



From the Bible to Joan of Arc

Mention of concealing messages and espionage appears as early as BCE 1900, with non-standard symbols used in the Middle East to conceal information gathered by spies. After that date there are increasing references to espionage.

Genesis 42: 9, 1707 BCE – Joseph accuses two men from Canaan: "*Ye are spies.*"

Numbers 13, 1460 BCE – Moses sends men out to '*spy on the land of Canaan.*'

Joshua 2:1, 1451 BCE – is the first mention of prostitution and it is in relation to espionage. Joshua sent two spies to "*view the land, even Jericho*" and when they were detected they sought refuge in the house of Rahab, a harlot, who hid them from guards of the king until they could escape over the walls of Jericho. For this service, Rahab and her family were later spared (**Joshua 6:25**).

At this point I sometimes feel as if I'm briefing a fresh intake of intelligence recruits, and ask them a question – **how many spies do we have in the course?**

No one raises a hand and I leave everyone to reflect on that question while I divert their attention and talk about children.

Babies begin storing common speech sounds soon after birth, little units we call **phonemes**. Each is less than a tenth of a second in duration and some experts believe they even gather sounds before birth. At first they don't distinguish tones and mother's "*bay*" sound when she says "baby" and father's deeper "*bay*" just register as comforting sounds.

Before the end of their first year they have discovered patterns in the phonemes and are storing up to ten new words daily, long before they begin speaking them. They are also observing people and what is happening around them. The first word a baby speaks is random, out of a considerable bank, but they soon have thrilled everyone with "*mummy*", "*daddy*", and other words.

As a rule, young children don't seem to worry that some fairy tales are quiet terrifying ... Hansel and Gretel, Little Red Riding Hood ... but experts, and that includes parents, have found a child will show concern if stories do not have **satisfactory endings** (see reference – San Diego speech).

Now you will see why I have digressed, when I point out that as the child advances, a parent begins to chant: "I spy with my little eye ... " and so the childhood games begin.

Blame the parents, and probably correct in my case, as we are all encouraged to start out as spies and the habit is hard to shake.

Some of us even enter the Shadow World of espionage, gathering stories and trying to provide a satisfactory ending that pleases our masters. That may lead to disasters, as CIA discovered in the 2nd Iraq War when they gave President Bush unconfirmed information on "*weapons of mass destruction.*"

Some intelligence officers develop lives that become a series of legends and spy writer **David John Moore Cornwell (JOHN LE CARRE = The Square)** said in an interview: "*None of us are what we seem, and in any environment we may present a different image.*"

Let me pose another question. How often have you been spied on in the past week?

In London a citizen's image or identity is captured up to 3000 times daily by CCTV at rail stations or on trains, in banks, supermarkets, city streets, sporting events. The same can be said in proportion to any city's size.

Did you use a credit card or library card today? Did you make a phone call or send a text message on your mobile phone, or send an email? Have you recently walked through the Mall, or travelled by train or taxi?

The list is endless and all accessible to authorities for security purposes. Australia introduced over 40 pieces of "anti-terror" legislation after 9/11, including the Telecommunications (Interception) Act 2006. Various "open-source" internet sites – MySpace, MyFace, Blogs, Twitter, online chat rooms, bulletin boards, etc – are monitored to gather information regarding planned demonstrations or activities that could indicate terrorism.

Now let's examine some of the espionage techniques that originated as far back as 1000 BCE, when some people realised that secret communications provided advantages. Parchments discovered in **Palestine about 600 BCE** include mono-alphabetic (one letter) substitution ciphers. I say more about that later but in its simplest form you take the letters of the alphabet in correct order and then beneath you write all the letters in a different order. Of course, the recipient of your coded message must know the sequence.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

S T U V W X Y Z A B C D E F G H I J K L M N O P Q R

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See References for more about Early Secret Code Systems.

Chinese records from **1100 BCE** show that Zhou ruler Wu used agents-in-place to overthrow the Shan dynasty.

In 511 BCE, Zhou General Sun Tzu wrote "*THE ART OF WAR*," a work still used by students of military warfare, including officer cadets at Duntroon Military College.

In Chapter Thirteen, "Using Spies", he wrote – "*raising an army of a hundred thousand men and advancing it a thousand li (approx three hundred miles) costs the nation one thousand gold pieces a day. Refusing to outlay a hundred gold pieces to discover the enemy's situation is the height of foolishness.*"

In other chapters he wrote: "*if an enemy leaves a door open, you must rush in,*" and "*Warfare is based on deception.*" He also wrote the oft-quoted warning: "*Know your enemy.*" He used "*enemy*" to include terrain and conditions, as well as the population. Military planners have ignored that advice many times – at Gallipoli, and more recently in Viet Nam, Afghanistan and Iraq.

Before the time of Christ, China had invented paper and opened the first National Library to store early parchment and silk scrolls, and they were well advanced in sending written messages in codes and ciphers.

In 480 BCE, the Greeks used a wax-covered piece of slate or wood on which to write a short message. Once the message was read, the wax was melted and the base could be rewaxed and used again. Then they realised that it was not secret if the slate was intercepted en route and searched for a better way.

Demaratus wrote his secret messages on the slate itself, then covered it with wax and wrote something quite ordinary on the hardened wax. When the slate reached its destination, the receiver melted the wax and read the secret message, then destroyed the slate.

Greek historian Herodotus (483-425 BCE) tattooed a warning to Greece about Persian invasion plans on the shaved head of a slave. The warning can't have been urgent because the slave's hair was allowed to grow before he left. On arrival, his head was shaved and the message was exposed.

Steganography means covered writing, not coded, and went out of fashion as safer methods were invented. In the 20th century, a German photographic company invented a way of reducing a photo of text or drawings to a **microdot**, to be used on an ordinary letter or postcard. The watermarking of bank notes, coding on audio and videotapes, CDs and DVDs to prevent forgeries and illegal copying are other modern examples of concealed writing.

Images we see on television, mobile phones and the Internet are masses of tiny dots of various colours called pixels. A pixel is the smallest addressable element that a display device can control, and the quality of the display is expressed in pixels per inch – 640ppi, 2400ppi etc, so the more the display can handle in a line, the better the quality of your picture. It is possible to enlarge any digital image and replace selected pixels with letters or numbers of the same colour, and create a concealed message. The altered image is returned to its original size and transmitted, and it is very unlikely that the alteration will be detected.

In 400 BCE, the Spartans developed **cryptography (hidden writing)**, using a device called the "*s cytail*", to send messages during their various wars. A strip of leather was wound down the length of a staff and a message was written on one face of the leather from top to bottom. The unwound strip was reversed and sent on its way, as a legging or a belt. The receiver rewound it on a staff of similar

dimensions and read the message; not a perfect system, as all lengths of material became suspect once the method was known.

The String Message was the next development around 400 BCE.

Sender and receiver had identical boards with a jumbled alphabet at the top of each side of the board. The sides of the board are notched and a length of twine or woven thread is wound around the board and secured by wax. This photo shows the front and back of one of my old boards with a message marked on the string.

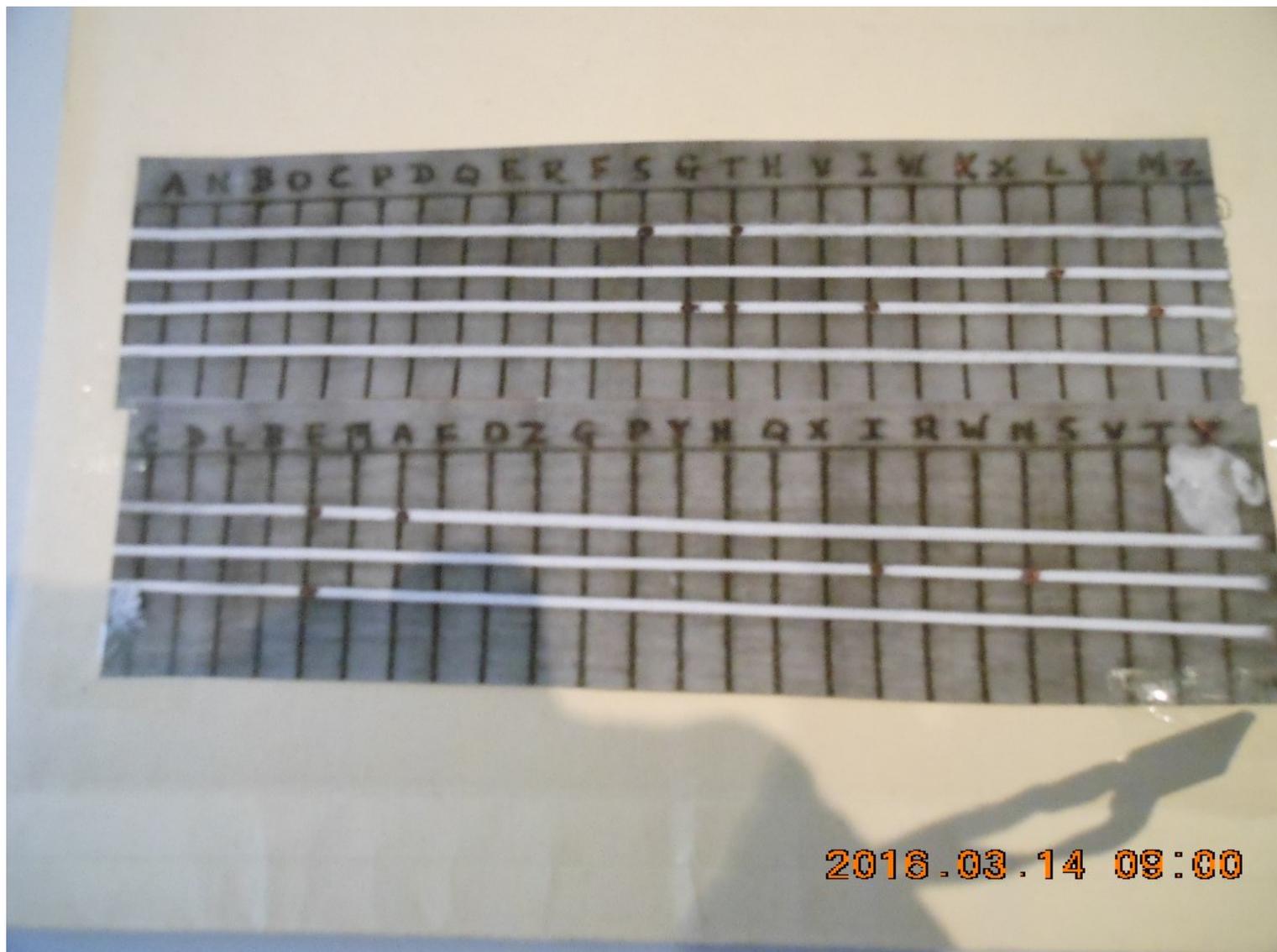


Fig.2.1 String Message

Start at the left top corner of the board and move along the top string until you are below the first letter of your message (S), then mark the string with a dot of ink. Keep moving left to right looking for the next letter (T). **Do not go backwards, so turn the board over if the next letter is not on that first string and continue looking for the next letter (E) on the first string.** Mark and continue along the string, line by line. The whole message is STEALING TIME.

The complete string is then removed and wound around a bundle of something that would not excite suspicion and carried to the destination, then wound around a similar board and read. The difference between the Scytal and this system is that no letters appear on the means of conveyance, just dots. This method was more secure, and even if detected a similar board is needed to decode the dots.

Given time, though, even those messages could be broken by a cryptanalyst, one who has the art of deciphering coded messages without being told the key. The methods I have explained so far are neither codes nor ciphers, just ways of covering or hiding plain language.

Eventually, codes and ciphers were developed, and then ways and means had to be found to break them, and what seems like a never-ending cycle is still in progress.

The word "cipher" comes from the ancient Hebrew '*saphar*', meaning "*to number*," and has many spellings, *cipher* being the US version.

"*Cipher*" can also mean "*zero*", or "a person of no worth, a nonentity." The development of ciphers took place in various parts of the settled world, and **Vatsyayana's "*Kama Sutra*"** written in India in **350 BCE** makes reference to ciphers. One chapter refers to "*the art of understanding writing in cipher, and the writing of words in a peculiar way.*" Perhaps this allowed a lady a secure means of communicating with her lover, or decrypting any messages her husband s received from another woman.

KNOW YOUR ENEMY

Alexander the Great

In 334 BCE, we have the first example of spying on people's mail. Alexander III of Macedonia, better known as Alexander the Great (356-323 BCE), was laying siege to the Persian (now Iran) city of Halicarnassus.

His troops were drawn from conquered countries and were discontented as they waited for some real action. He announced that they could send messages to their families in far-off places and he would provide some of his fastest horses and riders to deliver them. Once away from the camp, his horsemen turned into a valley where his most trusted men read the letters. Expressions of discontent were noted and shortly after, a number of his troops were executed on charges of conspiracy.



Fig.2.2 Alexander III



Fig.2.3 Area under the Control of Alexander III

Alexander was a very decisive person, evidenced by the way he solved the problem of the Gordian knot the following year when he came to Gordium in Phrygia, a kingdom of Anatolia in the Asian part of Turkey. The town had been named Gordium in honour of an ancient king and an oracle had told the citizens that their wars would cease when a new king entered the city on an ox cart. When Gordius, a poor farmer with his wife and son Midas (the one with the golden touch), arrived on such a cart, the people of the city proclaimed Gordius as their king.

In gratitude, he dedicated his cart to Zeus and tied it with a knot that he named "*Gordian*," and said that whoever could undo the knot would rule Asia.

Many had tried unsuccessfully to figure out which way the ropes were wrapped or tried to pry out an end. Alexander sliced the knot with a sword and went on to rule Asia for another ten years before he died. Today, to say that someone cut the Gordian knot means they made a quick, decisive move or took drastic action.

Hannibal

Carthage, in North Africa on the Gulf of Tunis, was in a constant struggle with the Roman Empire in **220 BCE**. During the Second Punic War, the Carthaginian Empire had control of most of the southern coast of the Mediterranean from below the toe of Italy to the tip of Spain, and the south-eastern part of Spain.

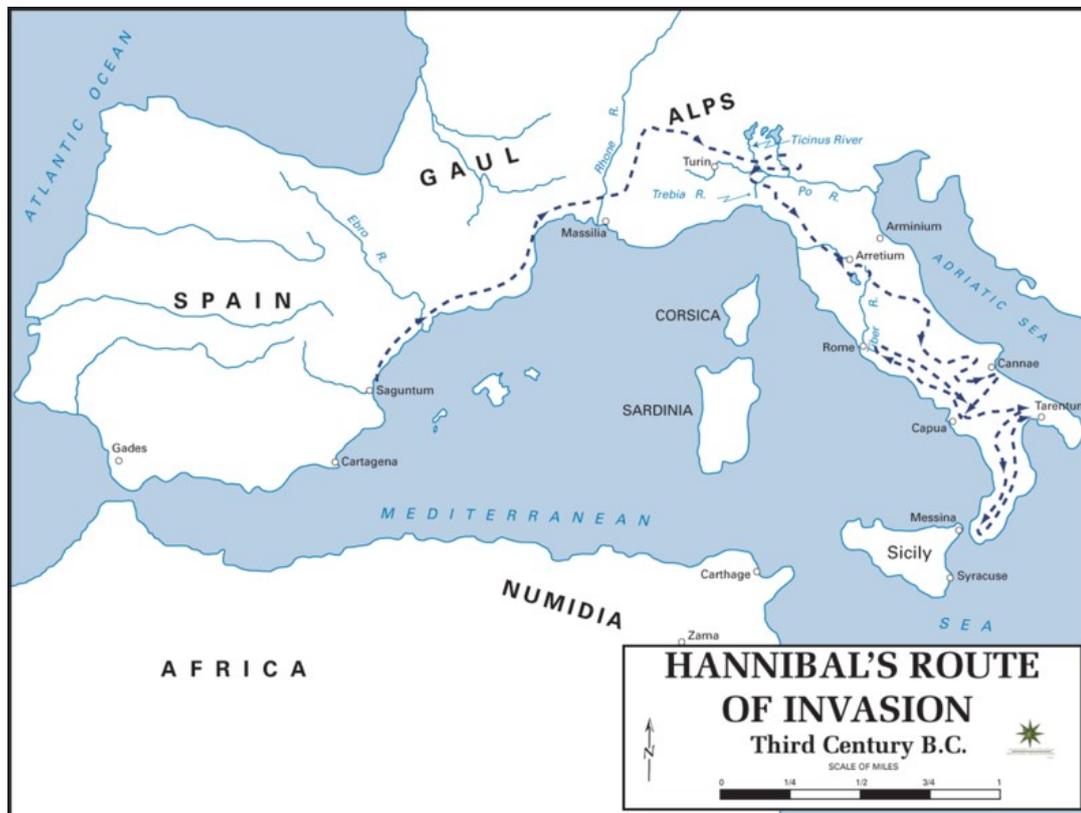


Fig. 2.4 Hannibal's Route of Invasion

In 218 BCE, Hannibal (247-183 BCE), a Carthaginian military commander, attacked the Roman Empire by advancing through Spain and crossed the Alps into Italy. Before that, he'd spent some years creating a network of informers among Gaulish tribes in the Po valley. Following Sun Zui's policy of "*know your enemy*," he learnt their strength, the feelings of the tribes ruled by Rome, the layout of the land, climatic conditions and where to find food and fresh water. His success owed as much to his intelligence network as to the way he used elephants to carry his supplies and arms over the Alps. For fifteen years he had great success against Roman forces, despite supply line problems, and then he was recalled to Carthage because the capital was threatened. Rome pressured Carthage to surrender Hannibal and he fled to Crete. **In 183 BCE,** the Romans located him, so he took poison from a ring he

always wore, and died. He never lived to see the Third Punic War (**149 BCE**), when Rome laid siege to Carthage for several years, finally destroying the city and its harbour and making slaves of any citizens still alive.

Hannibal's method of creating intelligence networks that used citizens of the target country has been used in more recent times.

General Franco

During the Spanish Civil War (1936-39), **General Franco** used civilians to help his forces, and referred to them as a "*fifth column of my army.*" (Hemingway – For Whom The Bell Tolls).

The Nazis – World War 2

During WW2 the Nazis used people in target countries for advance information and after the countries were occupied these people informed the Gestapo of any subversive actions. *The Times* in Britain, in April 1940, coined the term "*Quisling*" after the Norwegian Vidkun Quisling had assisted Nazi Germany to conquer his own country so that he could lead the subsequent collaborating Norwegian government. The BBC brought the term into common use internationally, and it was used during the war to refer to people who took similar traitorous actions in many occupied countries.

East German STASI

During the Cold War, the East German STASI encouraged citizens to spy on each other, offering privileges to any civilian who became an informer. In the end, STASI had an officer or agent for every 50 civilians.

Types of Cipher

To return to pre-Christian days, Greek historian **Polybius (200-118 BCE)** created one of the earliest versions of a cipher, based on a grid.

POLYBIUS SQUARE

	1	2	3	4	5
1	A	B	C	D	E
2	F	G	H	I/J	K
3	L	M	N	O	P
4	Q	R	S	T	U
5	V	W	X	Y	Z

Twenty-five letters are used to make a grid of five by five characters in any order, and sender and receiver have the same grid. To encipher a message, you find a required letter in the grid, and use its pair of numbers, one from the left-hand column and the other from above. A zero was used as a means of separating words, and in cryptography this is referred to as a "null."

For example "FRENCH" = 21 42 15 33 13 23, "ARMY" = 11 42 32 53.

The numbers are then grouped in blocks of five – 21421 53313 23011 42325 30... Zeros separate the words and the last group shown (53) would have three figures to end the sentence. The grid had two major failings. A cryptographer would spot the regular use of zeros and assume they could be word separators.

Frequency analysis would suggest this was a grid cipher with frequent use of groups such as 11 (A) and 15 (E). The grid can be made more secure if messages were short and the table was changed after every message.

Activity 2.1

Using the 5 x 5 Table above

Plain Language (pl)...IS THE SURF GOOD - Change this into code ..

Remember that each pl letter found inside the square has two (2) code numbers - left of square and top of square, so first letter is 24.

To separate words, use a single zero. All code numbers are grouped in blocks of five for transmission and the first group should be 247430

Post your answer to the Course Discussion Forum

Substitution Cipher

Julius Caesar (100-44 BCE) adapted the much earlier mono-alphabetic code into a more flexible system where the transposition could be varied on a chosen basis. It applied flexibility to the earlier example of a Palestinian mono-alphabetic (one letter) substitution cipher. The principles are still used today. The alphabet of that time only had **21 letters (J, U, W, Y and Z were yet to come) and were first written as a line –**

A B C D E F G H I K L M N O P Q R S T V X

E F G H I K L M N O P Q R S T V X A B C D

Depending on an agreed system, say the date of the month, the same alphabet is written below, BUT shifted right or left a number of places. In this example, the date decreed that **the shift was RIGHT four places.**

The message, referred to in the trade as the plain text, substitutes a shifted letter for a plain text letter, so **BRVTVS** (V was used for U then) is coded **FXCBCA**.

Note that C appears twice in that coded word, providing a "crib" that would help to break the code.

Caesar designed the code for use in his diary, or for messages to a few trusted friends, and there were not too many people back then who were skilled in breaking codes.

Caesar refused to establish a secret service or indulge in any form of espionage on the basis that it was "not honourable", a decision that probably cost him his life. This concept of "honour" is a problem for intelligence agents, and has surfaced many times through the centuries, including in the early 1930s. US Secretary of State Henry Stimson (1929-1934) said it was "**not honourable to read other people's mail**" and ordered US Military Intelligence NOT to intercept and open mail or read cables to or from the Washington embassies of Germany, Italy and Japan. His decision set back US code-breaking abilities and probably led to the loss of many lives. He came out of retirement in 1940 and was Roosevelt's Secretary of War, changing his mind about reading cables after Pearl Harbour was attacked.

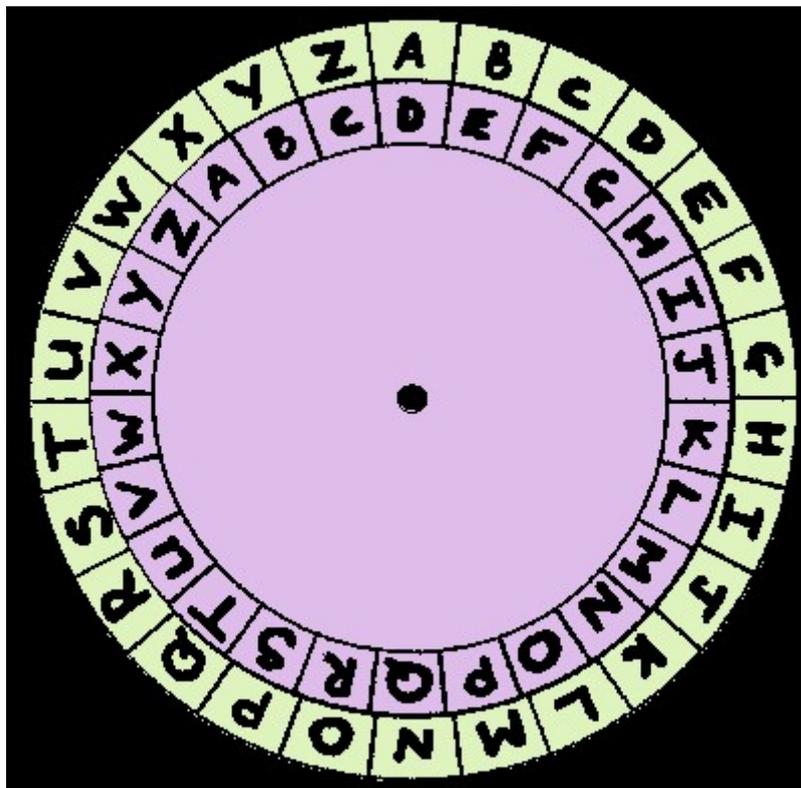


Fig. 2.5 The "Caesar Shift"

Subsequent code creators developed the "Caesar Shift" into a wheel where the alphabet was etched into a base metal plate and a smaller plate that was pinned to the centre of the base plate and could be rotated. There are various choices for settings but one required the wheel to be set for the first word, say with the D on the inner ring under A on the fixed plate. The plain text of the first word = SEND would

result in its mate on the lower ring being the code word = VHQG.

Then for the second word the inner ring would be moved so that H was under A, and so on for each word.

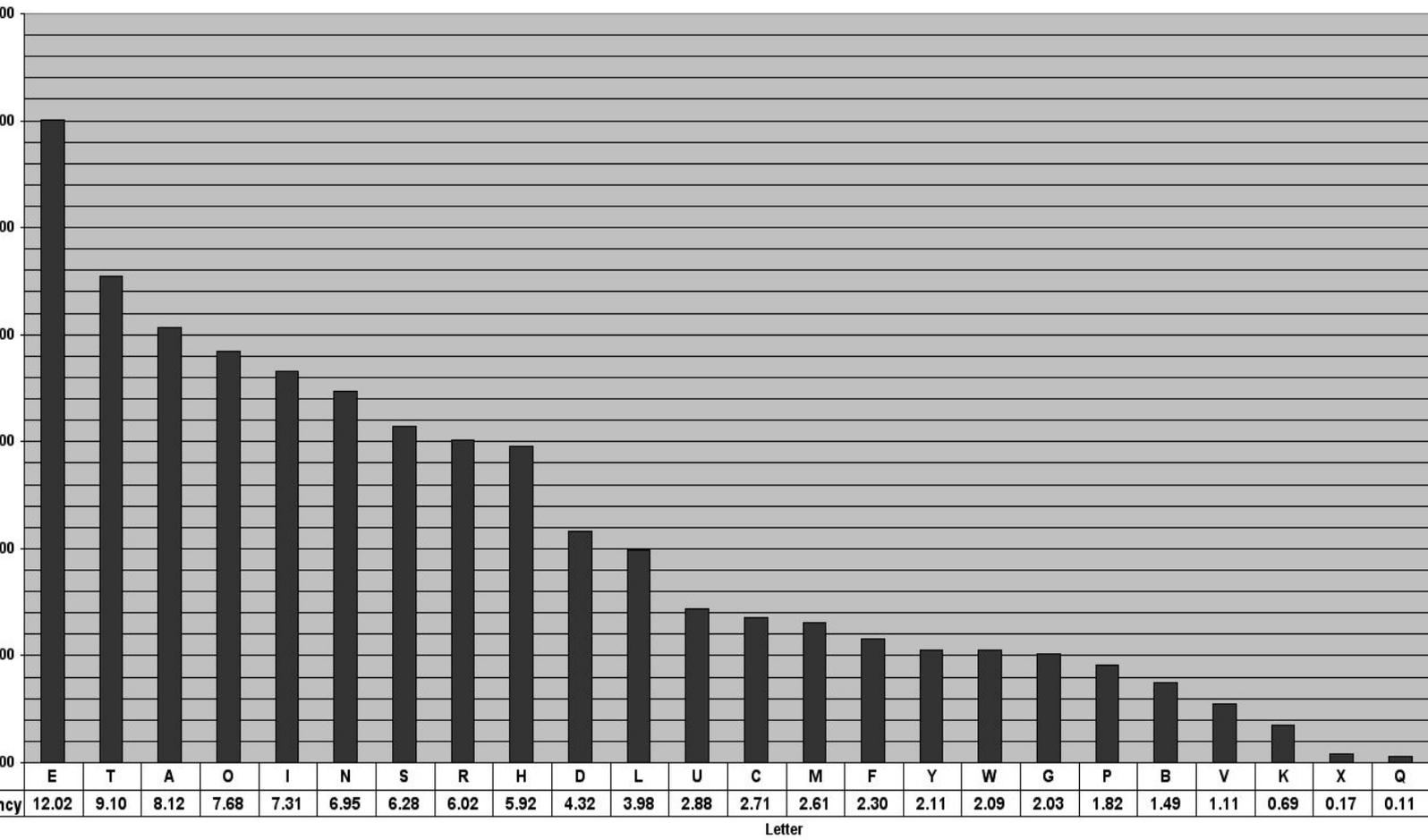


Fig 2.6 Frequency of Letters in Text (Python Cryptography)

However, a skilled cryptographer could break the message, as there are a limited number of shifts you can make in either direction, and to start a search for the most used, one would look for the most used letters in the coded message. The longer the message, the easier it is to break.

Frequency tables are available for any language, and in English, "E" occurs in 12.7% of 1000 letters of text, 14.7% in French, and nearly 17.4% in German. In Roman times, the use of numerals – I, V, X, C etc. – in a message also provided cribs.

The New Testament of the Bible also contains references to spying and undercover agents.

When Jesus began to preach, he became a ready target for his enemies. **LUKE 20:20 (year 33) mentions:** *"the chief priests watched Jesus, and sent forth spies ... that they might take hold of his words and deliver him to the power of the Governor."* A little later we have Judas being paid thirty pieces of silver to betray Jesus.

By 855, the Persian world knew enough about codes and ciphers for Arabic scientist Abu Yusuf Yaqub ibn Is-haq Al-Kindi to do enough research to write a text titled "*Deciphering Cryptographic Messages.*"

Until the 15th century, the ruler of a part of the world owned all the land, and then allowed subordinates to rule it in exchange for military support. In England, this social hierarchy went: King (or Queen), Dukes, Earls, Barons, Knights, Esquires, Freeholders, and Serfs.

The rise of the towns and free merchants weakened feudalism, and gradually nation states were created with recognised boundaries and a form of government.

This change took longer to achieve in some countries; for example, it did not happen in Russia till 1917.

So when we look at espionage in the second thousand years after the birth of Christ, it is important to remember that espionage was first developed by important families or sub-rulers within what we now see as a nation – for example, the Medici family in Florence – and was used for competition against other families or sub-rulers. It was only later that national governments took control of espionage, and used it against other nations. **Italians in the 10th century** were moving faster than groups in other Western countries when it came to codes and ciphers, spurred on by the rivalry between different families.

So far I have centred on Europe and the Middle East, but the other side of the northern landmass – Asia – cannot be ignored.



Fig. 2.7 Genghis Khan

GENGHIS KHAN (1162-1227) was the founder and Great Khan – the Emperor – of the Mongol Empire that eventually became a large empire occupying most of Central Asia and China. He was a brutal occupier and responsible for the deaths of over 40 million people. As well as sending agents to gather information in advance of his attacks, he solved the problem of rapid communication by using pony posts, with fresh horses and riders, to speed up the information back to his headquarters. Seven hundred years later, in 1860, the Americans used a Pony Express as a fast mail service crossing the Great Plains, the Rocky Mountains, and the High Sierra from Missouri to California. It became the most direct means of east-west communication before the telegraph, and was vital for tying California closely with the Union just before the American Civil War.



Fig. 2.8 Leonardo da Pisa

LEONARDO da PISA (or Leonardo Pisano or Fibonacci (1175 -1250) is reputed to be the "*greatest European mathematician of the middle ages.*" He was born in Pisa (Italy), the city with the famous Leaning Tower, and is sometimes confused with Leonardo da Vinci, who was born in Vinci about 200 years later. He grew up learning the "*Hindu-Arabic*" system of arithmetic – numbers instead of Roman I and V and X etc. – when his father was a customs officer in the North African town of Bugia (Bou-jay).

He saw the advantages of this system as opposed to the Roman numeral system, and also studied old Sanskrit writings from 450 to 200 BCE periods, some of which referred to the natural branching patterns of pineapple skins, leaves, grasses, and flowers, a pattern also evident in the number of male and female progeny in a rabbit or bee society. The writings also noted that these natural happenings could be expressed mathematically, based on the sum of two adjoining numbers.

The Fibonacci sequence has a connection to codes and ciphers. The sequence starts with two numbers, 0 and 1, which when added =1. This result is added to the second number in the previous group, so we have $1+1=2$. This result is now added to the second number of the previous group (1), so we have $2+1=3$. The sequence can be continued as far as one wants ($3+2=5$), ($5+3=8$), producing answers that grow in a pattern 0, 1, 2, 3, 5, 8, 13, 21, 34, 987 ... and so on.

He also created other sequences – a **Tribonacci sequence** adds three adjacent numbers, and a **Tetranacci sequence** adds four adjacent numbers. He realised that a carefully prepared and seemingly innocent letter or document could conceal a secret message that started with the first letter of a key word previously agreed between sender and receiver. The letters of the secret message would follow the Fibonacci sequence, first letter, second letter, third letter, fifth letter, and so on. For convenience, at some point in the sequence, say the 21st letter, the sequence would restart with the next letter in the text.

The sequence was mentioned in Dan Brown's bestseller "*The da Vinci Code*." After the book was published, Michael Baigent and Richard Leigh took Brown to Britain's High Court over plagiarism. Judge Peter Smith's 71-page judgement ruled against them, and the judge had a bit of fun in the text of the judgement, using the Fibonacci sequence to secret a few lines about his hobby – a history of the Royal Navy!

The Fibonacci sequence is laborious, first requiring time to compose the secret message and then much, much longer to compose a normal communication that will meet the required sequence.

Sir Francis Bacon (1561-1626) will feature later, but one of his comments on ciphers should be noted in regard to the use of the Fibonacci sequence. "*The virtues of a perfect cipher are that they be not laborious to write and read; that they be impossible to decipher; and, in some cases, that they be without suspicion.*"

Another Bacon – Roger – was an English monk (c1250) and as far as I know, no relation to Sir Francis Bacon. He wrote an intriguing pamphlet "*Concerning the Marvelous Power of Art and of Nature and Concerning the Nullity of Magic*," where he listed seven cipher methods and asserted that "*a man is crazy who writes a secret in any other way than one which will conceal it from the vulgar (the common man).*"

Marco Polo (1254-1324) was not born when his father Niccolò and uncle Maffeo set off on a trading voyage to the East. They returned in 1269 as rich merchants, passing through much of Asia. Marco's mother had died by then and he had been raised by an aunt and uncle and was now well-educated and also skilled in foreign currency, appraising and handling the cargo of ships. In 1271, Marco Polo, now seventeen, set off with his father and his uncle for Asia. They returned to Venice in 1295, 24 years later, with many riches and treasures, having travelled almost 15,000 miles (24,000 km).

Venice was at war with Genoa, and Marco Polo was held prisoner for several months, during which time he dictated "*The Travels of Marco Polo*" to a fellow inmate. It soon spread throughout Europe in manuscript form, giving Europeans their first detailed knowledge of India, China and Japan.



Fig. 2.9 illustrated page from Marco Polo's book.

Before long, an overland route was established to China – The Silk Road – but it took a couple more centuries before a sea route was discovered.

In 1379, Vatican cryptologist Gabriele de Lavinde produced a manual on cryptography that included twenty-four examples of ciphers, and a code list of word, syllable, and name equivalents, so you can see how the craft has grown in a hundred years or so.

In 1391, Geoffrey Chaucer, considered the outstanding English poet before Shakespeare, wrote an article that included six passages in a cipher system that used symbols for letters, so England was not lagging behind in inventing ciphers.

By 1400, codes and ciphers had developed extensively, and the uninitiated referred to them as a "*black magic art*." However, while we have plenty of evidence that cryptography was flourishing, there was no convenient telegraph station for a few more centuries and the problem of rapid transfer of coded messages remained.

Enemies of the State

Espionage was now being used as a means of identifying enemies of the state, and false witness and torture was used to achieve a result. Now I'm going to depart from individual events on the time line and talk about two blocks of history. I'll leave another one for our next unit.

The first block covers a period from 1181 till 1834.

Many people associate the Inquisition with Spain and Portugal, but the Church in Rome, led by Pope Lucius III (from 1181 to 1185) began to combat the heresy of the Abilgenses, a religious sect in France.

Subsequent Popes Innocent III (1198-1216), Honorius III (1216-1227) and Gregory IX (1227-1241) continued the practice, spreading the Inquisition through Central and Western Europe by 1255, but never to England or Scandinavia.

People were spied upon, and the slightest suspicion of religious deviance saw them hauled before the Court of the Inquisition. Many finished up in the torture chamber to extract a confession, often because an enemy had falsely accused them. There is a section in one Shakespearean play that suggests that evidence obtained by torture may not be the truth.

Activity 2.1

Find out which Shakespearean play suggests that evidence obtained by torture may not be the truth

Post your findings to the [Course Discussion Forum](#)

Three religions had large followings in Spain and Portugal by 1200

Judaism originated in the Middle East in 1200 BCE, and slowly spread westward.

Christianity began to spread in the first century of the Common Era,

Islam began as a belief in 570CE

Moors of mixed Arab and Berber blood brought Islam to Southern Spain around 711CE, after crossing from North Africa.

For many years the Spanish Catholic ruling class tolerated Jews and Muslims and they were generally allowed to follow their traditional laws and customs in domestic matters.

By law, though, they were considered inferior to Catholics and were subject to discriminatory legislation, just as Catholics had earlier been discriminated against under Moorish law when the Moors ruled Spain. Finally, though, the Catholic ruling class began to evict the Moors, beginning with the battle of Cordoba in 1238; by 1400, most Moors had either been killed or had fled to North Africa. However, Moorish architecture still survives in Southern Spain and in the 1990s the descendants of those builders completed the highest minaret in the world at Casablanca in Morocco, 656 feet above sea level.

The Inquisition in Spain was used to defeat non-Catholic religions

Having dispersed the Moors, the Jews were then targeted. The Spanish Inquisition grew out of the earlier inquisitions directed by the Papal States (756-1870CE) in Rome, which were eventually absorbed into the Italian nation, and the Vatican finally became a sovereign city-state by direction of Prime Minister Benito Mussolini in 1929.

In 1478, Queen Isabella and King Ferdinand of Spain petitioned the Pope for permission to start an Inquisition in Spain. Pope Sixtus IV gave them exclusive authority to name the inquisitors, and the Catholic Church told its followers that they had a Christian duty to support the Inquisition. Spies abounded and there were many cases of "*false witness*" as people used the Inquisition to settle old scores against neighbours. The Inquisition lasted 350 years, until Ferdinand VII's liberal widow, Regent Maria Christina abolished it in 1834 by a Royal Decree, when her daughter Isabella II was too young to sign.

Hundred Years War between England and France

The second block of history ranges from 1337 to 1453, and includes the **Hundred Years War** between the House of Valois that claimed the title of King of France, and the House of Plantagenet (or Anjou), that claimed the thrones of both France and England.

The Plantagenets were the 12th-century rulers of the kingdom of England, but had their roots in the French regions of Anjou and Normandy. This was a time of plots, spies, false witness, rigged trials and assassination; a bloody mix.

Charles VII lived from 1403 to 1461, and was crowned King of France from 1429 until his death, but he had a few problems before being crowned in Rheims.

He was the Dauphin – the heir apparent to the throne of France – when soldiers of the Duke of Burgundy threatened his inheritance by an attack on the city where he was based. He fled to Paris in May 1418, and in July 1419, Charles and the Duke met on a bridge near Melun in an attempt to come to an agreement. That did not succeed, and the two met again in September 1419, on a bridge at Montereau.

The Duke assumed the meeting to be entirely peaceful and diplomatic, and arrived with only a small escort, at which point the Dauphin's men killed the Duke and his escort.

Dauphin Charles subsequently led an army against the English, but two events in 1421 broke his confidence. He was forced to withdraw from battle against Henry V of England, and then his parents repudiated him as the legitimate heir to the throne, claiming that he was the product of one of his mother's extramarital affairs, for which she was notorious.

Succession problems increased when Charles's insane father, Charles VI died. If the Dauphin was legitimate, then he was the rightful heir to the throne. If not, the heir was the Duke of Orléans, in English captivity. There was another twist. Under the Treaty of Troyes, signed by Charles VI in 1420, Henry VI of England, the son of the recently deceased Henry V and Catherine of Valois, daughter of Charles VI, could claim the throne of France.

The English already controlled northern France, including Paris, and immediately enforced their King's claim in those parts of France they occupied. Dauphin Charles claimed the title King of France, but did not have enough military force to throw out the English.

Joan of Arc

Which brings me in 1429 to the little village of Domrémy, on the border between Lorraine and Champagne, where a teenage girl named Jeanne d'Arc (1412-1431) believed the voices of angels had given her a divine mission to free France from the English. Jeanne pestered the Duke of Lorraine for a letter of referral and an escort of five veteran soldiers to Chinon, where Dauphin Charles was in residence, claiming that she would recognise him from her vision. The Duke granted her request but warned Dauphin Charles who decided to test her claim to recognise him and disguised himself as one of his courtiers, standing in their midst when she entered the chamber. Dressed in male attire, she walked through the crowd, bowed low to him and embraced his knees, declaring *"God give you a happy life, sweet King!"* Thereafter, she referred to him as "Dauphin" or "Gentle Dauphin" until he was crowned in Rheims four months later.



Fig.2.10 Joan of Arc

Charles later wrote that she knew secrets about him that he had voiced only to God, and he became inspired and filled with sufficient confidence to take on the English occupiers.

Joan, in full armour and on horseback, led the French forces at Orléans, forcing the English to lift the siege and turning the tide of the war. When the French won the Battle of Patay, Charles was crowned King Charles VII of France on 17 July 1429.

In April 1430, Joan led the defence of Compiègne against an English and Burgundy siege, and then led an attack on the Burgundy camp. Her troops were forced to retreat into a nearby fortification when an additional 6,000 Burgundy troops arrived, and she led the rearguard until she was unhorsed by an archer and captured.

Many historians condemn King Charles VII for failing to intervene while she made several attempts to escape, once jumping from the 70-foot (21m) tower of her prison to the soft earth of a dry moat.

Her trial is amazingly well documented from five original manuscripts discovered during the 19th century. These also include the complete records of a post-execution inquiry into her trial, with sworn testimony from 115 witnesses.

The English government purchased her from her captor Duke Philip of Burgundy, and used Bishop Pierre Cauchon of Beauvais, a secret agent of the English, in her later trial for heresy. Under ecclesiastical law, Bishop Cauchon lacked jurisdiction over the case, and owed his appointment to the English government that financed the trial.

The clerical notary commissioned to collect testimony against Joan could find no adverse evidence, and without such evidence the court lacked grounds to initiate a trial. That did not deter the English, and the court also violated ecclesiastical law in denying her right to a legal adviser. In any case, she was probably smarter than any adviser, but the court was biased enough not to recognise an adviser in any case.

The trial records demonstrate her remarkable intellect, including this exchange. Asked if she knew she was in God's grace, she answered: *"If I am not, may God put me there; and if I am, may God so keep me."*

Church doctrine held that no one could be certain of being in God's grace and if she had answered yes, then she would have convicted herself of heresy. If she had answered no, then she would have confessed her own guilt.

Significant portions of the transcript were altered in her disfavour. Under Inquisitorial guidelines, she should have been confined to an ecclesiastical prison under the supervision of nuns, but the English kept her in a secular prison guarded by their soldiers.

Bishop Cauchon denied her appeals to the Council of Basel, and the Pope should have stopped his proceeding.

Her choice of male clothing was part of the charges against her, and she said she had a mission to do a man's work so it was fitting that she dress the part, and it was also a protection against molestation. She also kept her hair cut short throughout her military campaigns and while in prison.

The result of the trial was a foregone conclusion and she was found guilty.

On 30 May 1831, she died at the stake and the coals were raked back to expose her charred body so that no one could claim she had escaped alive. Her body was burned twice more to reduce it to ashes and prevent any collection of relics, and the remains cast into the Seine.

The Hundred Years War continued for twenty-two years after her death, and Charles VII retained legitimacy as the king of France until his death in 1461. Before England could rebuild its military leadership and its force of longbow men, lost in the Battle of Patay against Joan in 1429, the country lost its alliance with Burgundy.

English King Henry VI then became the youngest king of England to rule without a regent and his weak leadership was probably the most important factor in the English leaving France.

After the execution of Joan, the Inquisitor-General and Joan's mother Isabelle Romée requested Pope Callixtus III to authorise a posthumous retrial. This took place in November 1455. A panel of theologians analysed testimony from 115 witnesses and their final summary in June 1456 described Joan as a martyr and implicated the late Bishop Cauchon with heresy for having convicted an innocent woman in pursuit of a secular vendetta. She was declared innocent on 7 July 1456 and became a symbol of the Catholic League during the 16th century.

Pope Benedict XV canonized Joan on 16 May 1920.

That concludes this unit and references follow. If all possible references were listed it would take several pages so I have only detailed a few and then added a list of names, all who have many entries on the Internet accompanied by numerous references and other sources.

Activity 2.2

Research Phonemes in Wikipedia

Post your understanding to the [Course Discussion Forum](#)

References:

<http://www.unmuseum.org/cipher.htm> (early secret code systems)

"The Art of War" Sun Tzu – first written 500BCE – The Denma Translation, Shambhala Classics
– Boston and London 2002 –ISBN 978-1-57062-904-4(pbk),

Suggest refer to Internet for more details on following:

Alexander III, Hannibal,

Polybius,

Julius Caesar,

Letter Frequency Analysis,

Genghis Khan,

Pony Express in USA,

Leonardo de Piza (Fibonachi),

Roger Bacon (c1250),

Sir Francis Bacon(c.1500s),

Marco Polo,

Spanish Inquisition,

Hundred Years War,

Joan d'Arc.

Next

In Unit 3 we will explore the years from 1467 to 1850 including the cryptography of the American Civil War

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