

Campbell Patersons for collectors of NEWSLETTER New Zealand Stamps

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NEW ZEALAND NOTES AND COMMENT – by Warwick Paterson

1970 HEALTHS: To make the scene this month you would undoubtedly have to represent the three major colour groups in the 2½ plus 1c Value (Basketball girls).

Describing shades in modern stamps can be difficult and the problem seems to be accentuated by the use of offset - lithography processes like that used for the Healths (Delacryl). The reason for this lies in the photographic method used to produce the printing cylinders. Briefly a "screen" of fine criss-cross lines is exposed to the sensitized plate during the exposure of the design (in the form of photographic multipositive). This method allows the reproduction of "half-tones" - the gradations of light and shade that give the design its reality. Different parts of the stamp's design are, therefore made up of masses of tiny coloured dots. Where these dots are large you have shade. Where they are small or non-existent, you have the appearance of light. The advantage of the method, where the colour-ation of the design is concerned, is that to the naked eye a series of dots of varied colour superimposed gives the appearance of a different colour. For instance blue dots superimposed on yellow dots give to the eye the appearance of green. The enormous possibilities of this fact are exploited to some extent in our stamps, where four basic colours can be used, with expert colour separation, to produce a design of many different colours and shades. Back to the Basketball girls. Although the whole design is affected to some extent the colour variations are seen best in the "New Zealand" tablet at the base of the design. The "red" colour here is made up of magenta (dots very closely spaced) and yellow (dots). To confirm this fact it is necessary to refer to the coloured numbers in the plate block. It is variation in this basic magenta colour which has produced the different groups of colour in the stamp. Because the magenta dots are present (if invisible, and here you need your magnifier) throughout the design, such variation does affect the whole design to some extent. The three colours are (a) the common vermilion (b) the scarce light orange of which I have observed an estimated 10%-15% of total copies and (c) the rare scarlet - a deep, rich colour of which not more than 14 sheets have been found to my knowledge. This deep colour gives the entire design a distinctly reddish look.

3c. UNITED NATIONS.

As with the Healths above the colours in this stamp are a result of colour combinations. I mentioned flaws in plate 1A1A1A1A1A R4/9 and R6/5 (also pl. 1B1B1B1B1B) as occurring in the yellow plate last month. Both these flaws appear in the foreground at the bottom of the design, where yellow red and blue dots combine to form a brown "earth" colour. Arthur Dexter points out to me that my observation was at fault here. The flaws are in fact in the blue plate, as red and yellow colours are present within each flaw. Transient flaws are

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appearing quite frequently in this stamp, taking the form of colourless blobs and blotches in the blue plate - often with what I would call a "splatter" effect and sometimes with coloured areas within the flaw. Some of them last over a series of several dozen sheets and may move slightly across the sheet. Some form of foreign matter is doubtless at fault - probably lodged not on the plate itself but on the "blanket" cylinder, interfering with the transfer of inked design from cylinder to sheet of stamps. By observation and comparison it is probable that we shall learn more of the causes of this type of defect in due course.

1970 XMAS 2½c, 3c, 10c:

Again, printed by Delacryl, this year's Xmas do not seem quite up to the standard of the previous years' Harrison photogravure reproductions. The finer screen and harsher colours detract, I feel, at least from Correggio's masterpiece. On the whole I think the two lower values succeed well, however, of the 10c I find little to say in praise. The design hardly shows us much of the architectural attraction of the church tower and the colour choice is atrocious. Mark Cleverley of Auckland designed the 10c which seems a disappointment after his 25c Hauraki Gulf and 15c Maori Fish Hook (to come) and his other varied and innovatively accomplished designs.

Shades I have seen a very pale black shade in the 3c value and in the 10c there are two major variations in the orange - one quite pale.

1970 PICTORIALS:

Plate Varieties - We have found a number of flaws and retouches, in these photogravure stamps.

½c plate 1a1a1a1a R1/6 retouch under upper segment left wing R2/1 plate scratch behind antennae R6/20 blue flaw in selvedge R8/20 retouch to left antenna R9/20 behind second A of Zealand.

½c plate 1b1b1b1b: R3/14 fraction bar retouch R10/5 retouch left of upper right wing and flaw at tip left antenna R10/8 orange flaw tip of upper right hand wing.

1c plate 1b1b1b1b: R7/3 retouch under 1c, R9/1 over W, R9/4 centre top margin. R3/10 left of upper left wing R5/9 top of left antenna.

2c plate 1a1a1a1a: R9/18 retouch under 2nd A of Zealand R8/7, R9/17 behind figure 2.

3c plate 1a1a1a: R8/13 retouch left of upper left wing.

3c plate 1b1b1b1b: R6/13 flaw left moths body R2/14 retouch right margin under 3c.

4c plate 1b1b1b1b: Retouches R9/6 over 2nd A, Zealand, R10/18 above moths head.

NEW PUBLICATION ON GEORGE VI COILS

Claude Scott, whose writings have often featured in these pages has compiled and produced a superb little booklet on the George VI counter coil issues. Fully illustrated and produced in Nigeria, it is an absolute mine of information and brings together an up-to-date picture of this fascinating branch of the hobby. The work (56 pages) deals systematically with manufacture, gutter numerals, wrapper and centre papers, stamp papers and each value has a separate chapter of descriptive text and a check list of all the recorded varieties. This is by far the most comprehensive work to date on these coils and - my opinion! - represents an ideal in philatelic literature - easy to keep up to date with a snappy text and absolutely exhaustive information - a thoroughly expert job and indispensable for all philatelic societies, their libraries and Geo VI specialists --- only - - - - - 0.75c.

(We are taking orders as supplies are now on their way from Nigeria by sea - order now!)

NATIONAL JUNIOR STAMP EXHIBITION.

The Manawatu Philatelic Society is to hold a Junior exhibition in conjunction with the Manawatu Centenary Celebrations, this year. It will be open to Juniors from 10 to 21 years. Details may be obtained from the Secretary, Manawatu Philatelic Society, P.O. Box 206, Palmerston North.

ADVANCED POSTAL HISTORY (CONT.)

BY Kenneth Rowe.

The second basic material of postal history is of course ink and includes both writing and hand stamp inks. (See timetable in Part II.) The history of ink goes even farther back into antiquity than does that of paper. The ancient Egyptians are credited with developing the first inks and they were so well compounded that they have withstood the ravages of several thousand years and can still be read with ease.

Two

continued back page

ANOTHER SELECTION OF GREAT RARITIES

- KING EDWARD VII LAND.
- 39 (a) On cover to Captain Lionel Halsey - later Admiral Halsey
- obviously a genuine usage on a fine cover - - - \$35.00
- VICTORIA LAND
- (b) RD3a. 1d Dominion overprint a fine mint block of four - - - \$7.50
PTGEEON POST.
- 40 (a) VP1 Original design v. attractive mint - - - \$20.00
(b) VP2 "special post" mint - lovely - - - \$12.00
BOOKLET PANES.
- 41 (a) A small collection including ½d Green Geo V Jones paper, Cowan p14 x 15 "abdulla" ads, 1d Dominion. De la Rue without markings and Cowan with abdulla ads and a 1d universal booklet pane - all in the best possible condition - - - \$68.00
1d UNIVERSAL
- 42 (a) G2a Mint. Deep Carmine Lake fine! - - - \$10.00
(b) G10a Royle plate p14. two fine mint blocks of four Rose Carmine and Bright Rose carmine (aniline) - - - \$10.80
EXHIBITIONS.
- 43 (a) Christchurch Exhibition 3d with Exhibition postmark - - - \$ 6.00
(b) Auckland Exhibition short set mint, ½d, 1d, 3d fine - - - \$20.00
AIRS.
- 44 (a) 3d 1931 perf 14 x 15 rare mint - - - \$8.50
(b) 7d "Trans Tasman" overprint attractive block of four mint (a "sleeper" this stamp - that means it's under-catalogued and is due for a rise!) - - - \$6.50
(c) 7d Trans Tasman - On first Trans Tasman Airmail flight cover - this copy has the "broken N" variety and must be rare used thus - - - \$12.50
MORE BOOKLETS
- 45 (a) A small collection of Geo V and 1d Dominion mounted on four sheets includes 1d Field Marshal p14 x 15 no ads, also "Parisian" ads; perf 14. two panes with different selvedge markings and one with "Parisian" ads, some proofs 6f the 1d Dominion panes on de la Rue paper - one with selvedge markings - one a double pane (uncut) and two proof panes in black one on card one on de la Rue water-marked paper - nine fine items - - - \$110.00
VARIOUS.
- 46 (a) E14e 6d KIWI p.11 Watermark sideways - mint selvedge block of four. Rose Red - - - \$5.00
(b) J6a 1d Dominion mint block of four imperf. - - - \$18.00
(c) L8f 5d Swordfish perf. 13 3/4 x 13½. Double print - one albino - minor perf. grease stain - - - \$42.50
QUEEN ELIZABETH II.
- 47 (a) N41a 2d overprint on 1½d Lake Brown small figures - the rarity. Fine used - - - \$10.00
Finest mint - - - \$10.00
Plate block no 13 - - - \$60.00
Investment block of four mint - - - \$37.50
(Watch these rise!)
- (b) N4a 2d myrtle green plate 17 with major crack - - - \$10.00
(c) N42a 2½d surcharge a fine bottom selvedge block of 8 two wide the top pair showing narrow setting the rest wide setting - scarce setenant pairs (2) - - - \$10.00
(d) Ditto plate 17 narrow setting (rare) - - - \$20.00
Q.E.II ALBINO PRINTS.
- 48 (a) NC7a Coil pair of 9d with one stamp blurred centre -V rare - - - \$25.00
(b) N10a 1/- blurred centre
mint - - - \$10.00
Fine used - - - \$10.00
(d) N11a 1/6 blurred centre - - - \$16.00
Q.E.II INVERTED WATERMARKS FINEST USED.
- 49 (a) N10a 1/- - - - \$15.00
(b) N9a 9d - - - \$15.00
(c) N12a 1/9 - - - \$15.00
(d) N14a 3/- - - - \$15.00
Q.E.II OFFICIAL
- 50 (a) No25a printed on the gummed side - watermark inverted and reversed - - - \$60.00

SOME SCARCE MATERIAL (SELECTED) 1898 PICTORIALS.

31 (a)	<u>E10b 3d Huías (Reduced) p14 x 13-13½</u>		
	Fine used Copy	- - -	\$1.00
	Slightly heavier marking	- - -	\$0.45
	Fine used pair	- - -	\$2.00
(b)	<u>E13d 5d OTIRA GORGE Perf. 14.</u>		
	Brown fine used	- - -	\$0.55
	Red brown - ditto	- - -	\$0.75
(c)	<u>E13e 1/- KEA AND KAKA Perf 14.</u>		
	used orange red	- - -	\$0.25
(d)	<u>E20c 2/- MILFORD SOUND Perf 14.</u>		
	Green used	- - -	\$1.50
(e)	<u>E16b 8d Canoe perf. 11 no wmk.</u>		
	Deep Blue used	- - -	\$0.45
	Pruss. blue	- - -	\$0.60
	Ditto pair	- - -	\$1.20
	Ditto vertical strip three fine	- - -	\$1.80
	Deep blue block of four fine used	- - -	\$2.50
(f)	<u>E17b 9d PINK TERRACE Perf 11 no Wmk used.</u>		
	Singles purple	- - -	\$1.00
	Rosy purple	- - -	\$1.20
	Good used vertical strip of three	- - -	\$2.50
	Strip of three	- - -	\$2.50
	Deep purple vertical pair	- - -	\$2.50
(g)	<u>E18b 1/- Kea and Kaka perf 11. no wmk used (fine)</u>		
	Singles red	- - -	\$0.50
	Dull orange red	- - -	\$0.40
	Ditto fine pair	- - -	\$0.80
	Bright or red pair	- - -	\$2.00
(h)	<u>E19b 1/- KEA and KAKA (Reduced) Perf. 14 15.</u>		
	Orange red - V. Fine used	- - -	\$2.50
	A pair	- - -	\$5.00
(i)	<u>E20b 2/- MILFORD SOUND Perf 11 no. watermark - fine</u>		
	Singles used blue green	- - -	\$3.50
	Deep green	- - -	\$4.00
	grey green	- - -	\$3.50
(j)	<u>E21b 5/- MT. COOK Perf 11 No. Watermark - used</u>		
	Vermilion	- - -	\$12.50
	Carminion	- - -	\$17.50
	<u>1898 OFFICIAL.</u>		
32 (a)	<u>E015c 6d KIWI P14 x 15 - good used</u>	- - -	\$1.25
(b)	<u>E018e orange red used</u>	- - -	\$1.20
	red used	- - -	\$1.50
(c)	<u>E020e 2/- MILFORD SOUND Deep green</u>	- - -	\$2.50
(d)	<u>E014g 6d KIWI p14 Mint</u>	- - -	\$3.50
(e)	<u>E020e 2/- MILFORD SOUND</u>		
	Blue green unused	- - -	\$3.00
	<u>K. EDWARD VII OFFICIAL (USED)</u>		
33 (a)	<u>H03c 3d chestnut p14 x 13½</u>		
	Used fine	- - -	\$6.00
(b)	<u>H03a Ditto p 14 x 14½</u>		
	Used	- - -	\$0.15
	- pair	- - -	\$0.30
(c)	<u>H06b 6d Carminep14x14½ each</u>	- - -	\$0.30
(d)	<u>H07b 8d Indigo blue p 14 x 14½</u>		
	Fine Indigo	- - -	\$1.00
	Deep bright blue	- - -	\$1.00
(e)	<u>H07c ditto p14 x 13½</u>		
	used	- - -	\$1.00
(f)	<u>H08b 1/- Vermilion p14 x 14½</u>		
	Used fine	- - -	\$2.50
	Magnificent used block of four	- - -	\$12.50
	<u>1d DOMINION</u>		
34 (a)	<u>J4a De la Rue Chalky paper with sideways watermark.</u>		
	Fine used	- - -	\$0.85
	Ditto pair	- - -	\$1.65

continued page 6

AMAZING CHEAP MULTIPLES OFFER:

Including material of inestimable value to student and specialist and an opportunity to add a spectacular new feature to any N.Z. collection at a ridiculously insignificant price!

- 36 (a) CHRISTCHURCH EXHIBITION:
1d Vermilion: an unused block of four - no gum but extremely attractive - - - \$1.00
- (b) Ditto 3d another block of four - no gum. - - - \$7.00
- (c) DUNEDIN EXHIBITION:
½d green on green - no gum unused block of four - - - \$0.25
- (d) Ditto 1d Value as (c) - - - \$0.25
- (e) Ditto 4d bottom left hand block of four showing "POSTAGF" Flaw - some gum stains but superb value at - - - \$12.50
- (f) E4a 1½d Boer War Perf. 11.
Lovely used block of six - two stamps damaged but given away at - - - \$2.00
- (g) K15a Field Marshal p.14
Cowan Serial no. block of four no gum unused - - - \$0.05
- (h) K15a Ditto Booklet pane unused, with Parisian ads, no gum - - - \$3.00
- (i) K18L 2d Yellow Wiggins Teape Paper Perf. 14
Unused, no gum, top right hand selvedge serial no block of 15 cat. \$9.00 - - - \$3.25
- (j) K018e 2d Yellow Official
2 Superb plate or overprint study blocks - top right hand selvedge corner serial no block of six and a huge block of 40 from the left hand side of the sheet comprising the first four vertical columns. Cat. at \$13.80 (orange yellow) (no gum) - - - \$5.00
- (k) K019d 3d Chocolate Official Cowan Perf. 14
Block of six (Cat. \$4.50) (no gum) - - - \$2.00
- (l) K11a 9d Sage Green Official
A stupendous block of 24 (4 wide) from the bottom right hand corner of the sheet including 4 two per. pairs between rows 5 and 6 - no gum Cat at \$12.00 - our price - - - \$5.25
-

FULL FACE QUEEN - Perforated 12½

Not-so-fine and intermediate condition short sets offer.

- 37 (a) Two plates were used to print the 2d blue between 1864 and 1871. (When the 2d was being perforated on a machine the heads of which gauged 12½). Plate 1 had worn badly during the printings in London, and Richardson and Davies local prints (1855 to 1864) Various degrees of wear are found of course but we have made up some sets of two - one from each plate - the plate 1 well worn the plate 2 showing no wear - Sets available at \$1.75, \$2.25, \$4.50, \$5.00, \$5.50, \$6.00, \$7.00.
- (b) As above but an additional plate 2 copy shows the "dry print" effect seen often in marginal copies of this era. Where the ink was unequally applied - three attractive copies. - - - \$7.50
- (c) A set including 1d red and 2d blue (plate 2) at \$1.75, \$2.00, \$2.25, \$2.50, \$4.00, or \$5.00. Naturally the higher priced short sets are for increasingly fine copies.
- (d) This set includes 1d red, 2d blue (plate 2) and 3d lilac at \$3.50, \$6.00. (choose).
- (e) Ditto. But with 3d deep mauve instead of lilac. \$7.50, \$8.50, \$14.50, \$15.00.
- (f) Set including 1d red, 2d blue, 6d brown or red brown \$3.50, \$5.00.
- (g) Shows 1d red, 2d blue, 3d deep mauve, 6d red brown - - - \$13.00
- (h) As above (g) but includes 1/- green instead of 6d red brown. \$7.50, \$12.50.
- (i) Unused Short Set. 1d red, 2d blue and lovely they look - - - \$4.00
- (j) Ditto 1d red, 2d orange - - - \$10.00
- (k) Ditto Unused 1d red, 2d blue, 2d orange (no watermark) - - - \$35.50

IT'S SHATTERING!!

But it soon will be Xmas again and time to think of GIFTS. We suggest that you give these C.P. publications your serious consideration. Xmas is a time when you give the best - and these are the best of the best.

C.P. Loose Leaf Catalogue of N.Z. Stamps an exhaustive handbook - an asset to any library!

(in the new "Jumbo" size binder) - - - \$12.00

C.P. Loose Leaf Album Colours available, blue, green, black and red. - - - \$6.95

C.P. Newsletter - you're reading one now - wow! - per year - - - \$1.50

A HUGE POSTAL HISTORY COLLECTION

Mounted in 30 volumes we offer this stupendous showing of N.Z. postmarks - on stamps, on piece. Total of stamps is over 11,000 and many scarce offices are represented. There are several dozen full face Queens with early markings. This is a wonderful chance for a collector to purchase a framework in which he can build a superb postal history collection - no remounting will be required and the existing albums will accommodate a vast expansion in the collection. This outstanding lot - - -

38. Price on application -

SELECTED SCARCER MATERIAL (Cont)

	Superb block of six	- - -	\$5.00
	No watermark used	- - -	\$1.00
	GEORGE V		
35 (a)	<u>K1a 1½d Grey p 14 x 13½</u>		
	Used	- - -	\$0.09
	(b) K1b ditto p14 x 14½ used	- - -	\$0.09
	(c) <u>K2a 2d Violet p14 x 13½</u>		
	Violet used	- - -	\$0.65
	Deep violet used	- - -	\$0.65
	(d) <u>K2b Ditto p14 x 13½</u>		
	Violet used	- - -	\$0.65
	Deep Violet used	- - -	\$0.65
	(e) <u>K2d yellow p14 x 13½</u>		
	Finest dated used	- - -	\$0.75
	or fine used	- - -	\$0.50
	(f) <u>K2e ditto p14 x 14½</u>		
	Finest dated used	- - -	\$0.75
	or fine used	- - -	\$0.50
	(g) <u>K6a 4½d green p14 x 13½</u>		
	Fine used	- - -	\$0.60
	(h) <u>K7a 5d Blue p14 x 13½</u>		
	Used light blue	- - -	\$0.25
	pale ultra	- - -	\$0.45
	steel blue	- - -	\$0.40
	(i) <u>K7b Ditto p14 x 14½</u>		
	Used ultra	- - -	\$0.75
	steel blue	- - -	\$0.75
	(j) <u>K9a 7½d Deep Red Brown p14 x 13½</u>		
	Used finest	- - -	\$1.00
	(k) <u>K9b ditto p14 x 14½</u>		
	Used finest	- - -	\$1.50
	(l) <u>K10a 8d Indigo Blue p14 x 13½</u> Used	- - -	\$1.20
	(m) <u>K10b Ditto p14 x 14½</u>		
	Fine used	- - -	\$1.20
	Superb used block of four	- - -	\$5.50
	(n) <u>K19b 3d Chocolate Jones Paper</u>		
	Fine used	- - -	\$0.75
	(o) <u>K21b 3/- Mauve on Cowan paper</u>		
	Good used	- - -	\$6.00
	Not so fine used with light postmark	- - -	\$0.75
	Fine used strip of three	- - -	\$20.00

FULL FACE QUEENS:

A selection of fine pairs and a chance to add another dimension to an already attractive collection.

16	(b) SG2 London 2d 1855.			
	While you're about it why not consider this magnificent, four margined lightly marked pair - margin ragged and close one point at bottom - stupendous!	-	-	\$350.00
	Well, we admit we haven't a pair of SG3 <u>this</u> month but we <u>can</u> do.			
	(c) SG4 Richardson's first colonial			
	Print 1d red on blue paper In a magnificent pair - light mark - good colour, clear faces - one stamp touching one point (cat \$360)	-	-	\$225.00
	(d) SG14 Richardson's printing of the 6d pale brown on <u>White paper</u> .			
	Vertical pair. Light mark - four margins - exquisite!	-	-	\$135.00
	(e) SG44 Davies printing of the 1/- Dull green on star paper.			
	Four margins - a very impressive item	-	-	\$ 75.00
	SOME SINGLES.			
17	(a) SG52 3d Brown-lilac - roulette 7.			
	Unused - a lovely example - v. clean 0.g etc.	-	-	\$110.00
	(b) SG74 3d perforated 13 at Dunedin.			
	Unused - centering good for this item 0.g.	-	-	\$ 75.00
	Perforated 12½ - a few more pairs.			
18	(a) SG110 1d Carmine-vermilion.			
	A fine used pair	-	-	\$ 15.00
	(b) SG113 2d blue plate 1.			
	Heavier marking but good	-	-	\$ 5.00
	(c) SG117 3d lilac			
	Light mark - lovely	-	-	\$ 10.00
	(d) SG112 6d Red brown			
	Fine used pair	-	-	\$ 5.00
	(e) SG113 again			
	This time nice appearance used strip 3 - defects	-	-	\$ 4.00

A NICE SHOWING OF EDWARD VII (MINT)

51	(a) H1a ½d green			
	Mint each	-	-	\$0.15
	Block of four	-	-	\$0.60
	Block of six shows R3/18 "flaw under NY" rare in pos block	-	-	\$10.00
	(b) H2a 2d Mauve			
	Mauve and rosy mauve set (2)	-	-	\$1.75
	Two blocks of four rosy mauve and deep mauve	-	-	\$8.00
	(c) H3a 3d Chestnut p14 x 14½			
	Chestnut each	-	-	\$0.85
	Block of four	-	-	\$3.20
	Ho 3a official block of four	-	-	\$2.00
	(d) H4a 4d Red-orange p14 x 14½			
	Each	-	-	\$0.80
	(e) H4c 4d yellow p14 x 14½			
	Each	-	-	\$0.65
	Block of four	-	-	\$2.60
	(f) H5a 5d Brown p14 x 14½			
	Deep brown and deep red brown blocks of four - 2 blocks mint	-	-	\$8.00
	Two perf pair	-	-	\$3.00
	(g) H6b 6d Carmine perf 14 x 14½			
	Each	-	-	\$2.00
	(h) H7b 8d Indigo - Blue p14 x 14½			
	Indigo blue and deep bright blue blocks of four	-	-	\$7.00
	Indigo single	-	-	\$0.65
	H07b official block of four	-	-	\$2.50
	(i) H8b 1/- Vermilion p14 x 14½			
	Each	-	-	\$3.00
	H08b Official each	-	-	\$3.00
	Block of four ditto	-	-	\$12.00

Carbon Bases Inks:-

Carbon based Inks are the most permanent types of ink known and remain dark and distinct for centuries. The main constituent of most of them was lamp black (finely divided carbon) which was mixed with gum or glue and water to provide a smoothly flowing liquid. The raw materials, for many years, have been imported from China or India in the form of sticks. Hence the name India Ink for this product.

The use of carbon inks has never died out in the countries of the Middle and Far East but they are mainly used for art and drafting work in Europe and America. It is almost impossible to bleach out even a poor quality carbon ink without serious damage to the paper. But their consistency means that they do not penetrate the paper fibres very deeply and consequently tend to smudge easily and can be washed off.

Iron-Gall Based Inks:-

The art of writing was for centuries a polite accomplishment, only known to a privileged few and consequently the manufacture of ink was a domestic function. Recipes were recorded by careful housewives and handed down from generation to generation. The following recipe is from an Elizabethan family recipe book:

"Take four ounces of gum arabick, beat small, 2 ounces of gall beat gross. One ounce of copperas, and a quart of the coming of strong ale. Put all these together and stir them 3 or 4 times a day - about 14 days then strain it through a cloth."

W.J. Barlow lists 86 different recipes recorded in various publications between 1412 and 1842. Most of these formulae produce inks which are very acid in composition and contribute to paper deterioration. Many of them have extreme migratory properties.

When solutions of gallocannic acid and ferrous sulphate are mixed the liquid at first remains colourless. It is only when oxidation takes place that a violet-black solution is formed. Most such inks were exposed to air for varying lengths of time in order to yield an immediate black impression but fully oxidized inks do not penetrate the paper fibres very well (Figs. 1 and 2). Stephens of England introduced unoxidized inks in 1836 by the addition of indigo to the unoxidized solutions. The unoxidized ink penetrates well into the paper. Oxidation and the formation of insoluble particles taking place within the fibres. Such inks write blue due to the provisional colouring supplied by the indigo and dry black due to the oxidation of tannate. Partially oxidized and unoxidized inks tend to be very acid and many readers will have seen letters from the last century where the ink has either attacked or destroyed the paper. Iron tannin inks are easily bleached out by a number of chemicals including chlorine solutions, nitric acid and ozalic acids.

Copying Inks

As has been stated earlier iron-gall inks are very susceptible to migration and it is probable that an observation of this phenomenon led to the development of copying inks. The first such ink was patented by James Watt in 1780 and comprised an iron gall concentrated formula with additional gum or glycerine to aid in the transfer of the writing. When the letter had been written it was placed in a screw letter press with a damp sheet of copy paper. The transferred impression then became the file copy. It was also customary when writing to distant parts of the world to send duplicate and triplicate copies of letters by different routes to ensure delivery.

Most collections of postal history material contain, of necessity, a high proportion of commercial correspondence and it is reasonable to assume that a fair number will be written in an ink of this type or in fact may be copies produced by this process. Due to the binding effect of the gum, ink on original letters is very permanent but the transferred impressions are often weak and fugitive.

Coloured Inks.

Prior to 1863 all coloured inks in use were prepared from either vegetable or mineral dyes and most are unstable. After 1863 the discovery of the aniline dye series produced first the colour violet and in 1874 the colour red. These colours were also not permanent.

Ball Pen Inks.

Patents for ball type writing instruments date back to 1800 and the first such pens were available commercially in 1895. For various reasons they were not widely accepted and the idea was only exploited fully after their introduction in 1944. Ball pen inks are compounds of dyes or pigments in an oily or resinous carrier. Some are very similar to lithographic varnishes. Early examples are extremely fugitive and have a tendency to offset even after twenty years.

Although advances in ink technology have made their acceptance universal their very cheapness advertises their non-permanent quality. Ball pens are available with record quality inks but it is doubtful if even these will achieve the degree of permanence attained by the carbonaceous and iron-tannin inks.