

LIQUID OF LIFE -

BLOOD, FROM AN ANCIENT MYTH TO A MODERN MEDICINE

Throughout the ages people believed that blood contained mysterious and magical properties and was the elixir for the cure of most maladies. The following is study of blood and the blood circulatory system, from ancient myths to the development of the modern day science of haematology, included are diseases of the circulatory system, heart and blood, leading to the establishment of blood transfusion as a modern effective treatment of some these diseases, the importance of blood donors, their recruitment with the aid of the postal services, the act of donating and finally receiving the 'Liquid of Life' itself.

Background image is an electron micrograph of blood cells within a blood vessel from GB 2003 prestige booklet, inside front cover enlarged x12



The village of Blood was named after the Blood families from New York and Vermont. See derivation of surname Blood page 3. Blood, Edwards County, Illinois had a P.O. between 1893 and 1910.

- | | |
|--|----|
| 1. A MYSTERIOUS LIQUID - myths of ancient times and the influence on propaganda | 2 |
| 1.1. Myths and legends - the legend of the pelican begins the story | |
| 1.2. Religion and propaganda - the symbolic use of blood in religion and political propaganda | |
| 2. UNRAVELING THE MYSTERIES - over the centuries scientists dispel the myths | 9 |
| 2.1. The heart of the matter - the physiology and role of the heart can at last be explained | |
| 2.2. A blood science is established - haematology comes of age | |
| 2.3. Composition & function of blood - a complex mixture of cells suspended in plasma | |
| 2.4. Examination of the heart and blood - technology helps us to understand and diagnose diseases | |
| 3. DISORDERS OF THE CIRCULATORY SYSTEM - blood requires a healthy heart and circulation | 24 |
| 3.1. Heart disease - what chance when the heart fails | |
| 3.2. Poor lifestyle habits - can cause circulatory complications. | |
| 3.3. Prevention is better than cure - cardiovascular disease can be prevented | |
| 3.4. Treatment of heart disease - but when the heart fails there is every chance | |
| 4. COMPLEX BUT WITH OCCASIONAL DEFECTS - blood diseases & treatments | 37 |
| 4.1. Purifying the blood - some early universal medications. | |
| 4.2. Blood borne infections - from ancient plagues to AIDS, diseases transmitted by blood | |
| 4.3. Blood disorders - anaemia, the most common, causes such as leukaemia & treatment | |
| 4.4. Losing the life blood - bleeding can be life threatening and may need a blood transfusion | |
| 5. A MODERN MEDICINE FROM AN ANCIENT MYTH - blood transfusion begins to develop | 52 |
| 5.1. Early beginnings - important discoveries are made | |
| 5.2. Blood transfusion services - out of war a modern service is born | |
| 6. BLOOD DONORS ARE ALWAYS NEEDED - the importance and recruitment of donors | 63 |
| 6.1. An invitation to donate blood - with the assistance of the postal services. | |
| 6.2. Blood donors unite - local to international communities united for a common purpose | |
| 6.3. Donor motivation - all countries need a regular supply of blood donors | |
| 6.4. Blood donor appeals - important messages to recruit and retain donors | |
| 7. THE GIFT OF LIFE - the process of donating and receiving the liquid of life | 85 |
| 7.1. Maintaining supplies - how much blood is needed | |
| 7.2. The process of blood donation - the act of giving the 'gift of life' | |
| 7.3. Blood preparation - blood grouping and separation of blood into its components for transfusion... | |
| 7.4. Why and how a blood transfusion is given - finally receiving the precious liquid | |
| 7.5. Conclusion - from an ancient myth, blood = life | |

TOTAL PAGES IN THIS EXHIBIT 96

Fonts used: Thematic text font. Philatelic text font. Items of both philatelic and thematic special interest underlined

Photocopies/scans reduced by 25%, unless otherwise stated



Llama blood is regarded as sacred by Native South Americans, blood is sprinkled around doorways to bring blessings to those that enter. Issued in 1873 for lower rate (2c) post within Lima only, example with worn 'c' of centavos



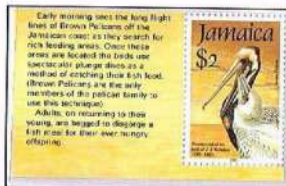
Meter: Francotyp-postalia, mymail



Meter: Sotas, baby

A MYSTERIOUS LIQUID... 1. MYTHS AND LEGENDS.

...myths of ancient times and the influence on propaganda...
...the legend of the pelican begins the story



The legend of the pelican arose from the belief that the pelican pierced its own breast to feed its young on its own blood.

The emblem of the pelican feeding its young is often used as a charitable symbol, such as the Empress Maria Feodorovna Institution for orphanages.

Later, the pelican came to be used as a symbol of blood donation by many Blood Transfusion Services



First used Sept 1950 in Dublin (Baile Atha Cliathe) 3 dies, Cork, and Kilkenny (Krag), and again in 1951 in Dublin and Cork



Belgium Red Cross Blood Donor Emblem



AFDS - Association Fruite Donor Sang (Blood Donors Association of Fruite)



Russia multi-advertisement letter sheet, 1899 sold for a reduced price, - 5 kop with income from advertisements going to the Maria Feodorovna charity. Letter No. 14, 5000 printed. Used to Germany upgraded to 10 kop for international postage rate. Text above the emblem means 'charitable'.



Netherlands Red Cross Blood Donation Service

I.I. MYTHS AND LEGENDS

The pelican myth, led to the belief that the act of either drinking blood or replacing it, would give the person some special powers



In Greek mythology Ovid tells us that Medea restored to strength the ageing Aeson by removing his exhausted blood and replacing it with her own magic concoction, and...

...Ulysses regained consciousness in the Kingdom of Death by drinking blood,



An Aboriginal custom of when starting on an avenging expedition every man drinks some blood, so as to make him 'uchuilima', that is, lithe and active, red ochre is used in artwork to illustrate blood.

However, it was Bram Stoker's 19th century story of Count Dracula, that took the idea of drinking blood to another dimension...



...he based his story on some of the above accounts, and including folklore inspired by the ruthless Vlad the Impaler, together with the feeding habits of the vampire bat.



The neck of female victims was the favoured area for extracting blood...



Type I Type II Type III Type IV
1888 3c small queen 'vampire bite' variety, probably caused by accidental damage during retouching of the plate impression.

...by this act Dracula's immortality was assured



mystical properties of drinking blood

In ancient Rome epileptics were 'treated' with generous doses of human or animal blood...

...and gladiators drank blood to give themselves extra strength.



I.I. MYTHS AND LEGENDS

blood letting

As opposed to drinking blood, blood letting had its own scribes.

According to the Romans, man learned the act of blood letting from the hippopotamus, when the animal feels plethoric it violently scratches itself against thorns and trees until it bleeds - later staunching the blood by wallowing in river mud, but not on its back!



Imperfected proof pair with control punches



Brown issue for general use Inverted centre section Colour die proof

Blue issue for official use, without OS overprint

grey proof with OS overprint with slight centre shift (not issued)

blue proof with OS overprint

Ancient Greek painting on a vase, showing a physician bleeding a patient from the arm,



However, it was Galen in the second century who first described blood letting in any detail



An early scene of patient undergoing blood letting from his leg.

The people who carried out blood-letting often adopted the name "blood", this is thought to be the derivation of the surname Blood

The philosophy that blood letting removed impure blood, survived for many centuries as a result it probably led to the early demise of ...



...George Washington...

...and Wolfgang Amadeus Mozart



Hollywood films also perpetuated the myth of "blood brothers" amongst North American tribes, although well renowned for their hunting skills, they did not practice this custom...



...but blood contracts were not uncommon Prince Arpad elected ruling Prince of the Hungarians with a compact sealed with blood. Wall painting of Bertalan Székely in the council room of Kecskest City Hall.

The most famous was the 16th century 'blood compact' agreement called Sandugo, between Philippine natives and their Spanish conquerors.



In some parts of the world blood-letting is still practiced, as part of religious ceremonies



▲ Blood's Penny Post private post, postmark 1859 part of the Philadelphia Despatch Post, in use between 1853 and 1860



Salzburg am 27. I. 1806.
Gedenkfeier der 150. Wiederkehr von Wölg. Amadeus Mozarts Geburtslag

L1. MYTHS AND LEGENDS

The Vikings held many beliefs about the Earth which was created after Odin and his brothers killed the evil giant Ymir,

they set his skull in the sky and flung sparks of fire from Muspelheim to make it the Sun His blood gushed upon the land forming the rivers, and drowning all but two of the frost giants who escaped the deluge in a boat.



Black and white proof, from printers first reduction. sheet, taken from an original sheet of 9 values (3 - 35 auror), with text "18 die zur ausführung bestimmten 16 entwürfe nach Schwarz-Weiss-Zeichnungen von Ludwig Hesshämer. Richtige Proportion 34:23. Erste Verkleinerung. Blatt 1"

It is in this part of the creation myth that Loki, an offspring of the frost giants and blood brother of Odin, gave the humans blood.

Ymir's blood then circled the Earth as the sea, not turning the sea red but giving the sea its many different hues of blue-green, and perhaps brown!



The Imperial Penny Postage came into effect on Dec 25, 1898. Canada Post Office issued a 2c equivalent to GB 1d stamp, half with the ocean in blue and half with the ocean in green, a muddy brown variety is due to oxidation of the blue/green ink by contaminants in the air or the water used in production.



So Odin and the Vikings sailed on the 'sea of blood' across Northern Europe,

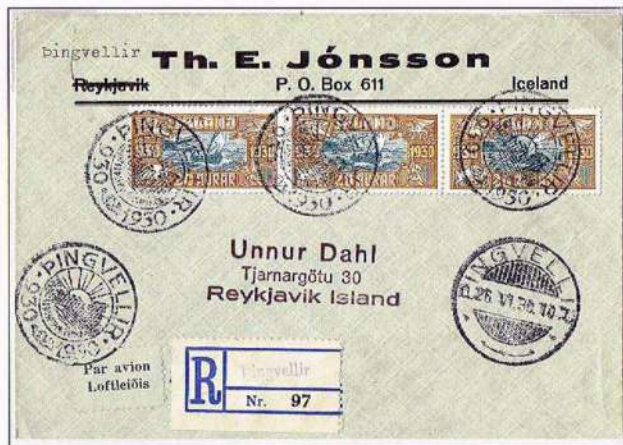


and as they colonised lands as far as America, so their beliefs followed...
...until their conversion to Christianity in the 8th century



◀ Inscription at bottom left corner - 'Honouring blood donors - apply to the Red Cross'

The Vikings



Registered letter from Pingvellir, Iceland dated 26 June 1930, the special cancellation postmark shows the rising sun.

L2. RELIGION AND PROPAGANDA

With these numerous myths surrounding blood, it is not surprising that blood is frequently symbolised in religious beliefs



At the Last Supper Christ preached "This is my blood of the new testament which is shed for many"



Pilate washed his hands of the Blood of Christ proclaiming "I am innocent of the blood of this person"



Christ's body was then wrapped in a shroud, the Turin Shroud, is believed to contain his blood stains.

Following the crucifixion, legend has it that the robin was splashed by the blood of Christ and thus obtained its red breast,



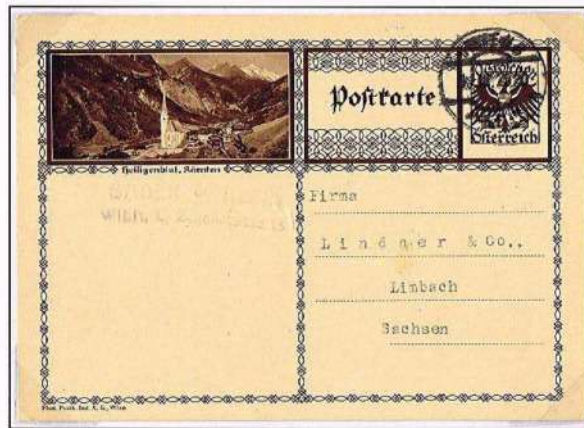
Missing red Before the crucifixion
red colour shift blood falling on bird
normal issued stamp robin with feral red breast

Since this time the blood of Christ is venerated in Christianity

There is an old legend that Derrick of Alsace, brought the relic of the Holy Blood of Christ to Belgium in 1150, and is now part of the Holy Blood Procession



The Austrian village of Heiligenblut meaning "Holy Blood", founded in 1273, after Briccius a Danish commander, which legend claims brought back the blood of Christ from Rome. He perished in 914 under an avalanche in Hohe Tauern



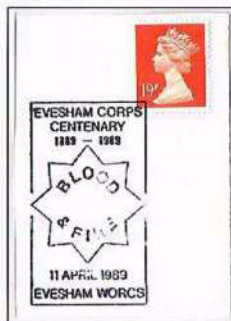
Meter: Patney Bowes, model R

The aim of the Missionary Sisters of the Precious Blood is to make the Precious Blood of Christ fruitful through their way of life.



1.2. RELIGION AND PROPAGANDA

Many religious orders take their name from the precious blood -



The motto of the Salvation army is "Blood and Fire" - The Blood which was shed by Jesus for our sins and the Fire of the Holy Spirit



Enlarged sections x4

Blue colour shift on upper stamp, starting to partially cover the word "blood" on flag



St. Maria Matilda De Mattias, was the founder of the religious congregation of the Sisters Adorers of the Blood of Christ.



St. Gennaro of Naples is the patron saint of blood banks, his blood contained in a vial liquefies every year

St. Lucia patron saint of the blind, is invoked against haemorrhagic disorders, after being stabbed in the neck.



Others too claimed these magical powers such as blacksmiths or farriers who were believed to be "blood charmers", capable of staunching a haemorrhage.

from saints to blacksmiths

Neukirchen-beim-Heiligen-Blut (Neukirchen-at-the-Holy-Blood) derived its name during the Hussite Wars c1450, when attempts to destroy the statue of the Madonna, by hacking it to pieces resulted in fresh blood spurring from the wounds!



1923 postcard from Neukirchen b. hl. Blut, with violet Ra3 Post Office Neukirchen hl. Blut post office to Nuremberg Account No. 21 726 hs. and Neukirchen b. hl. Blut cds.

Originally a China postcard (1), confiscated and used by the Japanese army during the 1942 occupation of China. Label (2) which signifies that this card is for the use of military authorities, the mail was censored by the Japanese authorities, censorship mark (3), and the personal stamp of the individual censor (4), thus a field postcard by use.



Wars and battles would also make use of "blood" propaganda...

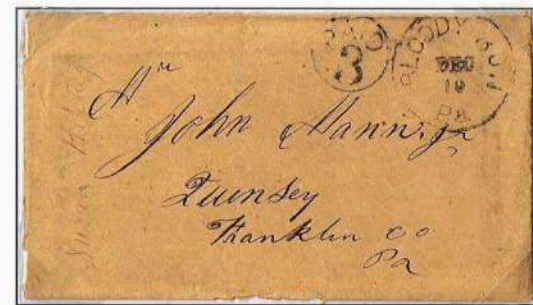
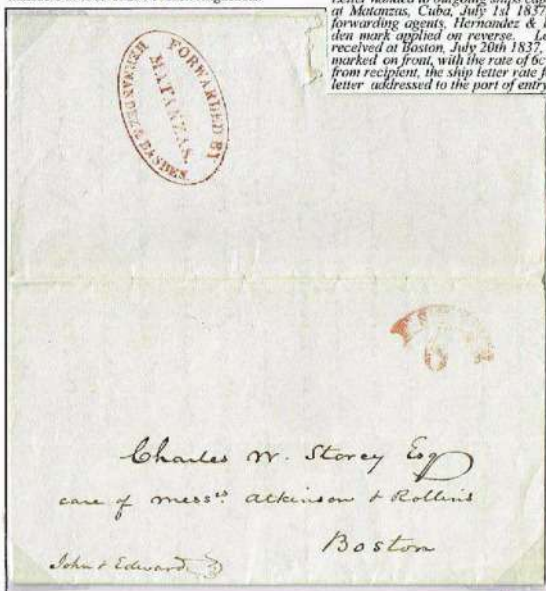
1.2. RELIGION AND PROPAGANDA

warfare propaganda

Wars and battles would make use of "blood" propaganda...

Matanzas means massacre and bloodshed, after the massacre in 1565 of 250 French Huguenots.

Letter handed to outgoing ships captain at Matanzas, Cuba, July 1st 1837, by forwarding agents, Hernandez & Baxden mark applied on reverse. Letter received at Boston, July 26th 1837, and marked on front, with the rate of 6c due from recipient, the ship letter rate for a letter addressed to the port of entry.



The Battle of Bloody Run was fought during Pontiac's Rebellion in 1763 at Parent's Creek. The creek, or run, was said to have run red with the blood of the British soldiers and was henceforth known as Bloody Run. 1853 black CDS and paid 3 in circle, Bloody Run, PO, Bedford Co., Pa. in service 1813-1873.



Enhanced scan of ship mark



From "Blut und Boden" (blood and soil) to the overprint denouncement of Hitler's actions - "Blood and tears his sowing, his work a crime", blood propaganda is emotive...

...the symbolic use of blood appears in many political and war propaganda campaigns...



Meter, francotype, D ... but scientists were more concerned with the secrets blood held...

UNRAVELING THE MYSTERIES
J. THE HEART OF THE MATTER

over the centuries scientists dispel the myths
 the physiology and role of the heart can at last be explained

Understanding the blood circulatory system was complicated by the many myths about the heart,



the heart had long been regarded as the mythical centre of love and affection, (and still is), particularly when pierced by Cupid's arrow,



but love can sometimes lead to a broken heart!
 Perforation shift error

This stylised heart shape is applied in many other situations -

A damaged heart (as appears in Firenze 25) may result in the heart not functioning correctly

Red-brown Firenze 3 (1794) and 25 (1796) heart hand stamp, from Firenze (Firenze), each week of the year had its own number - used in black 1767-1769 red brown 1774-1800 and red 1800-1808. The hand stamp of 25 appears to be damaged.



Whitehall heart in star 1861 postmark, posted in January just 3 months before the first battle of the American Civil War. Envelope hand-made from cross squared paper slight residue from brown gum marking from



Fancy cancellation, on registered mail but found in ordinary mail, only date known. Example of the ineffectiveness of the USPS 1927 postal directive. Scan of Postmarks on reverse above



Inverted heart punch, used to cancel postage stamp, then reused as telegraph stamp, 1915.

Hearts in circle fancy cancellations
 New York City outgoing foreign mail cancellations in use 1871-1877



2.1. THE HEART OF THE MATTER

unravelling the mystery

Gradually over the centuries through scientific research the mysteries of blood and the circulatory system began to be unraveled



Pan Ku



Yin and Yang watermark
 Small dragon issue 1883,
 negative scan



Tomb of Hwang Ti

As far back as 2800 BC the Emperor Shen-nung, inspired by the Chinese creator, Pan Ku, established harmony: Yin and Yang, two polar opposites, the ideal state of nature including health. A century later Emperor Hwang Ti suggested "All blood of the human is under the control of the heart and is regulated by it"



Intentionally misperforated Farouk collection
 ONLY 100 PRODUCED



In Ancient Greece Hippocrates described blood as one of the four humours controlling health and disease.

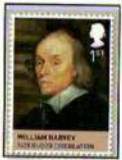
Later c1490, Leonardo da Vinci described the heart and blood vessels, and investigated blood flow



Trial colour plate proof



Vesalius in 1550 described the flow of blood through the heart...



William Harvey

... And in 1628 Harvey proposed the theory of the continuous circular motion of the blood throughout the whole body.



Servet discovered that blood circulates from the lungs to the heart.

Descartes was a philosopher and is best remembered for his book 'Discourse de la methode'. However, his other book 'Description of the Human Body' would give support to the theory of blood circulation



Error, ▲ incorrect title of book and ▲ correct title. When it was discovered that the stamp had the wrong title for his book, the French, PO quickly printed numerous copies of a corrected stamp, but with the title still on the wrong side of the book!

White paper matt gum, white paper shiny gum, 2nd issue

but it would need a more modern scientific approach to complete the picture of the function blood the heart and blood circulation...



...White emerged from obscurity to use the ECG as an essential tool for studying the heart
 Dry print run from the 1986 1st issue



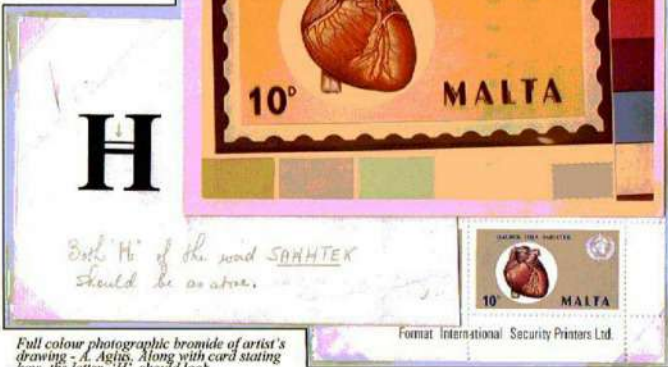
With further work by Forssman and Santos on angiograms to study blood flow, would finally elucidate the structure of the heart...



2.1. THE HEART OF THE MATTER

From the work of these scientists we now know that the function of the heart is to circulate blood to all parts of the body.

The heart is a muscular pump ...



Full colour photographic bromide of artist's drawing - A. Agius. Along with card stating how the letter 'H' should look.

Format International Security Printers Ltd.

structure and function

...sited within the chest cavity and protected by the rib cage.



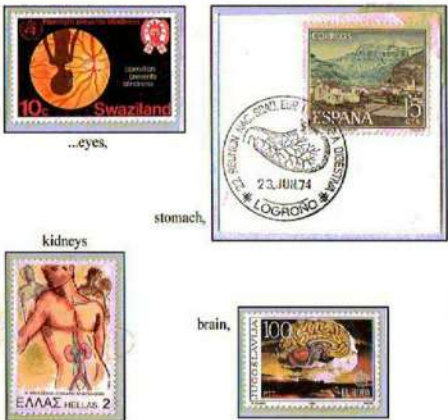
Perforation shift error

Arteries (red) carry blood away from the heart, they divide into smaller branches and lead eventually to every part of the body.

Blood is returned to the heart via the veins (blue)



It is essential that all organs of the body receive a supply of blood...



...eyes,

stomach,

kidneys

brain,

and extremities such as the hands
If the vital organs are not supplied adequately with blood, then death can occur



Company's instructional 'not called for' and USPS return to sender 'pointing hand' cachet applied on front, and dead letter office postmark on reverse (scan not reduced)

2.2. A BLOOD SCIENCE IS ESTABLISHED.

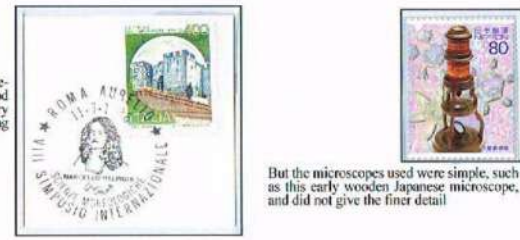
haematology comes of age

Until the invention of the microscope, little was known of the composition of blood.

Two early microscopists contributed greatly to our knowledge of blood cells. Leewenhoek invented a simple microscope and first described red blood cells in 1674. Leewenhoek was assisted by Huygens, another early lens maker.



Later Malpighi described red blood cells and capillary vessels containing blood



But the microscopes used were simple, such as this early wooden Japanese microscope, and did not give the finer detail

In 1846 Zeiss established a factory for microscope production, joined by Abbe in 1866 and Schott in 1879. The cooperation of these three men founded the Carl Zeiss Company in 1879, based in Jena, the start of modern microscope technology.

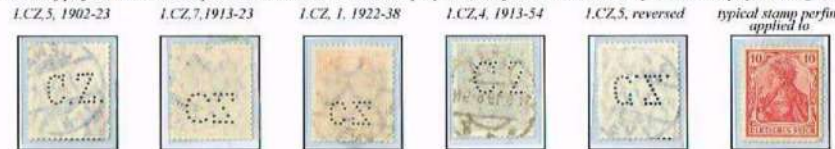


Meter: francotyp C

Types of microscopes from 1845 to 1873



The use of perfins was a common practice within the Carl Zeiss Company (CZ) (Reference numbers taken from German perfin catalogue)



Schematic layout of lenses Muster (specimen) overprint



Development finally progressing to the electron microscope, invented by Klug.



With these tools blood can now be analysed in greater detail