information & intelligence
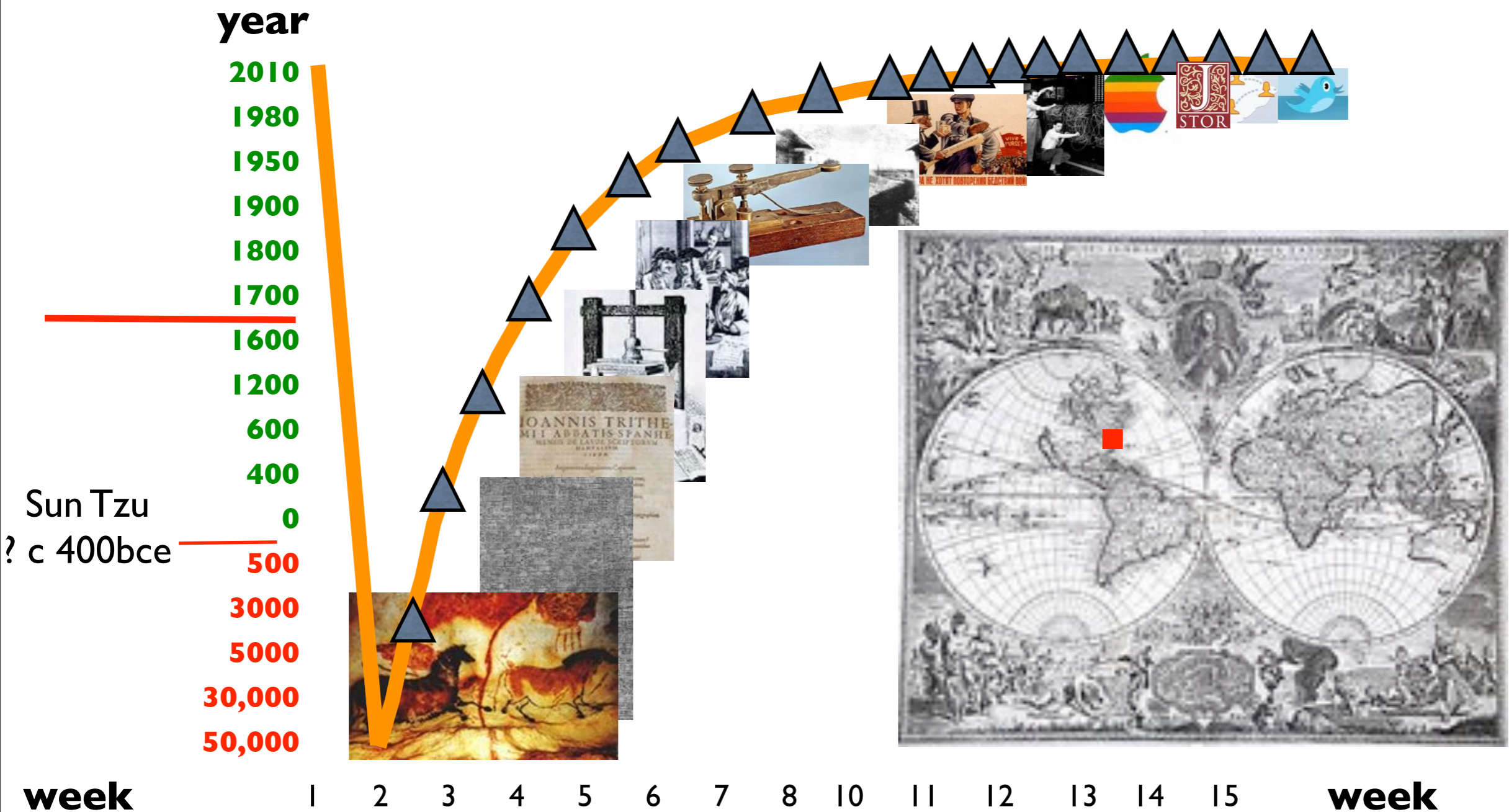
questions of truth, trust, and reliability

History of Information
February 18, 2010

Paul Duguid &
Alejandra Dubcovsky

1

where we are going

year

2010
1980
1950
1900
1800
1700
1600
1200
600
400
0
500
3000
5000
30,000
50,000

Sun Tzu
? c 400bce

week   1   2   3   4   5   6   7   8   10   11   12   13   14   15   **week**

today's map

I'm hoping for some sort of enlightenment on this assignment during the lecture.

Joel

Paul:
why intelligence?

Alejandra:
Spanish spies & more

intelligence
where we've been

Stenographia: Ars per Occultam Scripturam c. 1499

writing systems

public sphere

print culture
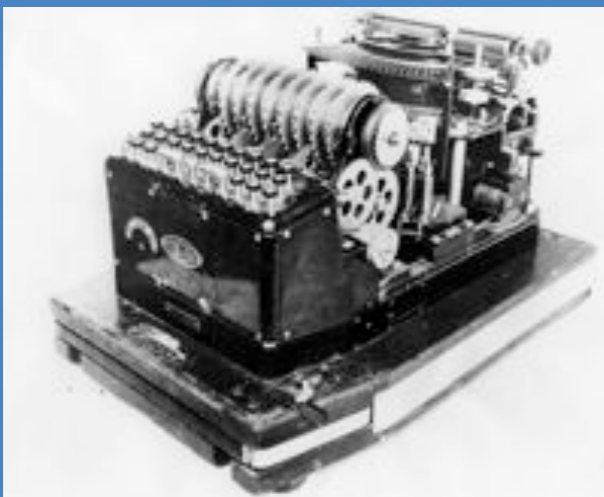
scientific information

organization of knowledge

intelligence
where we're going

"Treason doth
never prosper,
What's the reason?
For if it prosper,
None dare call it
treason"

John Harington,
Epigrams, 1618

postal system

telegraph and telephone

photography

advertising/propaganda

advent of the computer

internet

determinism & technological sublime

"Westward the course of empire takes its way."

"the rhetoric of the technological sublime"
Leo Marx, *The Machine in the Garden*, 1964

information theory

Claude Shannon & Warren Weaver,
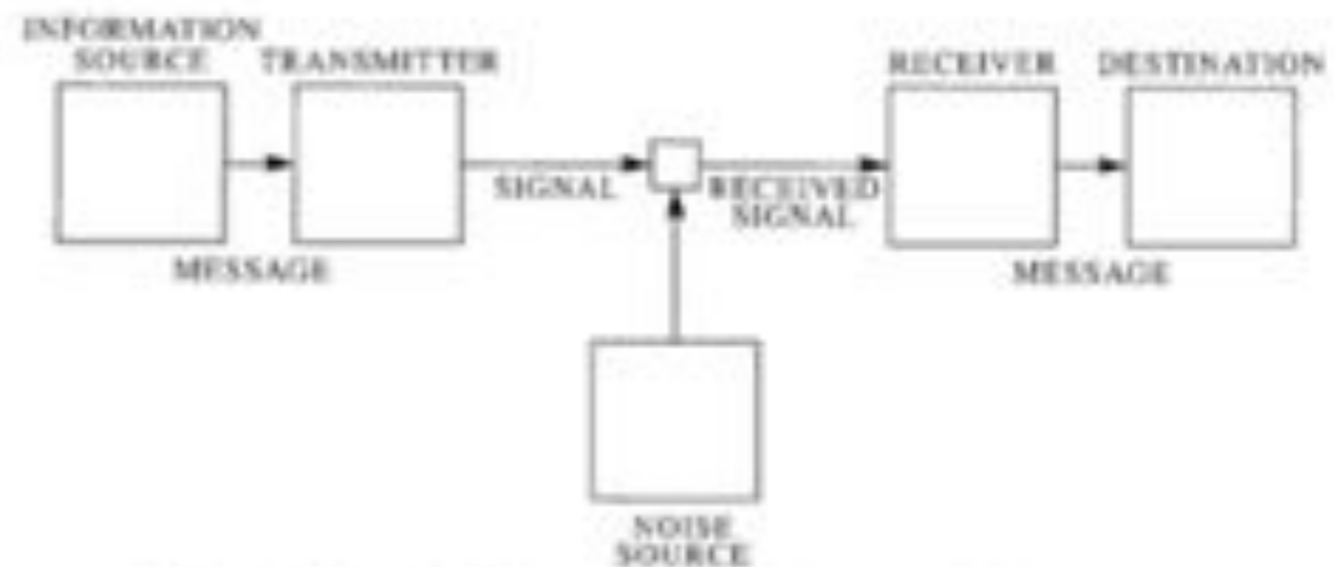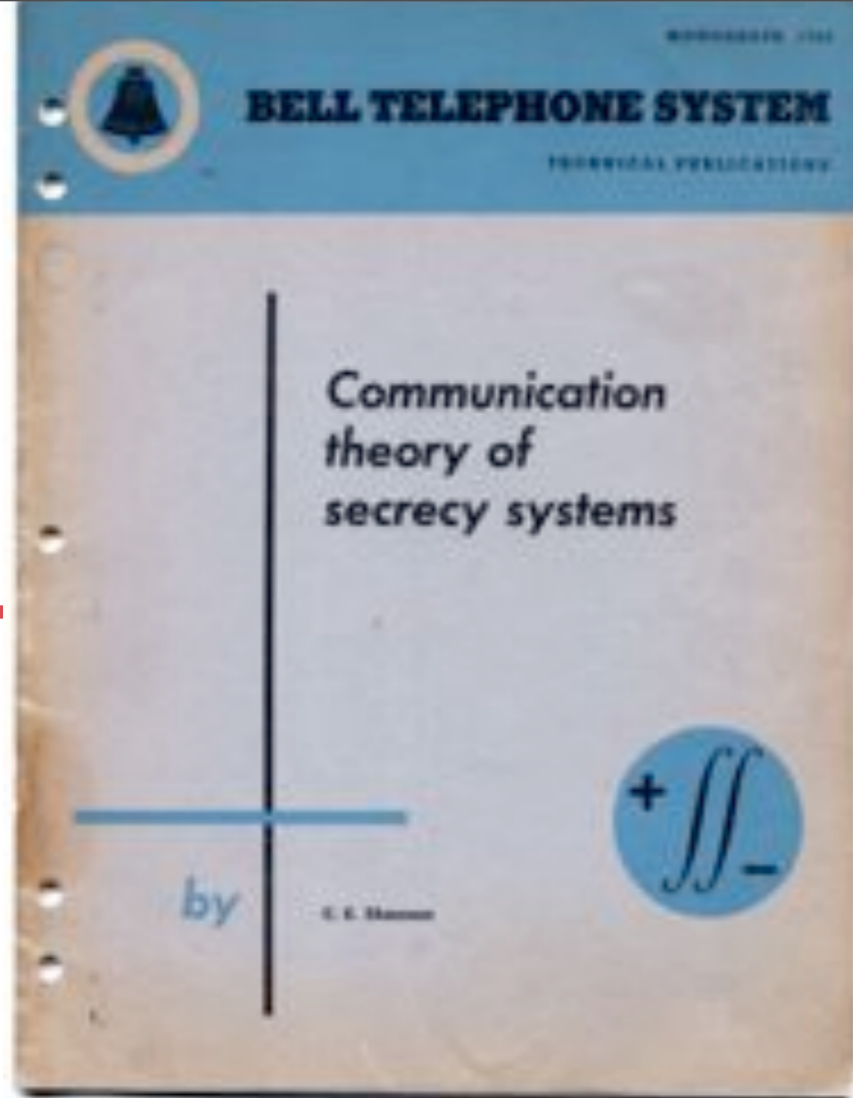*The Mathematical Theory of Communication*, 1949

Fig. 1—Schematic diagram of a general communication system.

"Information relates not so much to what you do say, as to what you could say … a measure of one's freedom of choice when one selects a message"

Bell Labs

connections

BELL TELEPHONE SYSTEM

TECHNICAL PUBLICATIONS

Communication
theory of
secrecy systems

by C. E. Shannon

Claude Shanon,

1946

"I started thinking about cryptography and secrecy systems. There is this connection; they are very similar things, in one case trying to conceal information, and in the other case trying to transmit it."

Claude Shannon quoted in Rogers and Valente, "A History of Information Theory in Communication," 1993

z

information theory
a world of mirrors

These are the important issues of trust in what type of information is spread among humans.
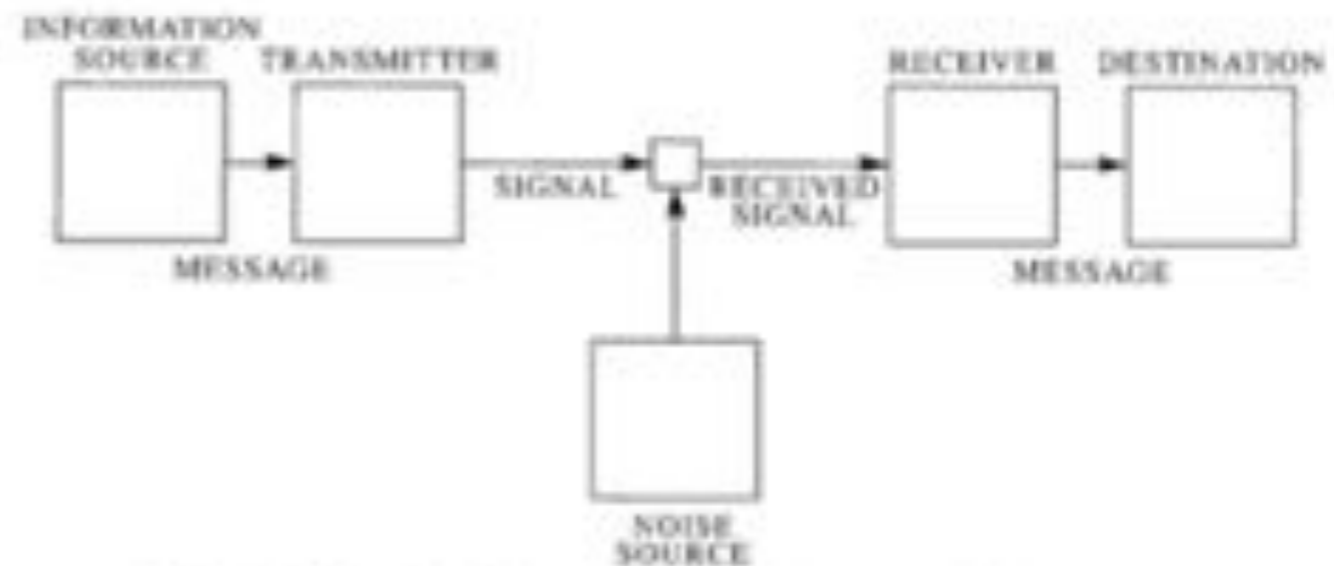
Rachelle

Fig. 1—Schematic diagram of a general communication system.

"[B]asic results [of information theory] are aimed in a very specific direction ... not necessarily relevant to such fields as psychology, economics, and other social sciences,...not a trivial matter of translating words to a new domain"

Claude Shannon, "The Bandwagon," 1956

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a world of mirrors

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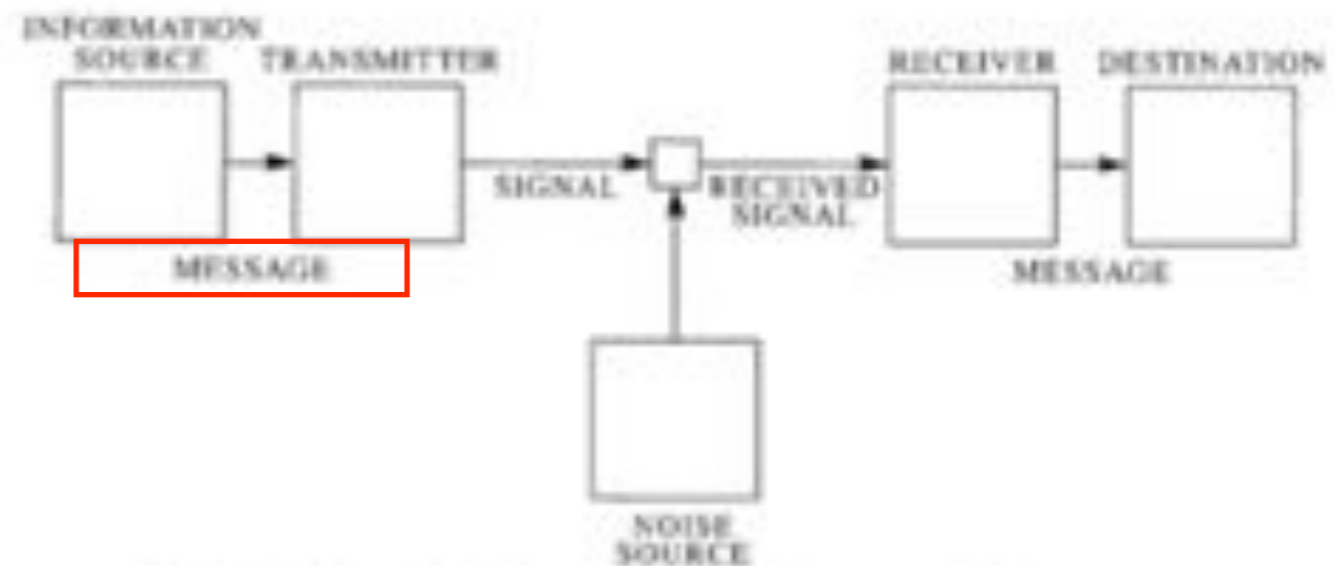
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9

information theory
a world of mirrors

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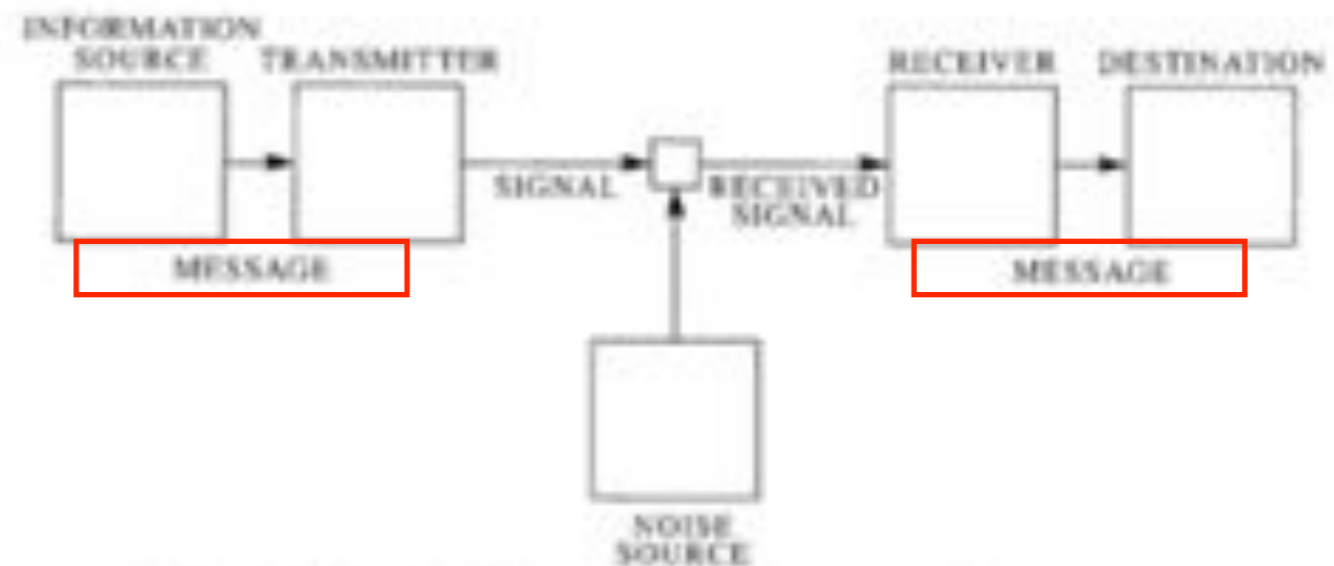
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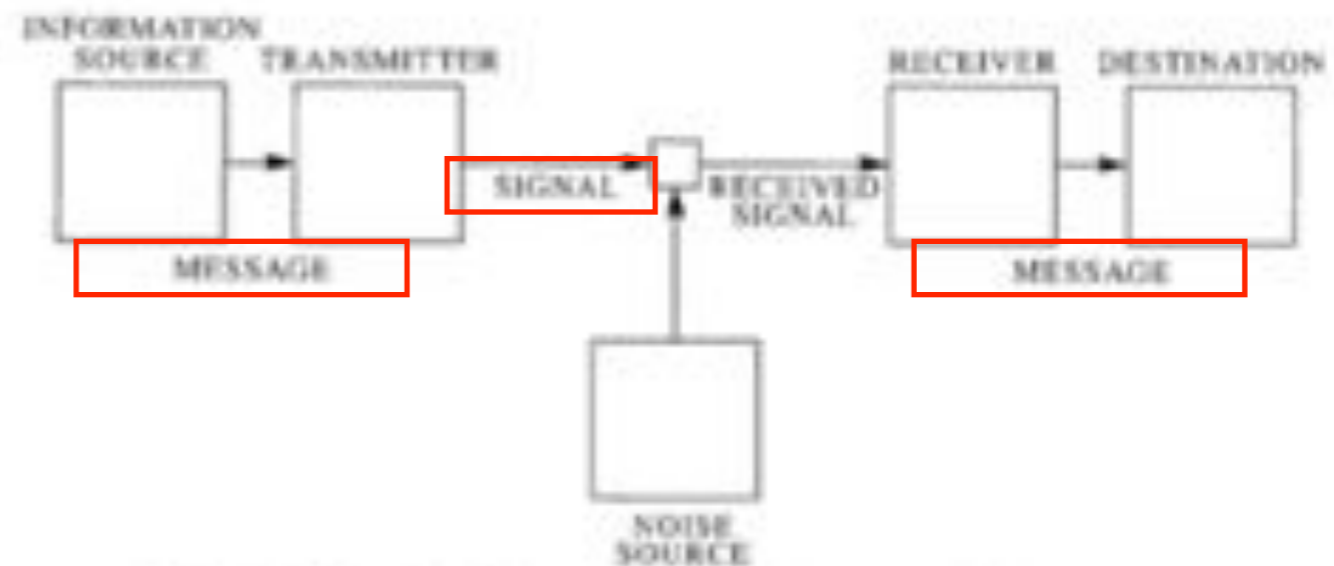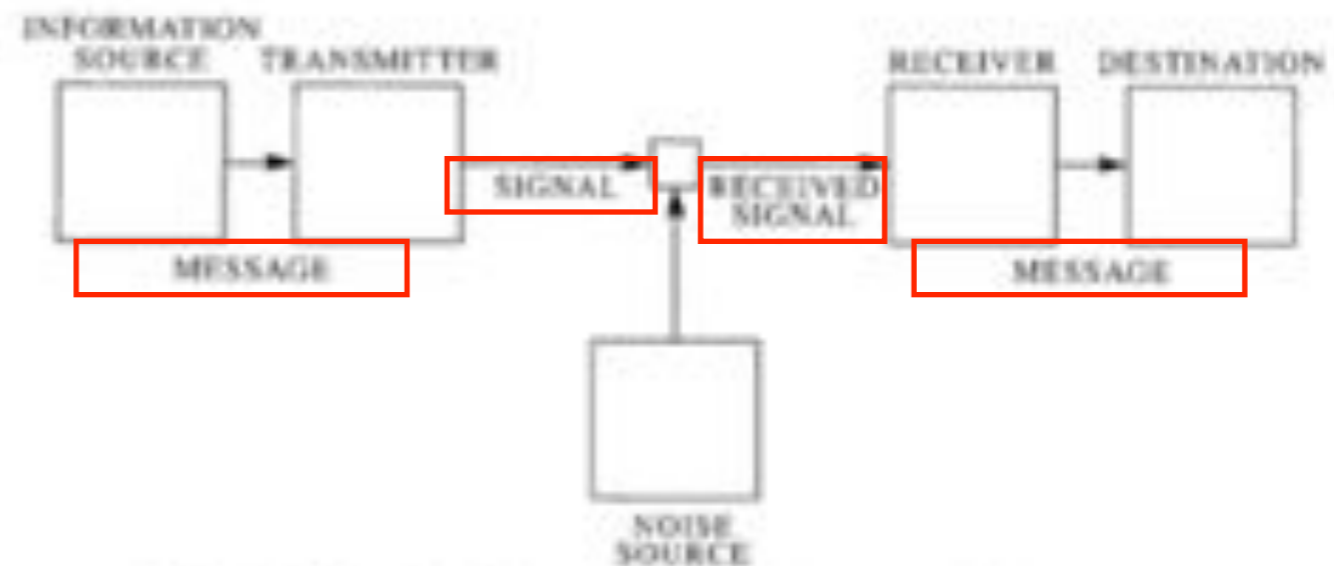
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midwives and mirrors

philosophers as midwives

Women do not bring into the world at one time real children, and at another time counterfeits which are with difficulty distinguished from them.

--Socrates, *Theaetetus*

many faces of falsehood

If falsehood, like truth, had only one face, we would be in better shape, for we would take as certain the opposite of what the liar said. But the reverse of truth has a hundred thousand shapes and a limitless field. --Montaigne, "On Liars," 1588?
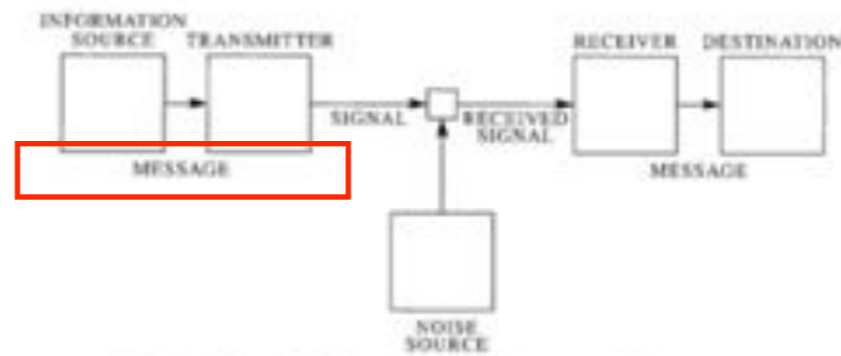
Fig. 1—Schematic diagram of a general communication system.

truth values

knowledge

facts

information

misinformation

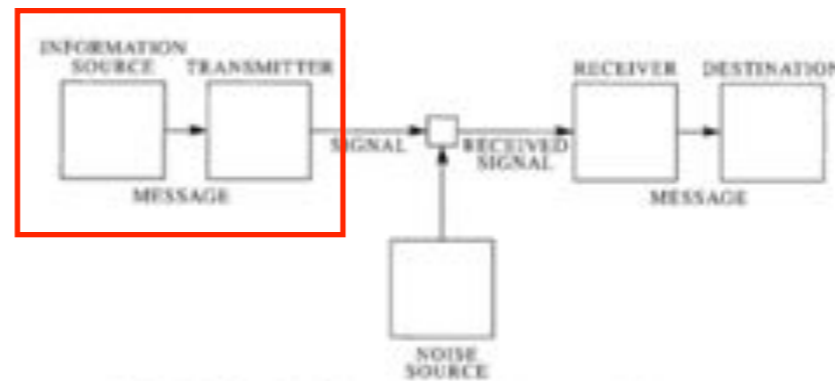Fig. 1—Schematic diagram of a general communication system.

sources

human source (*humint*)

communications (*sigint*)

networks

"divine manipulation of the threads"

characteristics

disposition

competence

Relying on the intelligence gathered by people that you have taken over can be tricky because you have destroyed their culture and communities - increasing their incentives to seek revenge.

Janet

interpretive guidelines

Seriality

Periodicity

Currency

Independence

Completeness

Mercurius Civicus.

LONDONS

INTELLIGENCER:

OR,

Truth impartially related from thence to the whole Kingdome, to prevent mis-information.

[T]he best way we could gauge the intelligence discussed in the letters is with later letters.This would enable us to see how consistent the spies are and whether what they say conflicts or makes sense.

                    Zachary K.

interpretive guidelines

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and **Silence**?

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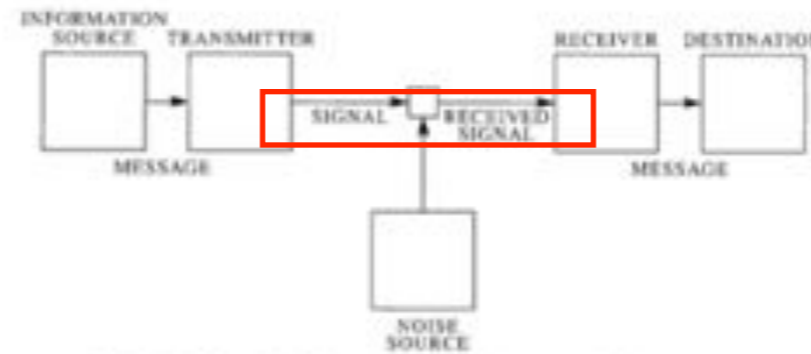
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"the dog that didn't bark"

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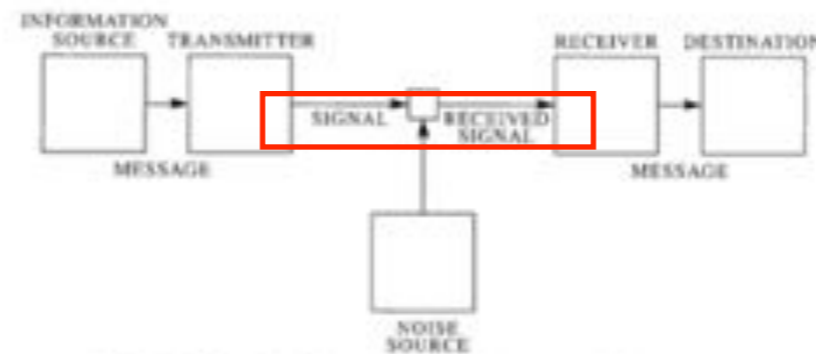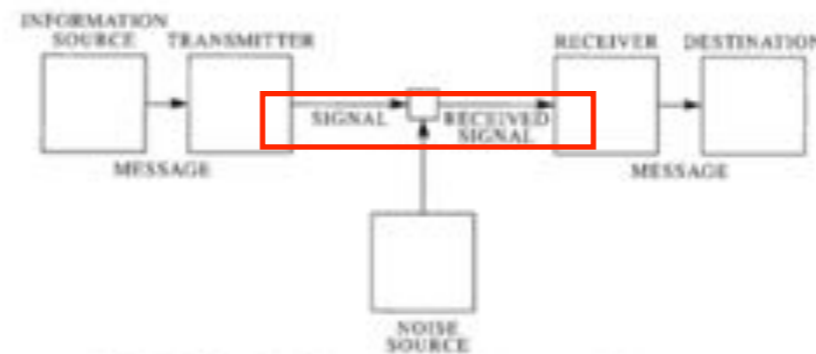
Zachary K.

Fig. 1—Schematic diagram of a general communication system.

content

Now this foreknowledge cannot be elicited from spirits; it cannot be obtained inductively from experience, nor by any deductive calculation.

Sun Tzu, *Art of War*

observation

deduction

inference

speculation

opinion

rumour

gossip
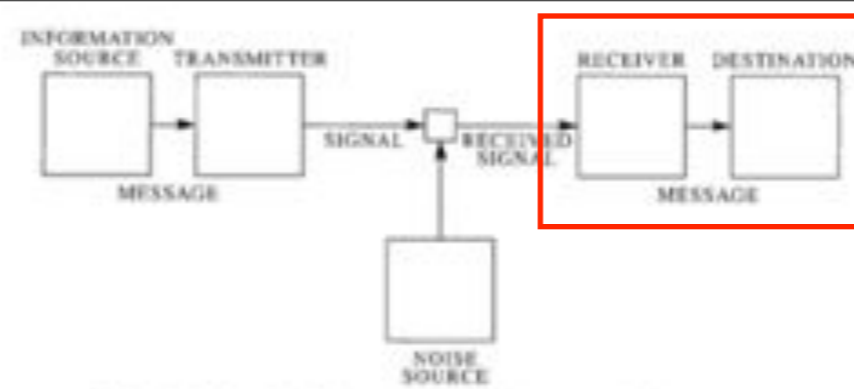
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decoding

De Re Diplomatica, 1681

Jean Mabillon

(1632–1707)

white hats & black hats

the charter of La Tour d'Auvergne

"skilfully forged [using Mabillon's
principles] by a sublibrarian who ended
his days in the Bastille"

--David Knowles

not all 18th century

sigint successes

Los Angeles Times

Taliban leader's arrest hinged on U.S. information

Officials say an intelligence break let U.S. spies pinpoint military chief Mullah Abdul Ghani Baradar and help Pakistan organize a daring raid. Islamabad denies its cooperation is something new.

and failures?

U.S. enables Chinese hacking of Google

By Bruce Schneier, Special to CNN

January 23, 2010 5:20 p.m. EST

(CNN) -- Google made headlines when it went public with the fact that Chinese hackers had penetrated some of its services, such as Gmail, in a politically motivated attempt at intelligence gathering. The news here isn't that Chinese hackers engage in these activities or that their attempts are technically sophisticated -- we knew that already -- it's that the U.S. government inadvertently aided the hackers.

sigint or humint?

THE CHRISTMAS DAY TERROR ATTACK

▶ FULL COVER

Dec. 30, 2009

Bomb Plot Exposed Lack of Intel "Urgency"

Failure to Pinpoint Credible Intel, and Information Overload Hindered Ability to Thwart Plot

By Armen Keteyian

sigint more reliable?

LETTERS; The Airport Mind Scan, and the Terror Algorithm

Published: January 6, 2010

To the Editor:

A representative from an American intelligence agency was quoted as saying the reason Umar Farouk Abdulmutallab, the suspect in the attempted airline bombing, was not detected as a threat was that the volume of information streaming into the various intelligence agencies is so great that there will always be a risk that connections will not be made.

This statement would have been reasonable 30 years ago, but in light of the computer power now available, it seems incomprehensible that an algorithm could not be constructed that would minimize the human factor from the equation.

Given the numerous facts that were known, if all of this information were shared (an issue that has not yet been clarified), it seems inescapable that a warning flag would have appeared, and at the very least, his visa would have been canceled.

Nora Connell
Freeland, Md., Dec. 31, 2009

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Nora Connell
Freeland, Md., Dec. 31, 2009

too much of a good thing?

"It is difficult to gauge the reliability of some of this intelligence, as written work hides ulterior motives much better than oral communication. As such, I feel that first person relay would be superior to this version of information technology in such cases."

Michelle

Military Is Awash in Data From Drones

By CHRISTOPHER DREW
Published: January 10, 2010

HAMPTON, Va. — As the military rushes to place more spy drones over Afghanistan, remote-controlled planes are producing so much video intelligence that analysts are finding it more and more difficult to keep up.

sigint: unintended consequences

success or failure?

locational privacy

UK intelligence agencies hunt for clues on fake UK passports

The Serious Organised Crime Agency (Soca) leads full investigation into fraudulent use of British passports in Dubai

Richard Norton-Taylor
guardian.co.uk, Wednesday 17 February 2010 21.26 GMT
Article history

"converted spies"

Profile: Jordanian 'triple agent' who killed CIA agents

Humam Khalil Abu-Mulal al-Balawi, a 'triple agent' who blew up seven CIA agents in Afghanistan, was a Jordanian doctor and Islamist who the authorities believed they had turned against al-Qaeda.
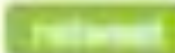
Published: 11:47AM GMT 05 Jan 2010

Balawi was from Zarqa, the same Jordanian town as Abu Musab al-Zarqawi, the infamous leader of al-Qaeda in Iraq who tormented the US military and Bush administration until his death in 2006 with a terrorist campaign that inspired militants around the world and made him a rival in influence to Osama bin Laden.

Balawi, who was also known as Hammam Khalil Mohammed, died last week aged 36 when he detonated explosives at a CIA forward operating base, Camp Chapman, in Khost, eastern Afghanistan in a suicide mission.

He was languishing in a Jordanian prison after being arrested for

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6

Email   Print

Text Size

key issues

quantity

vs

quality

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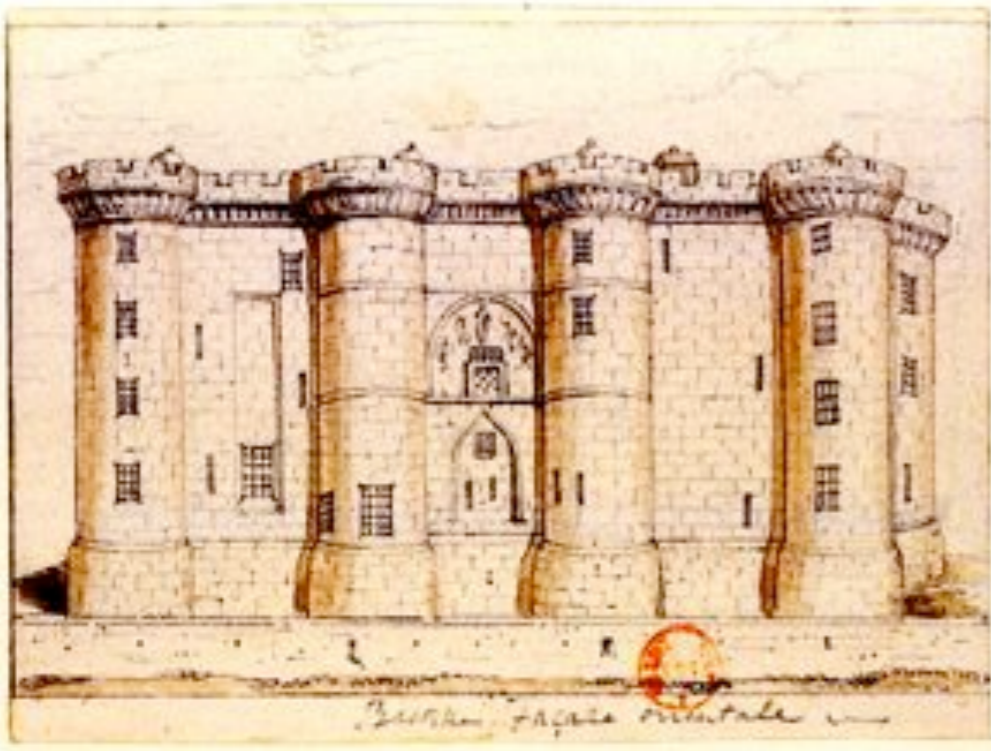
reliable channels

what's signal, what's noise

France & the French Revolution, 1789

England & the Indian Mutiny, 1857

quality vs reliability

Charles Goodhart
(1936 -)

Goodhart's law

"any observed statistical regularity will tend to collapse once pressure is placed upon it for control purposes"

Charles Goodhart,

"Monetary Relationships," 1975

quality vs reliability

Charles Goodhart

(1936 -)

Goodhart's law

"any observed statistical regularity will
tend to collapse once pressure is placed
upon it for control purposes"

Charles Goodhart,

"Monetary Relationships," 1975

Google's Clicks Not as Profitable

The search powerhouse's second-quarter earnings increased 19%, but
investors got spooked by a drop in revenue per click

By Aaron Ricadela

informative noise

The rising of birds in their flight is the sign of an ambuscade. Startled beasts indicate that a sudden attack is coming

When there is dust rising in a high column, it is the sign of chariots advancing; when the dust is low, but spread over a wide area, it betokens the approach of infantry. When it branches out in different directions, it shows that parties have been sent to collect firewood. A few clouds of dust moving to and fro signify that the army is encamping.

Sun Tzu, *Art of War*, ch IX

Sun Tzu

All warfare is based on deception

Hence, when able to attack, we must seem
unable; when using our forces, we must seem
inactive; when we are near, we must make the
enemy believe we are far away; when far away,
we must make him believe we are near

Hold out baits to entice the enemy. Feign
disorder, and crush him.

Sun Tzu

"doomed spy"

If he is secure at all points, be prepared for him. If he is in superior strength, evade him

If your opponent is of choleric temper, seek to irritate him. Pretend to be weak, that he may grow arrogant

If he is taking his ease, give him no rest. If his forces are united, separate them

Attack him where he is unprepared, **appear where you are not expected.**

Sun Tzu

simulated disorder postulates perfect
discipline, simulated fear postulates
courage; simulated weakness postulates
strength

Hiding order beneath the cloak of disorder
is simply a question of subdivision;
concealing courage under a show of timidity
presupposes a fund of latent energy; masking
strength with weakness is to be effected by
tactical dispositions

Sun Tzu

Thus one who is skillful at keeping the enemy on the move maintains deceitful appearances, according to which the enemy will act. He sacrifices something, that the enemy may snatch at it

By holding out baits, he keeps him on the march; then with a body of picked men he lies in wait for him.

We cannot enter into alliances until we are acquainted with the designs of our neighbors.

Sun Tzu

One way to counteract this problem would be to have multiple spies in all the categories, or scouts sent to survey the area.

Isabel

spymasters & the divine skein

When these five kinds of spy are all at work, none can discover the secret system. This is called the "divine manipulation of the threads." It is the sovereign's most precious faulty.

spies cannot be usefully employed without a certain intuitive sagacity

> I would rather rely upon intuition and
> context than a formal category.
>   Nicola

Sun Tzu

spies

(1) Local spies [native agents]: employing the services of the inhabitants of a district.

(2) inward spies [inside agents]: making use of officials of the enemy

(3) converted spies [double agents]: getting hold of the enemy's spies and using them for our own purposes.

(4) doomed spies [expendable agents, agents provocateurs]: doing certain things openly for purposes of deception, and allowing our spies to know of them and report them to the enemy.

(5) surviving spies [living agents]: who bring back news from the enemy's camp

spies

The Indian spies roughly fall into three of the categories. The spies were Yamasee Indians, and when they spied on the other Yamasees, this made them 'local spies' in a sense; although they may not have lived in that specific village, they were members of the same tribe (p 89). The spies also falsely reported that 45 Yamasees were coming towards one village with Englishmen, making them doomed spies (p 90). Finally, the spies who made it back to report to Mathos could be classified as surviving spies (p 88).

... Ultimately, as Mathos says, we must gauge the reliability of the information based on the character and dependability of the spy, and by cross-referencing it against other accounts.

Amy Azaren

We might gauge the reliability of the letters by conducting more research of the Apalachicole in 1686 and the battles and gained territory of the English and Spanish.

Emily Bibb

spies

These classifications can only guess at the general shape of the complex web of incentives and motivations which ultimately determine any individual spy's loyalties, access to information, and quality of transmission.

Daniel

For us now to gauge the reliability of the letters would involve investigating any possible motives for falsifying information.

Sanketh

trusted agents

"An ambassador is a man of virtue sent to lie abroad for his country; a news-writer is a man without virtue who lies at home for himself"

Sir Henry Wotton
1568–1639

Daniel Defoe

diplomats

monks/pilgrims

journalists

merchants/sailors

women

scholars/students

(peregrinatio academica)

but first ...

to Florida