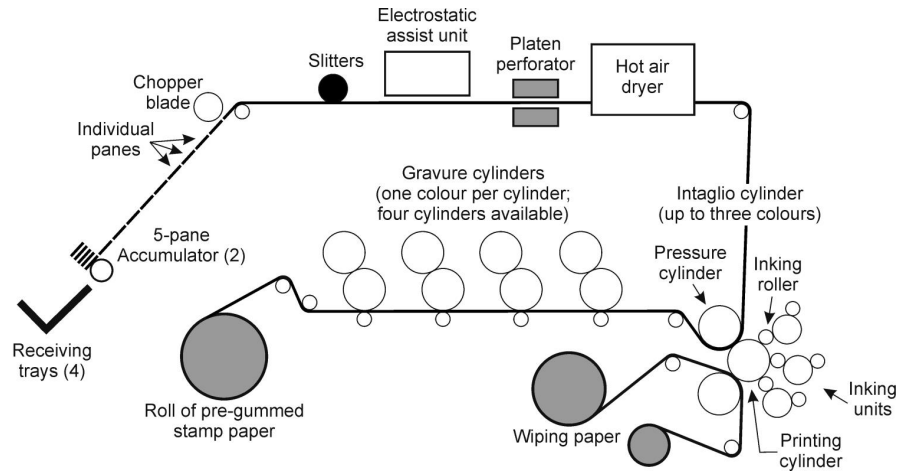
- Illustrate the types of constant plate varieties found on different printing processes
  - Engraving
  - Photogravure
  - Lithography
- How evolution of printing processes affected varieties
- The chosen varieties tell a story
  - Not just “flyspecks”
- Focus on Elizabethan stamps
  - Mostly from 1953 to 2000

# References

---

- Leopold Beudet, “Canadian Stamp Varieties”, column in *Canadian Philatelist*, 1980-1986.
- Leopold Beudet, *My Favourite Elizabethan Varieties*, online exhibit, <https://bnaps.org/ore/ExhibitDisplay.php?Ex=ORE&Id=59>
- Leopold Beudet, “Centennial Stamp Production”, published in the D. Robin Harris catalogue, *Centennial Definitive Series 1967-1973*, 2000.
- Canada Post Office, *Something Canadian* (video on the production of the 1970 6¢ Henry Kelsey commemorative).
- Canada Post Office, *More Than Just a Pretty Face*, National Film Board, 1974. (video describing the lithographic, engraving, and photogravure printing processes).
- D. Robin Harris, set of 7 specialized catalogues covering Canadian definitives.
- D. Robin Harris, *The Unitrade Specialized Catalogue of Canadian Stamps*.
- D. Robin Harris, editor, *Corgi Times*, newsletter of the BNAPS Elizabethan II Study Group.
- Douglas and Mary Patrick, *Canada’s Postage Stamps*, McClelland and Stewart Ltd., 1964.
- Swedish Post Office, *A Stamp Is Made*, 1985 (describes the production of Swedish stamps).

# Printing processes and printers



# Printing processes (1953 – today)

---

- Engraving (aka intaglio, recess)
  - Sheet-fed press
    - “Traditional”
    - Plastic mould
  - Web-fed press
- Photogravure (aka gravure)
  - Sheet-fed press
  - Web-fed press
- Offset lithography
  - Mesh halftone screen (camera based)
  - Stochastic halftone screen (computer generated)
  - Computer to plate (CTP)
- Embossing
- Foil stamping
- Typography
- Flexography
- “MotionPrint” (Lenticular technology)



## Stamp printers (1953 – today)

---

How many printers were there  
since 1953?

What printing processes did  
they use?



# Stamp printers (1953 – today)

	Printer	Period
①	Canadian Bank Note Co. (CBN)	Pre 1953 – 2022
②	British American Bank Note Co. (BABN) BA Bank Note Inc.	1968 – 1990 + pre-1953
③	Ashton-Potter Ltd. Ashton-Potter Canada Ltd. Ashton-Potter (USA) Ltd.	1970 – 1993 1995 – 2003 2002 – 2003, 2006
4	Imprimerie des Timbres-poste France	1984
⑤	Leigh-Mardon Pty, Ltd. (Australia)	1994 – 1995
⑥	Gravure Choquet Inc. (in collaboration with other printers)	1998 – 2014
7	Avery Dennison Corp.	1998
⑧	Lowe-Martin	2002 – Current
9	Post Denmark Stamps	2004
10	Outer Aspect (New Zealand)	2009, 2016
11	Sweden Post Stamps	2010
⑫	Colour Innovations	2016 – Current

○ = Printed  
more than 5  
issues

# Printers and printing processes

- Canadian Bank Note Co. (CBN)
  - Pre 1953 – 2022



Process	Notes
Engraving	Die – Transfer roll – Plate Die – Transfer roll – Master plate – Plastic mould – Working plate
Lithography	Mesh halftone screen Stochastic halftone screen
Foil stamping	
Photogravure	Just one stamp (1969 50¢ Suzor-Coté)

# Printers and printing processes

- British American Bank Note Co. (BABN)
- BA Bank Note Inc.

- 1968 – 1990 + pre-1953

- Last issues

- Goebel web-fed press

- 1989 50¢ booklet with 38¢ Parliament stamp

- Sheet-fed press

- 1989-1990 \$1.00, \$2.00, \$5.00 Architecture



Process	Notes
Engraving	Sheet-fed press Goebel web-fed press
Lithography	Mesh halftone screen
Photogravure	Goebel web-fed press

# Printers and printing processes

- Ashton-Potter Ltd.
  - 1970 – 1993
- Ashton-Potter Canada Ltd.
  - 1995 – 2003
- Ashton-Potter (USA) Ltd.
  - 2002 – 2003, 2006



Process	Notes
Lithography	Mesh halftone screen Sheet-fed press Web-fed press (coils)
Embossing	
Foil stamping	
Typography	1996 45¢ Olympic Gold Medalists
Flexography	1998 45¢ Stylized Maple Leaf – roll of 100

# Printers and printing processes

- Imprimerie des Timbres-poste France
  - 1984
  - One stamp (joint issue)
    - 1984 32¢ 450th anniversary Jacques Cartier's first voyage to Canada



Process	Notes
Engraving	Web-fed press
Photogravure	Web-fed press

# Printers and printing processes

- Leigh-Mardon Pty Ltd. (Australia)
  - 1994 – 1995 (seven issues)
    - 1994 43¢ Flag definitive
    - 1994 43¢ Greetings booklet
    - 1994 88¢ Masterpieces of Canadian Art – 7
    - 1994 43¢ x 4, 50¢, 88¢ XV Commonwealth Games
    - 1994 43¢ x 5 UN International Year of the Family
    - 1994 \$1.00, \$2.00 Architecture
    - 1995 45¢ Flag definitive



Process	Notes
Engraving	
Lithography	Mesh halftone screen
Foil stamping	

# Printers and printing processes

---

- Gravure Choquet Inc. (in collaboration with other printers)
  - 1998 – 2014

Process	Notes
Foil stamping	

# Printers and printing processes

- Avery Dennison Corp.
  - 1998
  - Two stamps
    - 45¢ and 46¢ Stylized Maple Leaf
    - Self-adhesive ATM pane of 18

Process	Notes
Photogravure	





# Printers and printing processes

- **Lowe-Martin**
  - 2002 – Current
  - First issue
    - 2002 4 x 48¢ Tulips



Process	Notes
Lithography	Stochastic halftone screen Sheet-fed press Web-fed press (coils)
Embossing	
Foil stamping	

# Printers and printing processes

---

- Post Denmark Stamps
  - 2004
  - One issue (joint issue)
    - 2004 49¢ and \$1.40 Otto Sverdrup

Process	Notes
Engraving	
Lithography	

# Printers and printing processes

---

- Outer Aspect (New Zealand)
  - 2009, 2016
  - Two issues
    - 2009 \$9.00 souvenir sheet – Montreal Canadiens 100th anniversary
    - 2016 \$10.00 souvenir sheet – 50th anniversary of Star Trek TV series

Process	Notes
"MotionPrint"	Lenticular technology – simulates motion in 3D

# Printers and printing processes

---

- Sweden Post Stamps
  - 2010
  - One issue (joint issue)
    - 2010 2 x 57¢ Marine Life

Process	Notes
Engraving	
Lithography	

# Printers and printing processes

- Colour Innovations

- 2016 – Current
- First issue

- 2016 Lunar New Year P stamp, \$2.50 (Monkey), \$2.50 (Ram)

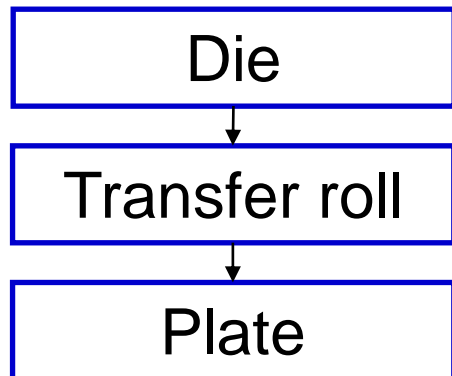


Process	Notes
Lithography	Stochastic halftone screen
Embossing	
Foil stamping	

# Engraving



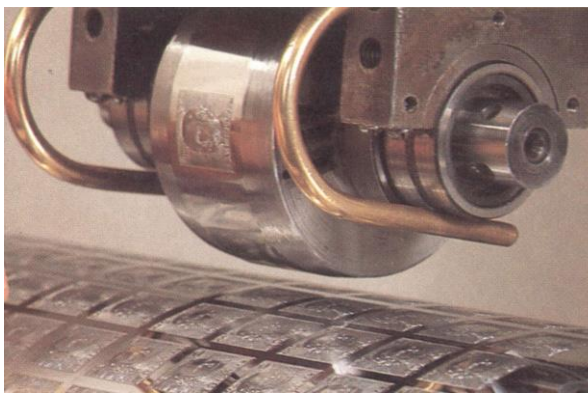
# Making an engraved plate



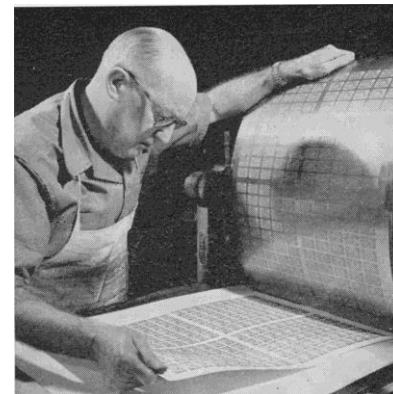
1. Engraver produces a die
2. Siderographer transfers design from die to transfer roll
  - Transfer roll typically has several reliefs
3. Siderographer transfers design from relief on transfer roll to plate
  - 400/600 subjects on plate for Elizabethan small-size stamps



Die for 1970 6¢ Henry Kelsey stamp, engraved by George Gundersen.  
[Source: *Something Canadian*]



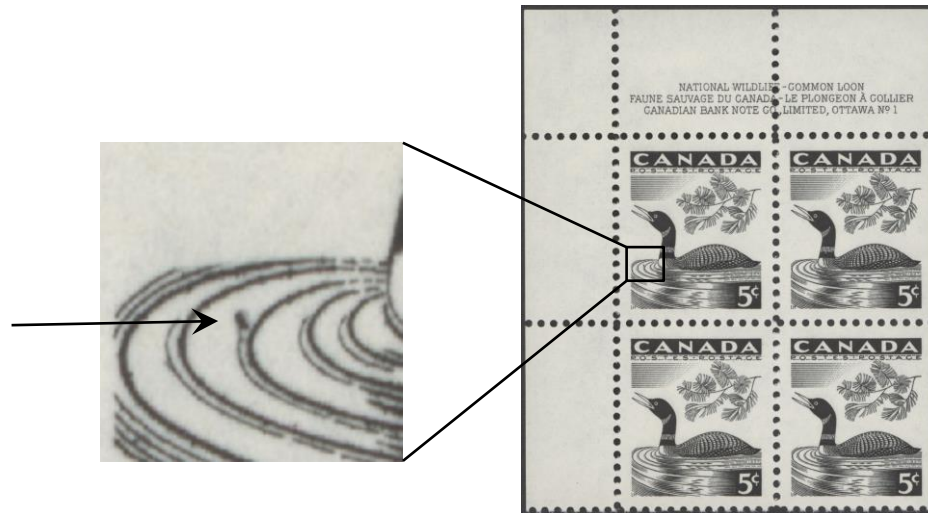
Transfer roll above intaglio cylinder.  
[Source: *A Stamp Is Made*]



Curved plate of 4 panes  
[Source: *Canada's Postage Stamps*]

- Ref:
1. Canada Post Office, *Something Canadian* (video on 6¢ Henry Kelsey commemorative).
  2. Swedish Post Office, *A Stamp Is Made*, 1985 (describes the production of Swedish stamps).
  3. Douglas and Mary Patrick, *Canada's Postage Stamps*, McClelland and Stewart Ltd., 1964.

# Engraving – Typical minor plate flaw



1957 5¢ Wildlife – Loon  
“Food for loon”  
Plate 1, UL pane, stamp 1/1



# Engraving – deliberate plate markings



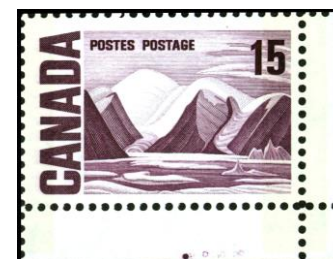
1953 Karsh coil with jump  
Guidelines, bottom



1954 Wilding, Winnipeg tagged  
Two guide dots, bottom right



1954 Wilding booklet pane  
Guidelines, bottom left



1967 Centennial  
“Stuttering guide dot”

# Engraving – Plate with two states

Plate 2,  
state 1



Plate 2,  
state 2



- 1955 10¢ Inuk & Kayak
  - Plate 2 of 5 plates
  - Guide dot in different position on each block
  - 2<sup>nd</sup> guide dot added sometime after 1<sup>st</sup> one
    - Plate 2 has two states

State 1 guide dot does not appear on state 2 block because the bottom margin is too small.

Images courtesy Robert J. Elias

Ref: Robert J. Elias, "10¢ Inuk & Kayak: 'Scratched Iceberg' Variety and the States of Plate 2", *Corgi Times*, Vol. XVII, No. 6, May-June 2009



# Engraving

---

Can a constant plate flaw occur on only part of the printing?



# Engraving

---

Can a constant plate flaw occur on only part of the printing?

Yes, it can!

# Engraving – Plate with two states

Plate 2,  
state 2



“Scratched iceberg”  
Plate 2, state 2, LL pane, stamp 10/2  
Not on plate 2, state 1  
Discovered by Robert J. Elias



Images courtesy Robert J. Elias

# 1954 5¢ Wilding – Cracked plate



Plate crack reported only on  
precancelled stamps

Plate unknown



# Engraving

---

Can a “constant” plate flaw change as the plate is used in production?



# Engraved

---

Can a “constant” plate flaw change as the plate is used in production?

Yes, it can!



# Progressive plate cracks



1954 4¢ Wilding, plate 1 – blocks showing the crack are scarce

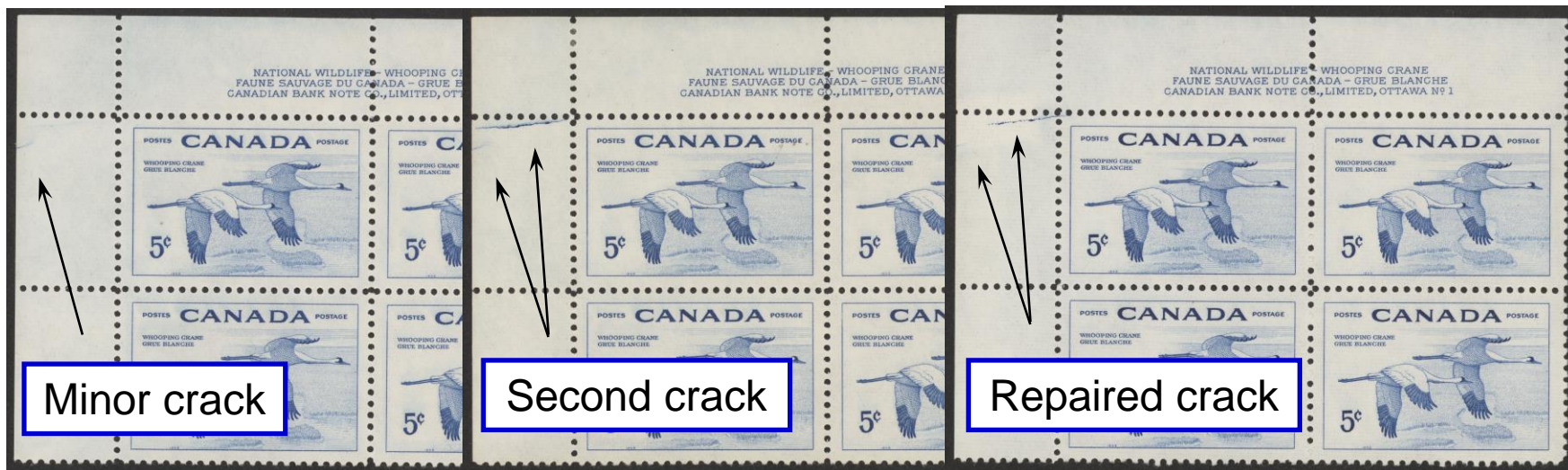
1954 4¢ Wilding, UR corner – plate unknown

1955 10¢ Inuk & Kayak – plate unknown, postmarked 21 Oct. 1966

1956 20¢ Paper – plate unknown, postmarked 14 Mar. 1963

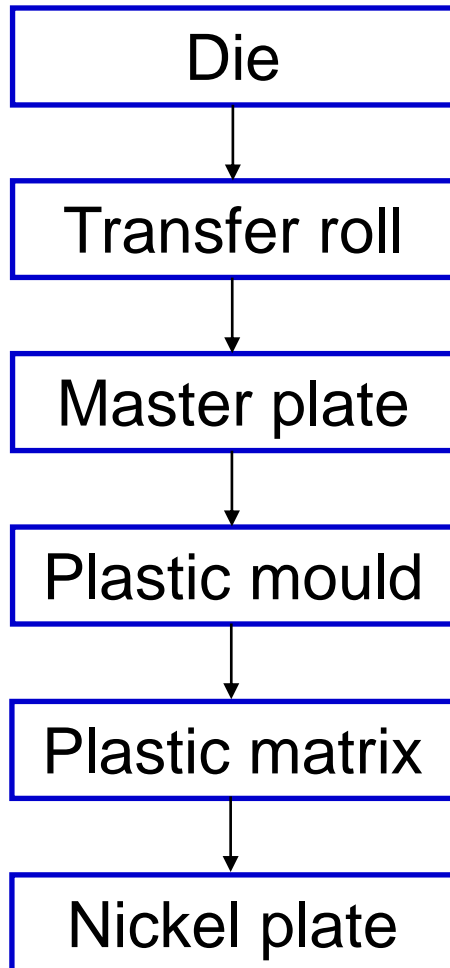
Given their scarcity, these cracks probably developed sometime after the plates were put in production, and may have led to the plates' end-of-life.

# Progressive plate crack



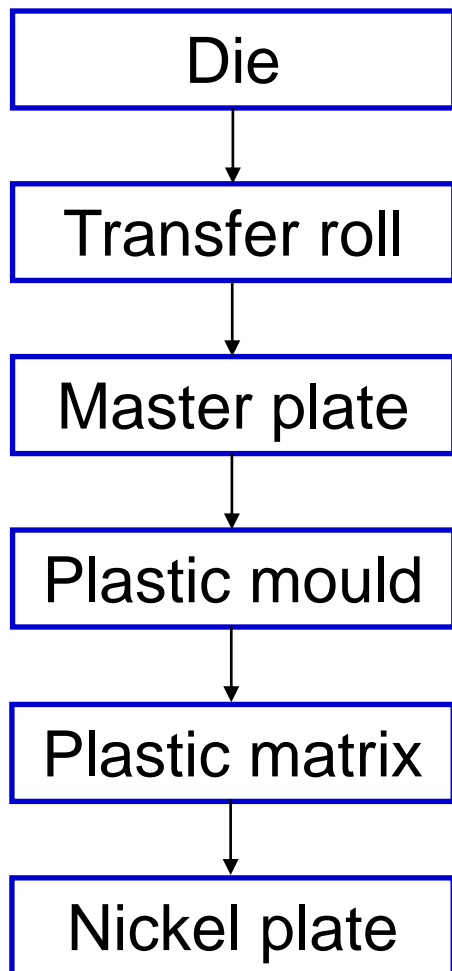
1955 5¢ Wildlife – Whooping Crane  
Plate crack, 3 states

# CBN plastic mould process



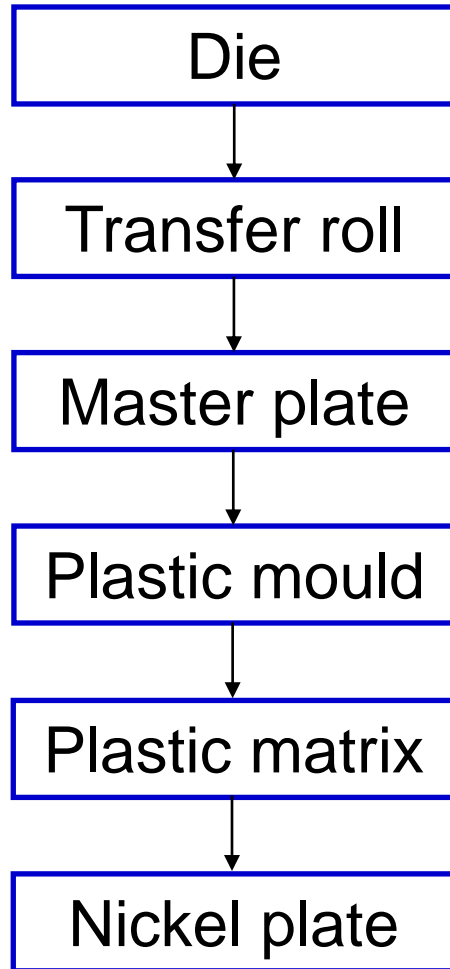
1. Engraver produces a die
2. Siderographer transfers design from die to transfer roll
3. Siderographer produces master plate using relief on transfer roll
  - Size of master plate = 1 pane of stamps
4. Plastic moulds produced from master plate
  - Number of moulds = number of panes in a sheet
5. Moulds joined together to form plastic matrix
  - Matrix size = size of a sheet
6. Nickel plate produced from plastic matrix by electroplating
  - Multiple nickel plates produced from a single plastic matrix
7. Nickel plate chromium-plated and curved to fit on printing cylinder
  - Reduces the siderographer's work, especially if multiple plates are produced

# CBN plastic mould process



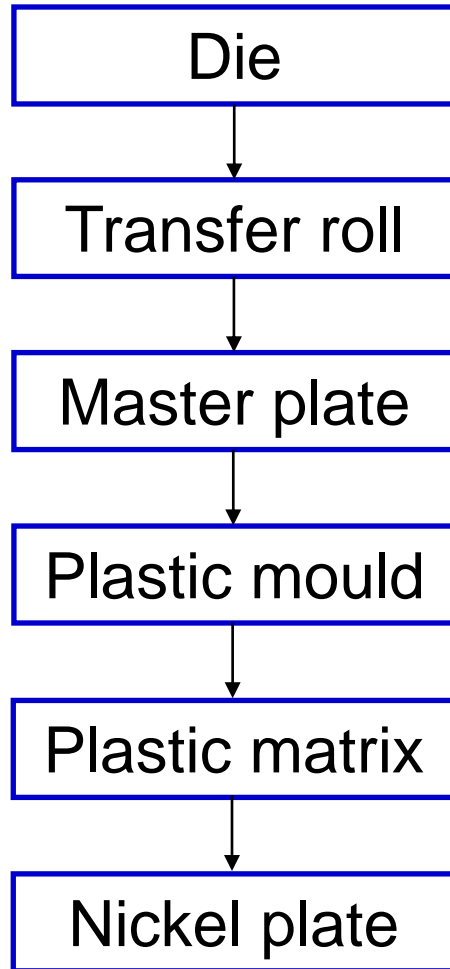
- CBN introduced the process around 1966
- Stamps printed by plastic mould process
  - 1966 Christmas issue
  - All the Centennial definitives except
    - 3¢-5¢ coils
    - 5¢ cello-pak miniature pane
      - 4¢ cello-pak miniature pane may have been produced from a 4¢ sheet plate
    - 50¢ and \$1.00 sheet stamps
    - Not known whether it was used for booklet stamps
  - Etc.

# CBN plastic mould process



Can the same plate flaw occur on more than one nickel plate?

# CBN plastic mould process

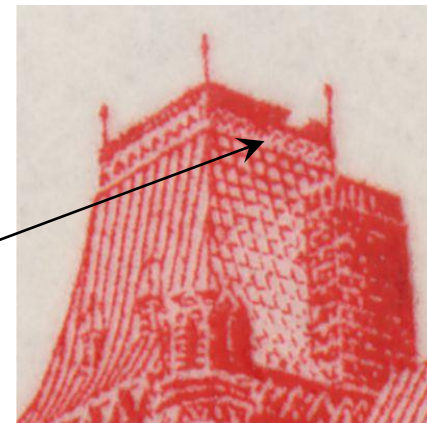


Can the same plate flaw occur on more than one nickel plate?

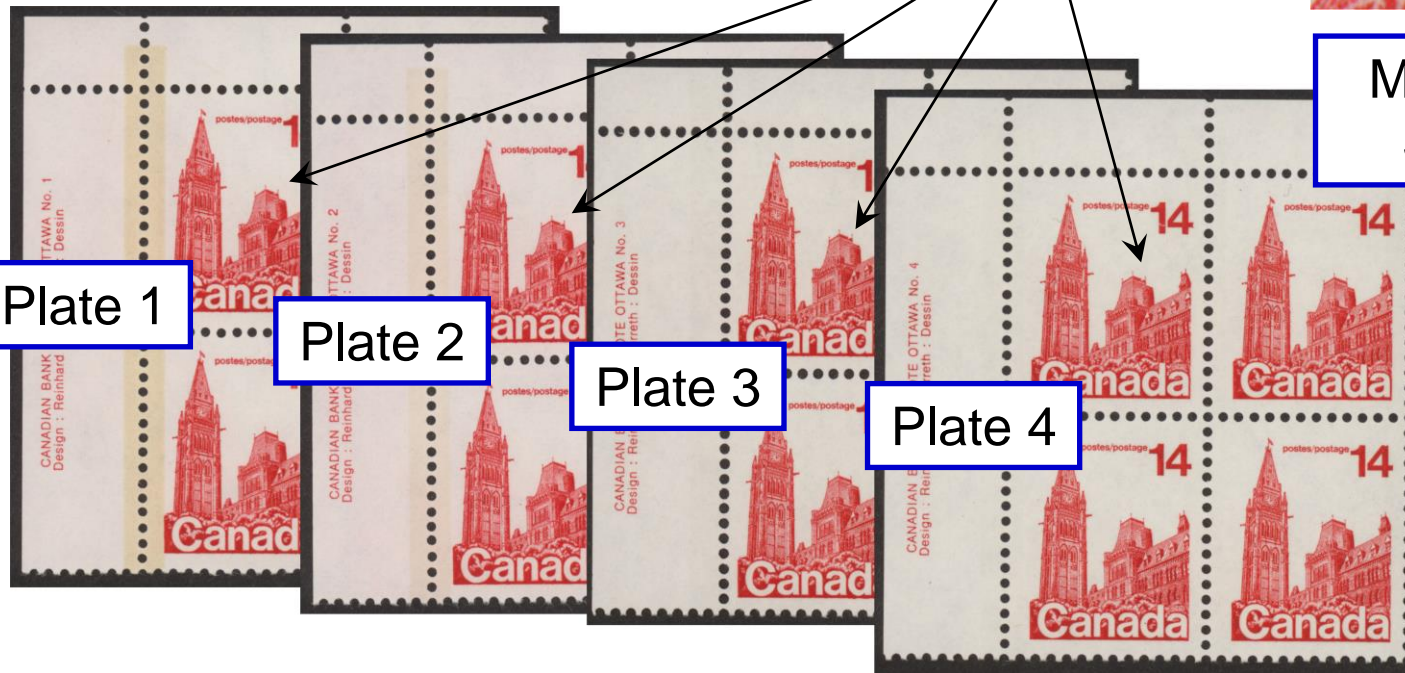
Yes, it can!

# CBN plastic mould process

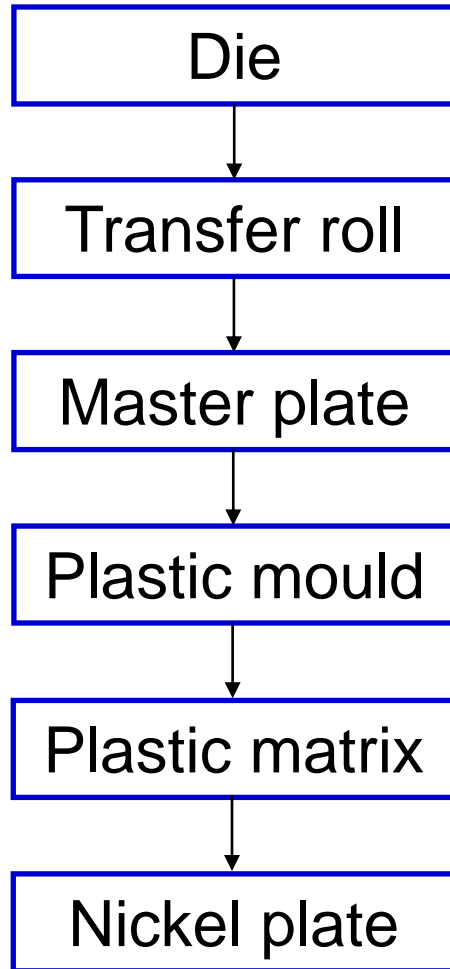
- 1978 14¢ Parliament
  - 4 plates: 6 panes of 100 stamps
  - “Missing brick” on just 1 pane on all 4 plates
  - Flaw on the plastic matrix



Missing brick  
Stamp 1/1



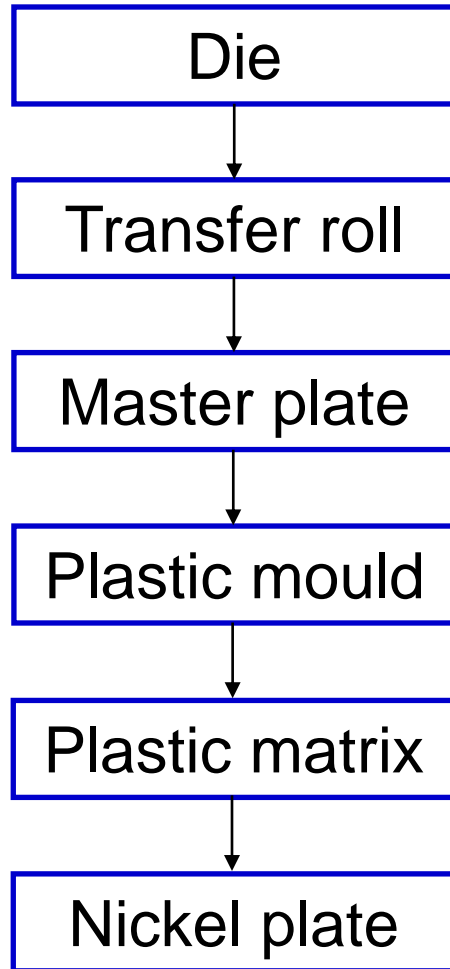
# CBN plastic mould process



Can the same plate flaw occur on more than one stamp on the nickel plate?



# CBN plastic mould process



Can the same plate flaw occur on more than one stamp on the nickel plate?

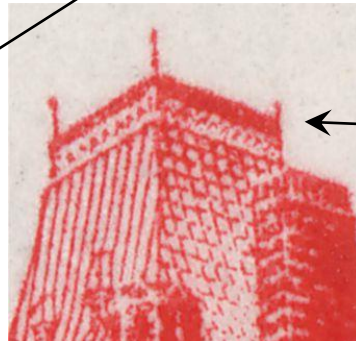
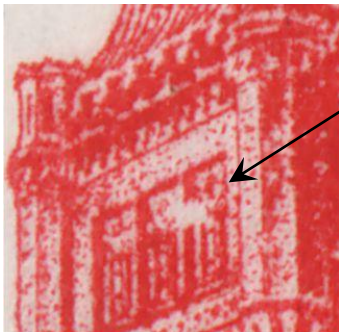
Yes, it can!

# CBN plastic mould process

- Light in window – Stamp 4/2
- Missing spire – Stamp 4/4
  - On every one of the 6 panes
    - Flaw on master plate
  - Only on plates 1 and 2
    - Plastic matrix retouched?
    - Nickel plates 3 & 4 retouched?



Light in window



Missing spire

# Engraved + lithography



Black lines indicate the tagging bars

- Winnipeg and General tagging printed by lithography on separate press
- 1963 Cameo 2¢ plate: 3 rows by 2 columns
  - Strip of 20 with “tag stub” in top pane margin
  - Pane must come from row 2 or 3 of the sheet
- 1977 Environment 2¢ plates: 2 rows by 2 columns
  - Block of 4 with “tag stub” in bottom pane margin
  - Pane must come from row 1 of the sheet

Ref: Leopold Beaudet, “The Importance of Having Cameo Selvage”, *Corgi Times*, Vol. XIII, No. 6, May-June 2005

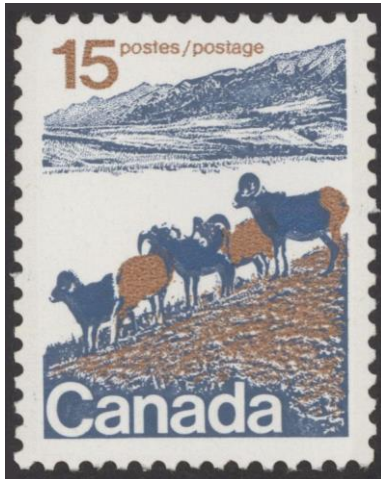
Copyright © 2024 Leopold Beaudet

# CBN “Plastic flow” variety

- Transient inking variety
- Reported on 8¢ Alaska Highway, 15¢, 25¢
- Also reported on 6¢ black Transportation, but
  - Reported on Die II, printed by BABN
  - BABN did not use plastic mould process

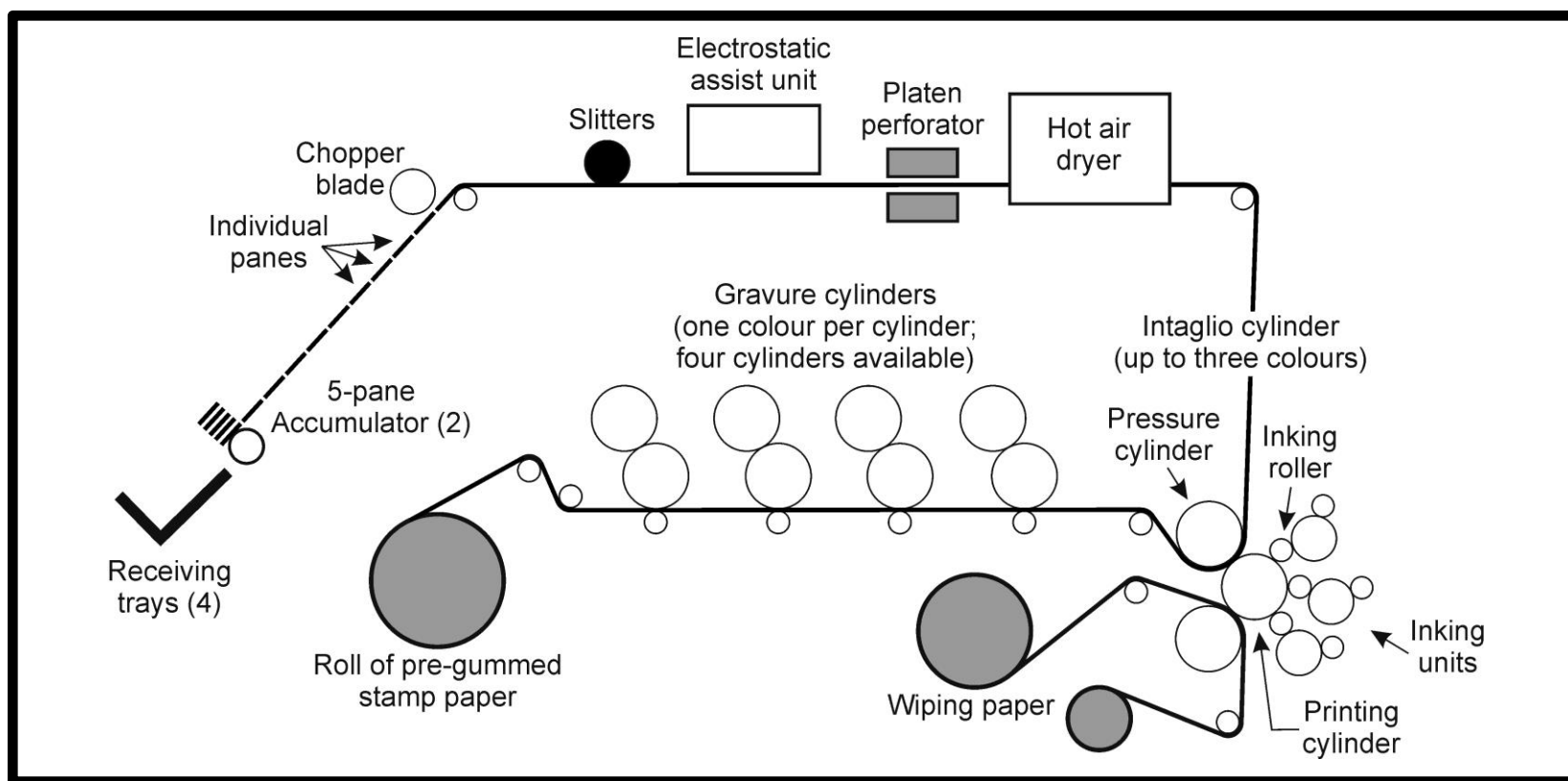


# Engraving & photogravure



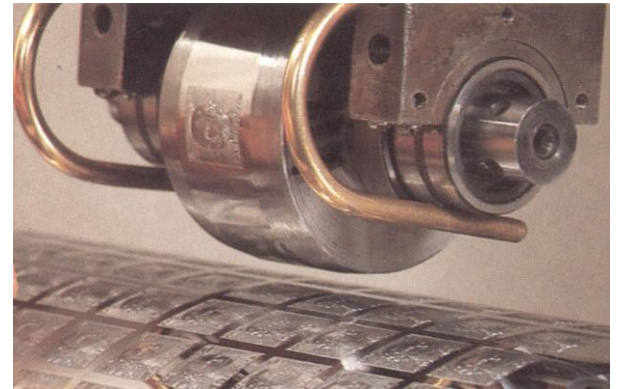
# BABN Goebel web-fed press

Installed in 1966



# BABN Goebel web-fed press

- Up to three engraved colours
  - Printed from a single engraved cylinder
  - Uses “selective inking process”
  - Routed rubber rollers pick up ink for specific areas of cylinder
- Up to four photogravure colours
  - One “colour” for tagging
  - One “colour” for precancel
- “Cylinder”, not “plate”
  - Stamp design is impressed directly on a solid cylinder
- Perforates web in-line
- Slits and guillotines web into individual panes
  - Multi-pane sheets do not exist



Transfer roll above intaglio cylinder.  
[Source: *A Stamp Is Made*]

# “Die” varieties – 1972 15¢ Landscape

- 1-colour engraving (slate) + 2-colour photogravure (blue, brown) + tagging



## Type I

- Light shading in mountain

Three distinguishable printings

Engraved cylinder 1: perf 12.5 x 12.0

1. General tag – migrating OP4
2. General tag – non-migrating OP2
3. Winnipeg tag



## Type II

- Strong shading in mountain
- New blue photogravure cylinder

Two distinguishable printings

1. Field stock: perf 12.5 x 12.0
2. Engraved cylinder 2: perf 13.3



# “Die” varieties – 1972 15¢ Landscape

- Cylinders consist of 3 panes of 100
- Only the engraved cylinder identified in the plate inscription
- Five distinguishable printings
  - Perf 12.5 x 12, Type I, Winnipeg tag
    - Engraved cylinder 1
  - Perf 12.5 x 12, Type I, General tag 3 mm – migrating OP4
    - Engraved cylinder 1
  - Perf 12.5 x 12, Type I, General tag 3 mm – non-migrating OP2
    - Engraved cylinder 1
  - Perf 12.5 x 12, Type II, General tag 4 mm
    - Post office stock only (no plate inscriptions)
    - New blue photogravure cylinder
    - New tagging photogravure cylinder
  - Perf 13.3, Type II, General tag 4 mm
    - Engraved cylinder 2
- 10¢, 25¢, and 50¢ Landscape definitives saw similar changes



# Cylinder flaw – 1972 15¢ Landscape

- “Scratch in mountain” flaw on engraved cylinder
  - Row 1, column 10 (1/10)
  - On 1 of the 3 panes on the cylinder
- Exists on
  - Type I: weak shading in mountains, perf 12.5 x 12
  - Type II: strong shading in mountains, perf 12.5 x 12
- Does not exist on:
  - Plate blocks
  - Winnipeg tagged
  - Perf 13.3 stamps
- Flaw on cylinder 1 that developed after the initial printing



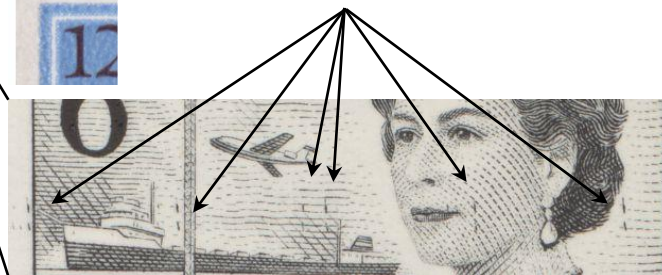
# BABN Goebel press – Serial flaws



1977 Environment  
12¢ QE II



- Flaws that repeat around the circumference of the engraved cylinder
- Flaws occur after cylinder is put in production
- Found on 6¢ orange, 7¢, 8¢ Library Centennials, 8¢ Caricature



1970 Centennial \$1.50  
booklet with 6¢ black  
perf 12.5 x 12.0

# BABN Goebel press – Cylinder markings



- Rectangular engraved mark in the pane margin
  - Found on sheet stamps issued in 1971-1972
- Cylinders have 6 panes
  - 2 along axis x 3 around circumference
  - Plate inscriptions only on panes from one side of cylinder
    - Marks occur on panes with no inscription



# BABN Goebel press

---

Can the same constant flaw occur  
on different stamps?



# BABN Goebel press

---

Can the same constant flaw occur  
on different stamps?

Yes, it can!

# BABN – 1978 \$3.50 & 1979 \$4.25 booklets



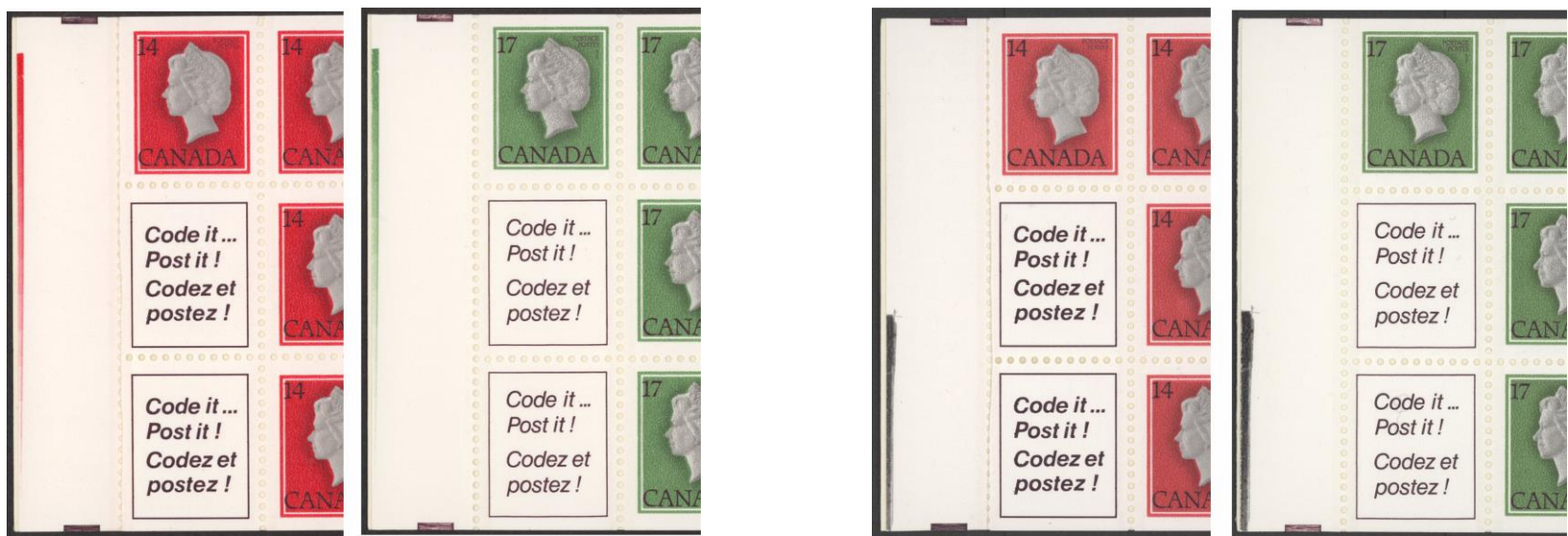
- Engraved cylinder

- Purple colour
- 2 panes along axis
- 12 panes around circumference
- Total 24 booklet panes

- Photogravure cylinders

- Red and grey colours + tagging
- 2 panes along axis
- 8 panes around circumference
- Total 16 booklet panes

# BABN – 1978 \$3.50 & 1979 \$4.25 booklets



- Same photogravure cylinders for both booklets
  - Booklets have the same red/green and grey bars in the selvedge
  - Booklets have the same cylinder flaws

Ref:

1. Leopold Beaudet, "Canadian Stamp Varieties", *Canadian Philatelist*, several issues between 1980 and 1986.
2. D. Robin Harris, *Environment Definitive Series 1977-1987*, second edition, 2020.

Copyright © 2024 Leopold Beaudet



# BABN – 1978 \$3.50 & 1979 \$4.25 booklets

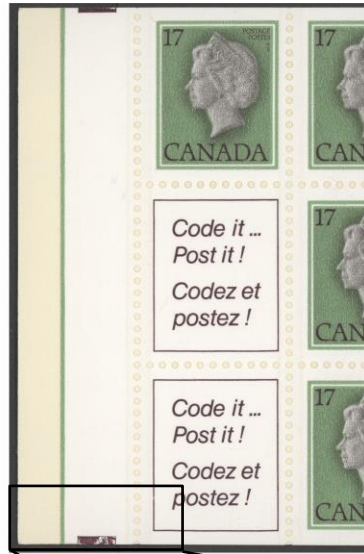
- Green cylinder was rotated 180° relative to grey for \$4.25 booklets
  - \$4.25 booklet with the same grey flaws as a \$3.50 booklet will have green flaws corresponding to the \$3.50 booklet halfway around the circumference

Unrolled photogravure cylinder  
Ax, Bx = booklet panes

A1	B1	A1	B1	A1	B1
A2	B2	A2	B2	A2	B2
A3	B3	A3	B3	A3	B3
A4	B4	A4	B4	A4	B4
A5	B5	A5	B5	A5	B5
A6	B6	A6	B6	A6	B6
A7	B7	A7	B7	A7	B7
A8	B8	A8	B8	A8	B8

- Booklet with A3 grey flaws will have
- \$3.25 booklet: red flaws from A7
  - \$4.25 booklet: green flaws from A3

# BABN – 1978 \$3.50 & 1979 \$4.25 booklets



2<sup>nd</sup> printing of \$4.25 booklet

- Found in Sept. 1980
- New engraved cylinder
- New green photogravure cylinder
- Purple bar in tab different
- Green bar in tab different
- Green flaws different
- Same grey cylinder
- Same constant grey flaws

1<sup>st</sup> printing  
Horizontal lines

2<sup>nd</sup> printing  
Cross-hatching



# BABN Goebel press

---

Can the same cylinder flaw occur on stamps with completely different designs?



# BABN Goebel press

---

Can the same cylinder flaw occur on stamps with completely different designs?

Yes, it can!

# Hook tag flaw

- “Hook” in the rightmost tag bar on the pane
- Occurs on 9 different sheet stamps
  - INVERTED on leftmost tagging bar on 1981 “A” definitive
    - Tagging cylinder was “inverted” on the Goebel printing press!
- Occurs on 3 different booklet stamps
- Vertical position varies relative to stamp design

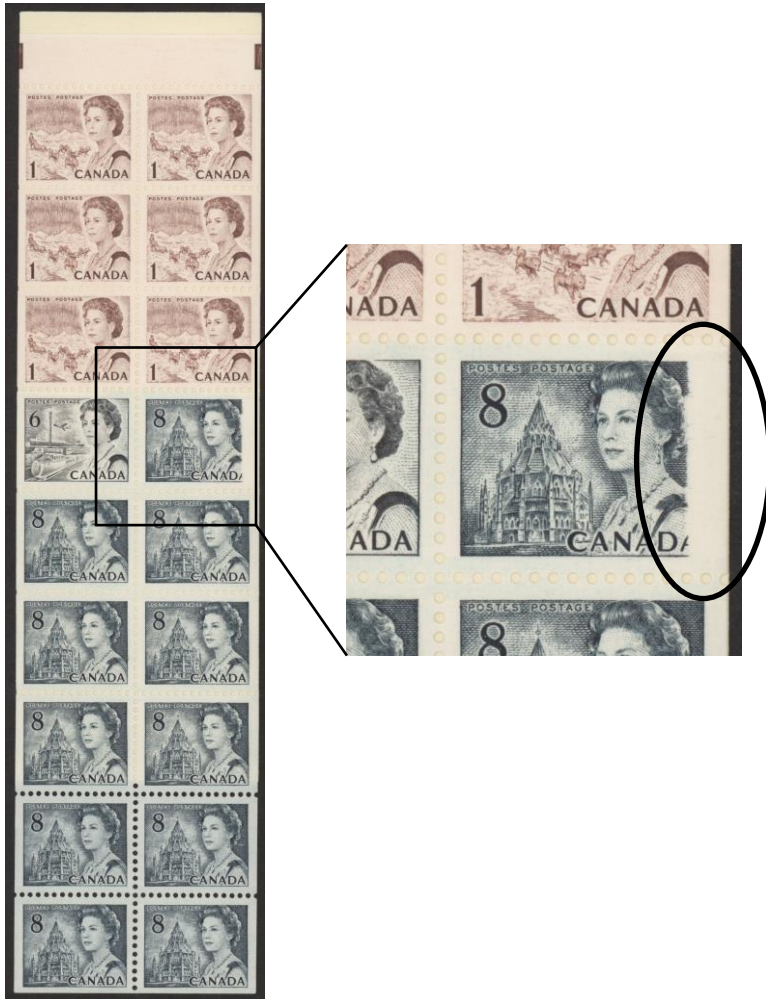


# Hook tag flaw

---

- Occurs on the following stamps printed by BABN on Goebel press
  - 1. 1979 1¢ Floral
  - 2. 1979 2¢ Floral
  - 3. 1979 3¢ Floral
  - 4. 1979 5¢ Floral
  - 5. 1979 10¢ Floral
  - 6. 1979 15¢ Floral
  - 7. 1979 17¢ QEII sheet stamp
  - 8. 1979 17¢ QEII stamp from 50¢ booklet
  - 9. 1979 5¢ Parliament stamp from 50¢ booklet
  - 10. 1981 "A" Maple Leaf
    - Hook tag flaw is inverted
  - 11. 1982 30¢ Maple Leaf sheet stamp
  - 12. 1982 30¢ Maple Leaf from 50¢ booklet
    - Hook tag flaw also appears on label below the 30¢ stamp

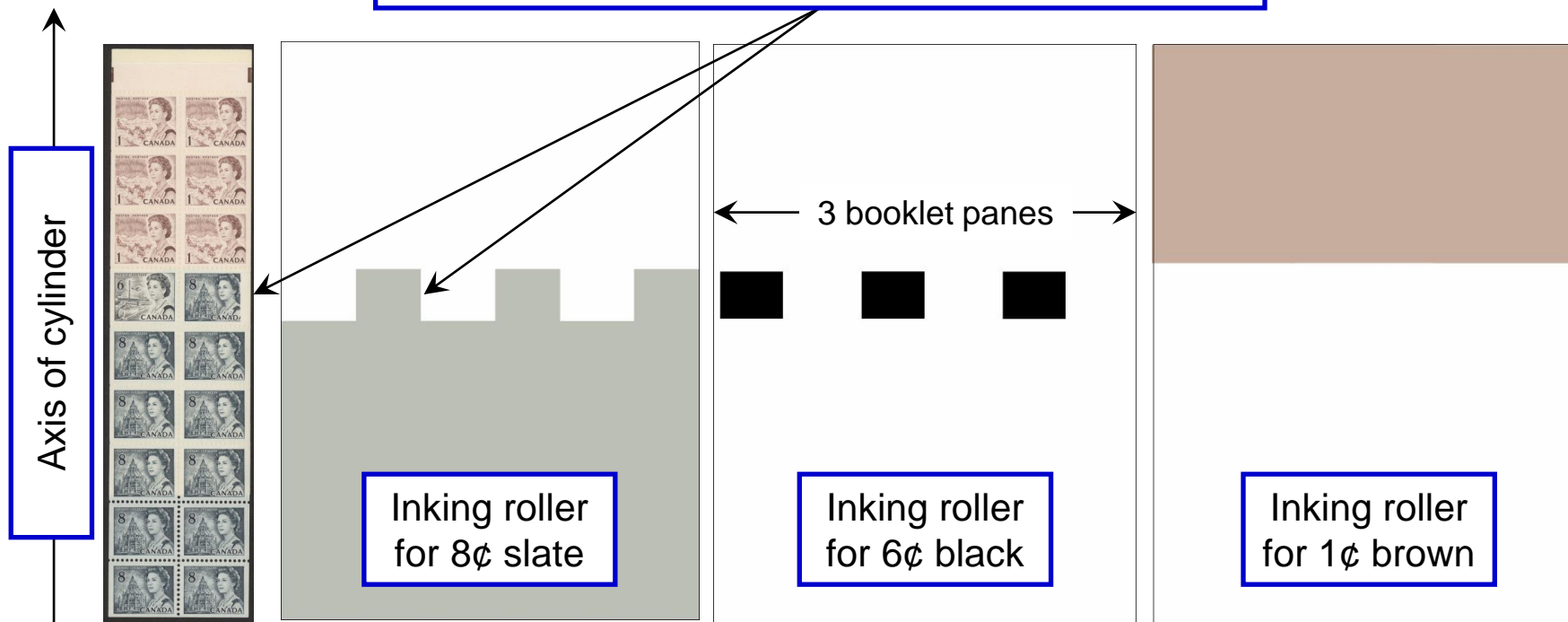
# BABN Goebel press – Missing design element



- 1971 Centennial \$1.00 booklet
  - Inking roller that picks up the ink for the 8¢ slate was damaged at one or more edges bordering the 6¢ black
  - **Not a cylinder flaw**
- Same sort of variety occurs on
  - 1974 25¢ Caricature booklet
    - “Missing 1”
  - 1974 8¢ Indian
    - “Missing bird on totem”

# BABN Goebel press – Missing design element

One or more leading edges of the 8¢ slate inking roller was damaged, and could not pick up ink.



Inking rollers for selective inking process. Coloured area of inking roller is raised. It picks up ink and deposits it on the cylinder. White areas are routed and do not pick up ink.



# Selective inking process

- 1984 32¢ Jacques Cartier
  - Printed by Imprimerie des Timbres-poste France
  - Engraved + photogravure
  - Web-fed press



Scratch flows continuously from brown on stamp 1/2 to green on stamp 2/2.

Brown and green photogravure colours were printed from a single cylinder using a selective inking process.

# Lithography with cameras

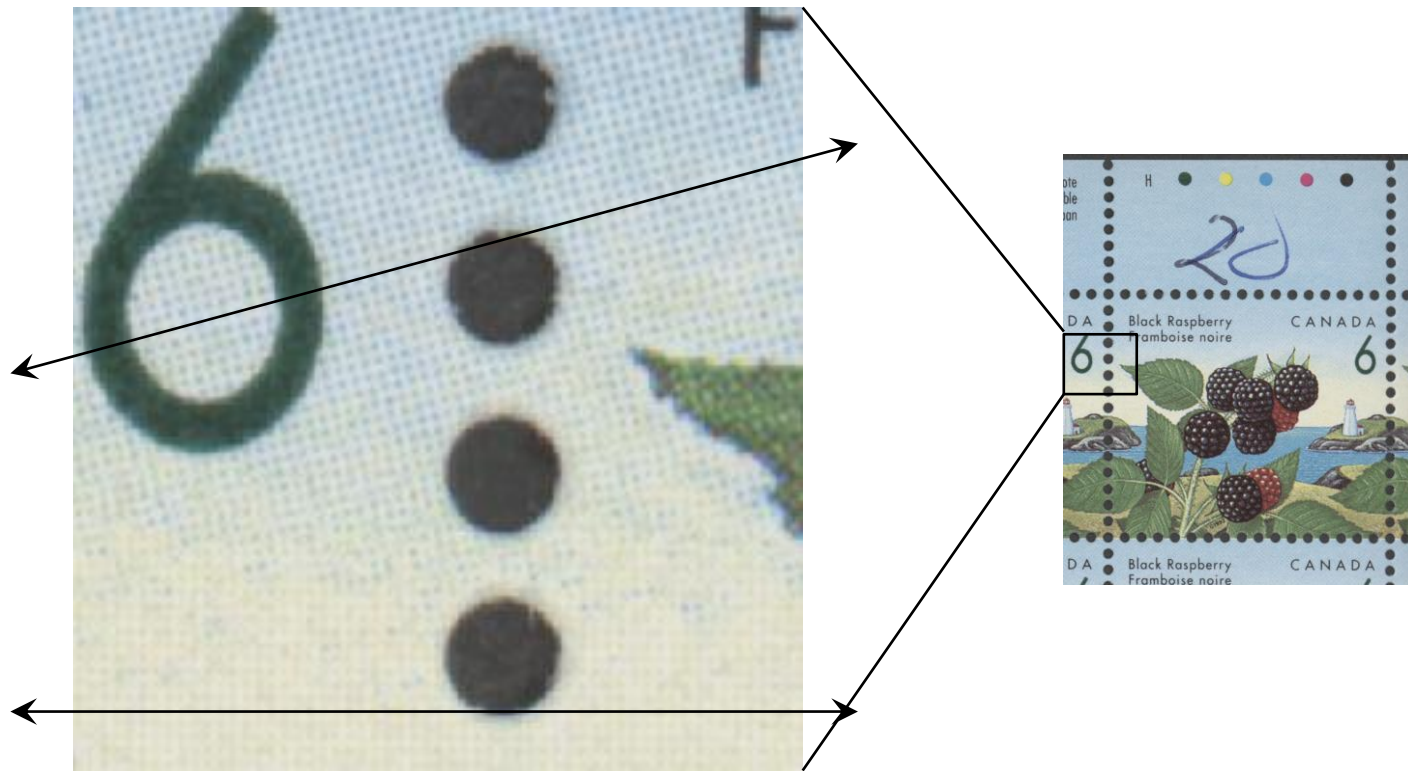


# Lithography – Mesh halftone screen

---

- Stamp design photographed through
  - Colour filters to separate the colours in the design
    - Cyan, magenta, yellow, black (CMYK: K = key = black)
  - Mesh screen to render colours as series of dots of variable size
    - Mesh 200-250 lines per inch
    - Large dots = strong colour
    - Small dots = weak colour
  - Mesh at a different angle for each colour
    - Eliminate Moiré patterns
- Stamp design multiplied on film using step-and-repeat camera

# Mesh halftone screen – 1992 Berry definitives



Lines of cyan dots – 15°  
Lines of yellow dots – 0°



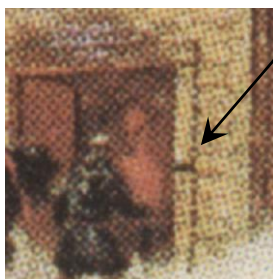
# Primary, secondary, tertiary flaws

---

- Primary flaw
  - Occurs on multiple stamps in the same pane
    - Typically, the same row or column
- Secondary flaw
  - Occurs on one stamp in pane, on multiple panes in the sheet
    - Typically, all of them
- Tertiary flaw
  - Occurs on just one stamp in the entire sheet

# Primary flaws

- Flaw appears as step-and-repeat camera replicates one-up image
  - Usually starts at beginning of row/column
  - Usually ends at the end of row/column



1972 8¢ Krieghoff  
Broken door frame  
Column 4, all 10 stamps

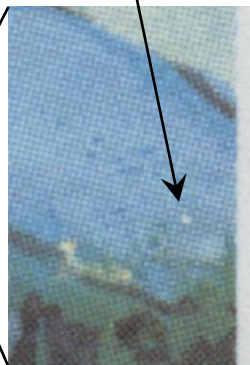


1975 8¢ Calgary  
Blue dot in “n”  
Row 4, all 5 stamps



1973-1974 16¢ Postage  
Due, 3<sup>rd</sup> issue (small  
size, PVA gum, line perf)  
“v” in top border  
Column 9, all 10 stamps

# Primary flaws – oddball distribution



1982 \$1.50 Waterton Lakes  
 “Beacon in mountain”  
 On all stamps except 1/2, 1/3,  
 1/4, and all 5 stamps in column 5.

1976 Indians – Masks & Way of life  
 “Missing medallion”  
 On stamp 1/4 and all 5 stamps in column 5



# Primary flaws

---

Can the same flaw occur on EVERY stamp of some panes but NO stamp on other panes?





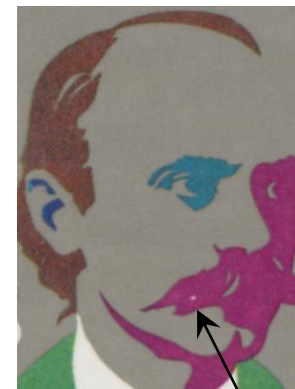
# Primary flaws

---

Can the same flaw occur on EVERY stamp of some panes but NO stamp on other panes?

Yes, it can!

# 1980 17¢ O Canada



- Every Composers stamp has “white dot in mustache” flaw
- Pane also has faint inscriptions in UL, UR, and LL corners
  - Most panes do not have either variety
  - Ashton-Potter likely used two magenta and two black plates
    - One with the flaws, one without
    - “Primordial” flaws?

# Secondary flaws

- Flaw appears as step-and-repeat camera replicates the pane in the sheet
  - Flaw on one stamp on multiple panes in sheet



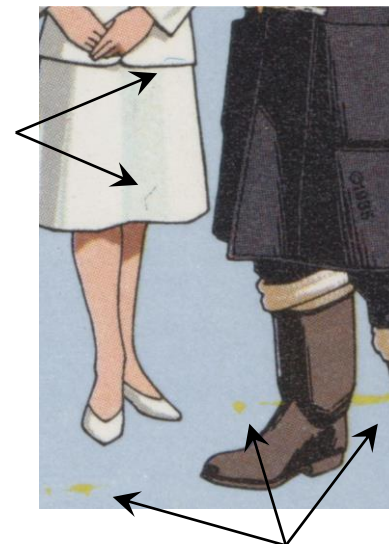
1981 17¢ Feminists  
Pink brooch on collar  
Stamp 1/1

# Tertiary flaws

- Occurs on one stamp in the sheet



1984 32¢ Lighthouses  
 “Blue, blue sea” – Stamp 5/5  
 One of the biggest litho flaws known



1985 34¢ Royal Canadian Navy  
 “Stitch in jacket” & “Thread on skirt”  
 – secondary flaws  
 “Yellow blobs” – tertiary flaws  
 All on stamp 4/7



1983 \$5.00 Point Pelee  
 “Extended sky” – stamp 5/3  
 Litho flaw, occurs on engraved plates 1, 2, 3

# \$2.00 Banff – 4 colour litho + 1 colour engraved



CBN printing  
21 June 1985  
Thin scraggly lettering



BABN reprint  
29 Oct. 1986  
Thick solid lettering



Plates: 6 panes (3 rows x 2 columns) of 25 stamps

Ref: Leopold Beaudet, "Canadian Stamp Varieties – 16", *Canadian Philatelist*,  
Vol. 37, No. 4, July-Aug. 1986.

Copyright © 2024 Leopold Beaudet

# \$2.00 Banff – 4 colour litho + 1 colour engraved



Flaws unique to CBN printing



Flaws common to CBN and BABN

Every stamp in the pane of 25 stamps on the CBN printing has secondary flaws. Every stamp can be plated. There are also tertiary flaws that allow panes to be plated in the sheet.

# \$2.00 Banff – 4 colour litho + 1 colour engraved



CBN

BABN

Stamp 2/4 on the CBN printing has an obvious red scratch. When BABN got the printing contract, CBN transferred the photographic negatives, not the aluminum plates, to BABN.

BABN noticed the scratch and removed it from the film. However, this also removed the red shading. With care, one can spot the area with the red shading missing. It looks a bit paler.

Flaw is on the lower left stamp of every UR plate block of 4



# Lithography

---

Can the same flaw occur on stamps with completely different designs from two different printers?  
Absolutely NO plates in common.





# Lithography

---

Can the same flaw occur on stamps with completely different designs from two different printers?  
Absolutely NO plates in common.

Yes, it can!

# 1992 Berry primary flaws



- 1992 low-value Berry definitives
  - 1¢, 2¢, 3¢, 5¢, 6¢, 10¢, 25¢
- 1<sup>st</sup> printing, 1992: Ashton-Potter Ltd., Coated Papers paper
- 2<sup>nd</sup> printing, 1994: Canadian Bank Note Co., Harrison paper
  - All values except 1¢
- 3<sup>rd</sup> printing, 1994: Canadian Bank Note Co., Coated Papers paper
- 4<sup>th</sup> printing, 1995-1997: Ashton-Potter Canada Ltd., Coated Papers paper
  - All values except 6¢

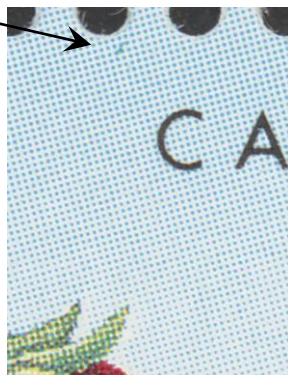
# 1992 Berry primary flaws

- **Extraordinary primary flaws**

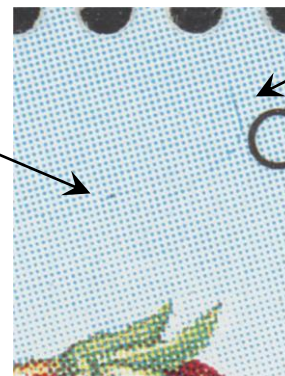
- 1. Flaws repeat on ALL stamps in specific column EXCEPT top row
- 2. Flaws occur on ALL printings except the first
- 3. Flaws occur on printings from TWO different printers
  - CBN and Ashton-Potter Canada Ltd.
- 4. **Flaws occur on MULTIPLE designs!**



Column 1  
Snake in grass/bush



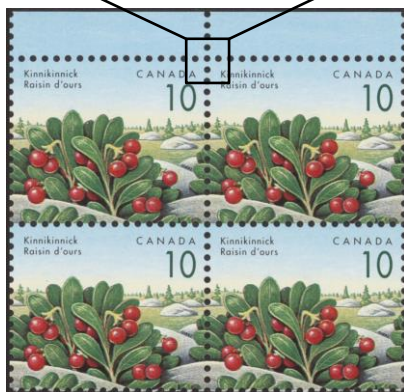
Column 3  
Bluebird



Column 5  
Blue thread



# 1992 Berry primary flaws



The blue dots in row 1 bleed to the left and right and into top selvedge

- What is common to the 7 designs?
  - Mesh halftone screen
    - Probable source of the flaws
  - Very wide screen
    - Dots run in continuous lines across all stamps in same row
- Why no flaws in row 1?
  - Only row where cyan screen bleeds above the top of the stamp design

# 1992 Berry primary flaws



Third printer, Ashton-Potter Canada Ltd.

- Why are the flaws common to CBN and Ashton-Potter Canada Ltd.?
  - CBN likely created its own negatives
  - CBN provided negatives to Ashton-Potter Canada Ltd.
- Why didn't CBN get negatives from the original printer, Ashton-Potter Ltd.?
  - Ashton-Potter Ltd. went bankrupt
  - Negatives likely unavailable

# Lithography with computers



# Lithography with computers

---

- Activities where computers have been used
  - Stamp design
  - Production of one-up image
    - Colour separation
    - Halftone screen
      - Stochastic halftone screen
  - Multiplication of image
    - Stamp  $\Rightarrow$  Pane
    - Pane  $\Rightarrow$  Sheet
  - Transfer sheet image to plate
    - Computer to plate (CTP)

# Lithography – Mesh & stochastic screens

---

- Mesh halftone screen (recap)
  - Colour separation by photography through colour filters
  - Halftone screen by photography through a mesh
    - 200-250 lines per inch
    - Colours rendered as lines of dots of variable size
      - Large dots = strong colour
      - Small dots = weak colour
  - Stamp design multiplied on film using step-and-repeat camera
- Stochastic halftone screen
  - Colour separation by computer
  - Computer renders colours as random, fixed-size dots
    - Dot size: 10 to 15 microns
    - More dots = stronger colour
  - Stamp design multiplied by computer using computer image



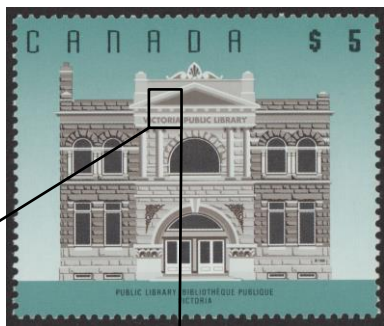
# Lithography – Mesh & stochastic screens



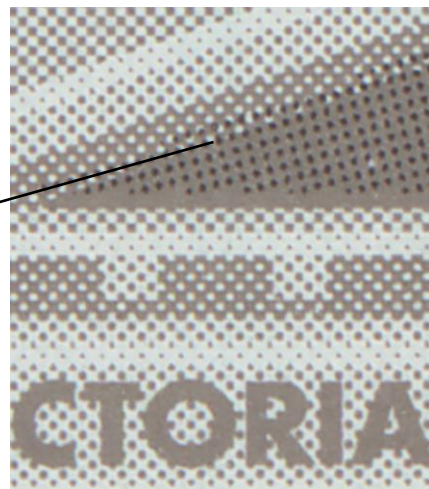
- Flag over building, 5-colour litho
  - Leigh-Mardon, 31 July 1995
    - Mesh halftone screen
    - Rows of dots, different sizes
  - CBN, reprint, 6 Oct. 1995
    - Stochastic halftone screen
    - Random fine dots, same size



# Lithography – Mesh & stochastic screens



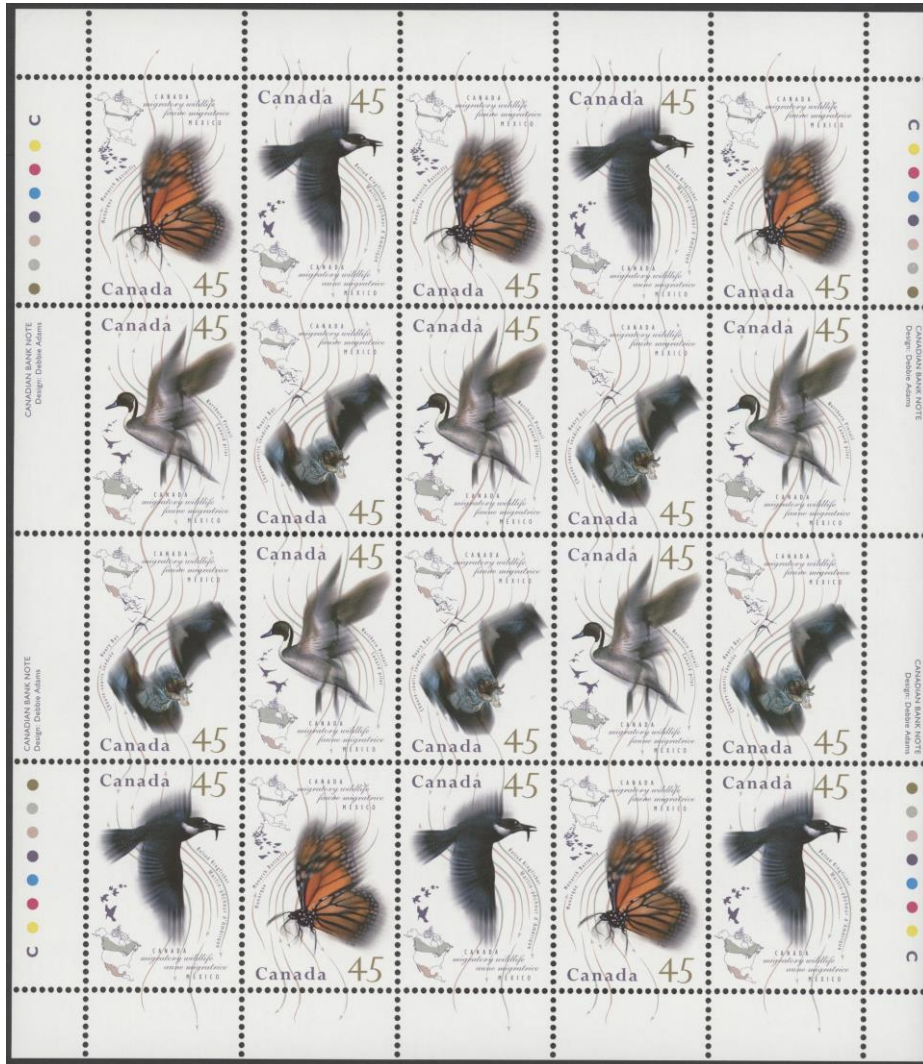
1<sup>st</sup> printing  
29 Feb. 1996



2<sup>nd</sup> printing  
Sep. 1998

- 1996 \$5.00 Victoria Library
  - CBN, 4-colour litho, 1-colour engraving
  - Mesh halftone screen
  - Black dots at 37°
- 1998 unannounced CBN reprint
  - Letters “VICTORIA PUBLIC LIBRARY” extremely sharp
  - “Dots” at top left are perfect squares
  - Black dots at 14°
  - Halftone screen likely computer-generated to simulate mesh screen

# 1995 Migratory Wildlife



- Printed by CBN
  - Lithography, 7 colours
- Design variation
  - Design differences between stamps in top 2 and bottom 2 rows
- Design error
  - “f” missing in “faune” on all Belted Kingfisher stamps
  - Reissued with error corrected

# 1995 Migratory Wildlife – Design variations



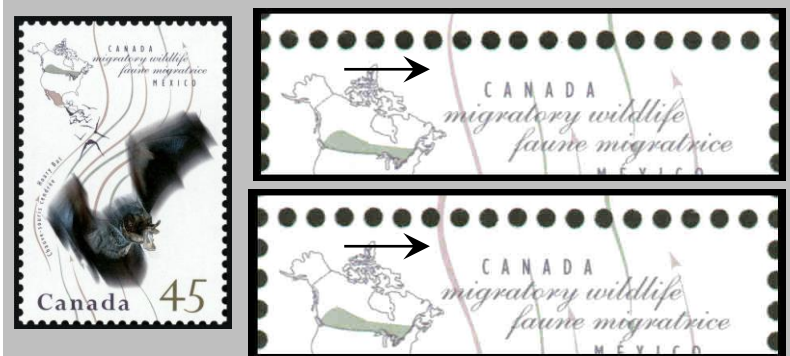
Row 1: "e" below "on"  
 Row 4: "e" below "n"



Row 1: line between "da"  
 Row 4: line through "a"



Row 2: left curved line thick  
 Row 3: left curved line thin



Row 2: left curved line thin  
 Row 3: left curved line thick

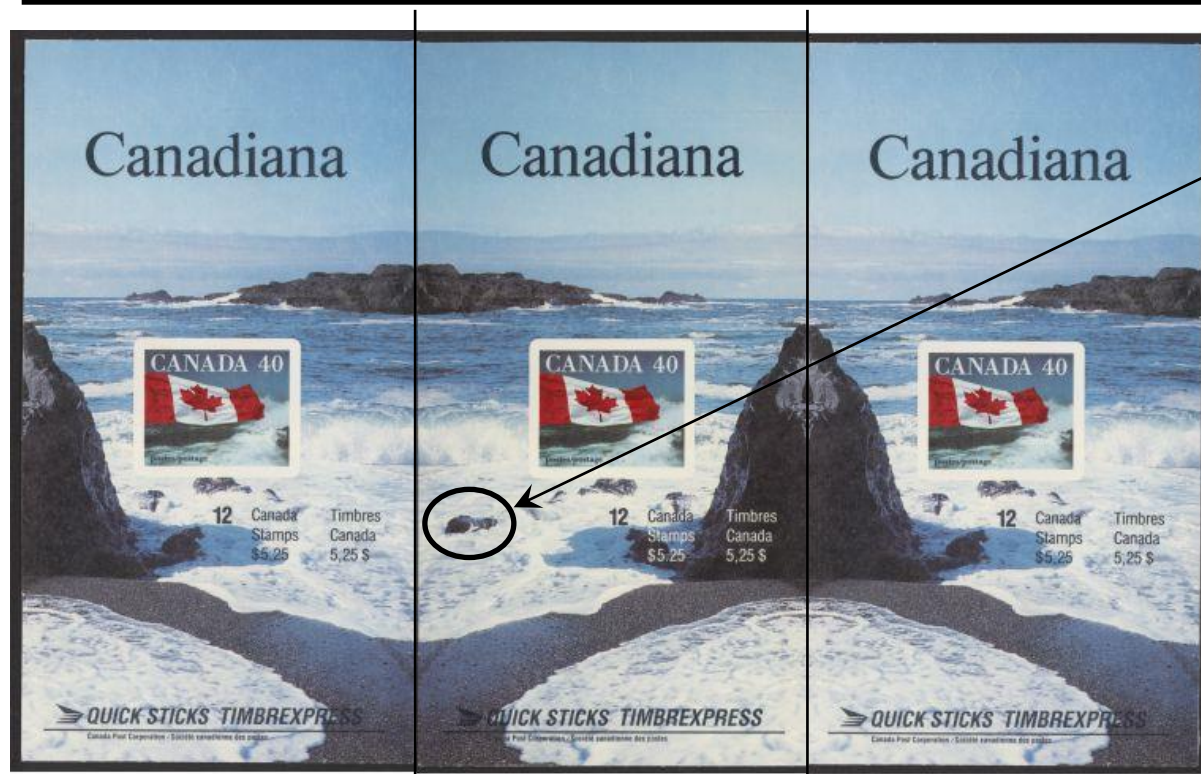
# 1995 Migratory Wildlife – Design error

- “Computer” (i.e.: “human”) error



15 Aug. 1995 issue  
“f” in “faune” missing on all 5 Kingfisher stamps  
26 Sep. 1995 reissue  
Spelling error corrected

# 1990 \$5.25 “Quick Stick” booklet



**Design variation**  
Rock removed from  
mirror images.  
Photoshopped?

Booklet of 12 self-adhesive stamps, 5-colour litho, Ashton-Potter.  
Mock-up of a group of 3 booklets. There are 4 groups (12  
booklets) on the plate, 2 rows by 2 columns.  
Left and right covers are mirror images of the centre one, almost.

# 2007 3¢ Beneficial Insect

- 5-colour lithography, panes of 50, CBN, issued 12 Oct. 2007
- Reprinted in Dec. 2009



**Design error**  
On first 4 stamps in row 2, insect name touches "Canada"



**Design variation**  
Error corrected in Dec. 2009 reprint.  
Black border thinner on reprint.

# 2004 \$1.45 Purple Dutch Iris coil



- 50¢, 85¢, \$1.45 Flower definitive coils
  - Issued 20 Dec. 2004
  - 5-colour lithography, Lowe-Martin
- All 3 coils come with the same shifted imprint variety

## Design variation

Top

Imprint lines up with "Canada". "F" over "O".

Bottom

Imprint shifted to the left. "F" over "R".



# 2004 \$1.45 Purple Dutch Iris coil



- Error does not exist on 50¢, 85¢ coils

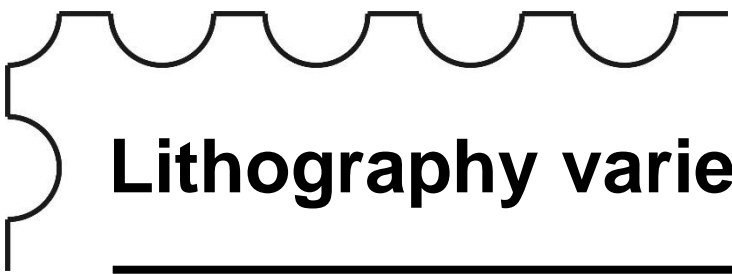
## Design error

Top

Normal LOWE-MARTIN in imprint. 1 roll in 10.

Bottom

“0” in front of LOWE-MARTIN. 9 rolls in 10.



# Lithography varieties – camera vs computer

---

- Lithography with cameras
  - Flaws due to defects in film images
  - Primary, secondary, tertiary repeating flaws
- Lithography with computers
  - Variations due to (unintended?) changes in design
  - Design errors due to computer (i.e.: “human”) slip-ups