PANEL

Are Automatic Biometric Recognition Schemes Really Useful for Forensic Analysis?

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No living being is just

Psalm 143 (142)

It is considered the oldest fragment of Western thinking. Anaximander reportedly lived on the island of Samos from the end of the seventh century to the middle of the sixth.

According to the generally accepted text the fragment reads:

ἐξ ὧν δὲ ἡ γένεσίς ἐστι τοῖς οὖσι καὶ τὴν φθορὰν εἰς ταῦτα γίνεσθαι κατὰ τὸ χρεών· διδόναι γὰρ αὐτὰ δίκην καὶ τίσιν ἀλλήλοις τῆς ἀδικίας κατὰ τὴν τοῦ χρόνου τάξιν.

Whence things have their origin, there they must also pass away according to necessity; for they must pay penalty and be judged for their injustice, according to the ordinance of time.

What is justice?

- Distributive
- Retributive
- Restorative
- Procedural
- Utilitaristic

Justice and Truth

- Justice is not truth
- Juridical Truth is not factual truth
- Juridical Truth is consistency between juridical facts, say, evidence presented to the court
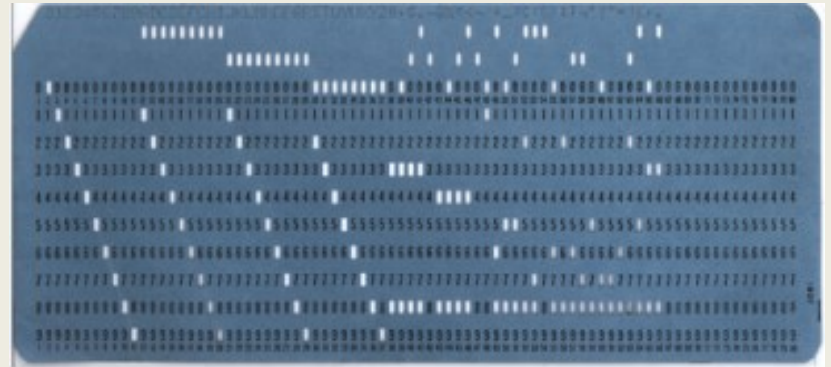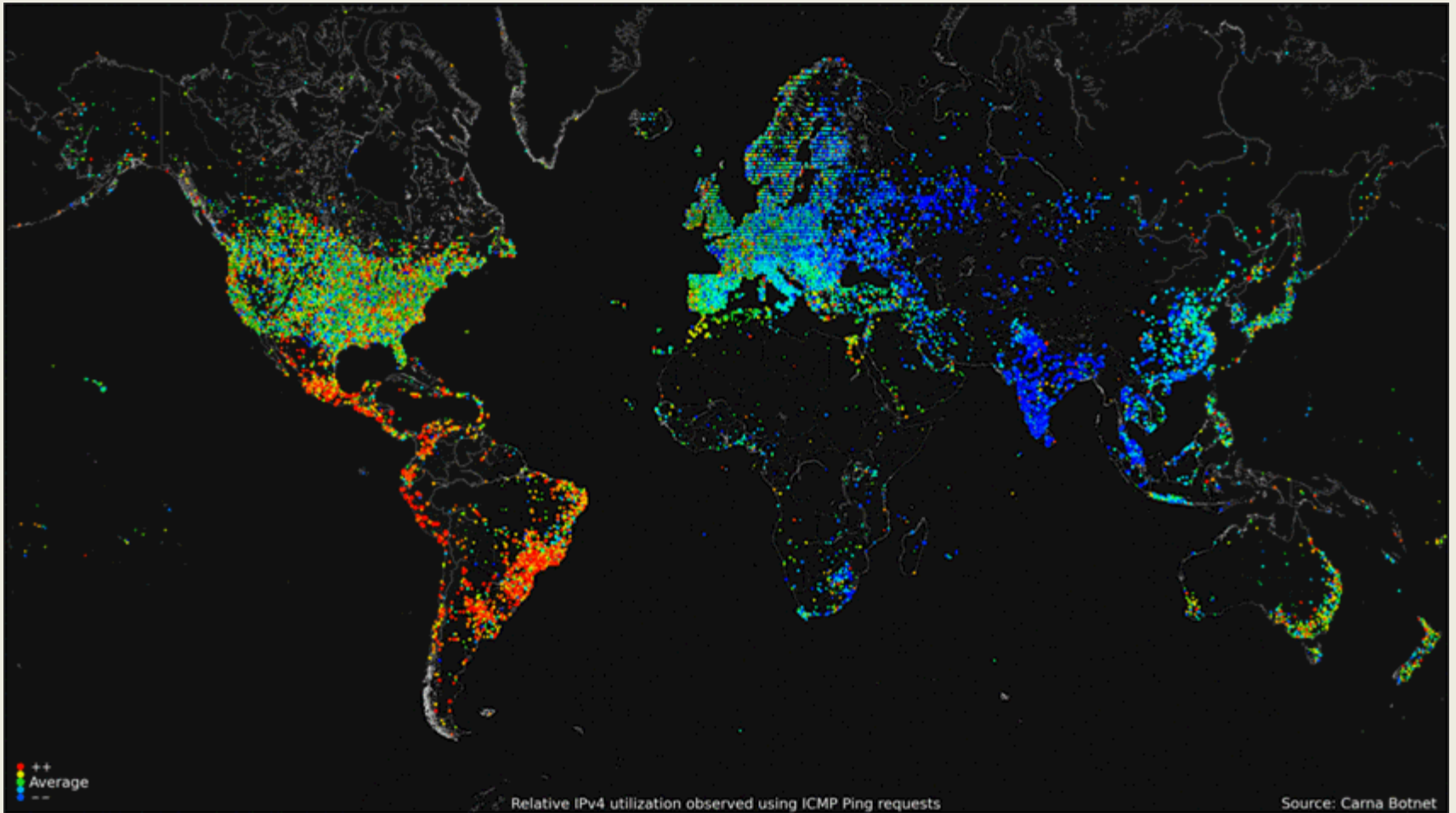
Justice without Mercy

Summo Jus, Summa Injuria

ACCIDENTAL BIOMETRIC DATABASE

Relative IPv4 utilization observed using ICMP Ping requests

Source: Carna Botnet

The main emerging issue

1. Harder to control or secure: Transactional, distributed & ubiquitous

2. Contain sensitive meta-data: Associated with actions that are space & time tagged

3. Lack of notice: Often consumer is contributing to them without understanding implications & without consent

4. Unlimited in size: Quickly become orders of magnitude larger than enrolment databases and can contain multiple entries per person

Presumption of innocence

- The principle of presumption of innocence is a main tenet of western juridical civilization.

- This principle dictates that a court should always chose the interpretation that favors the defendant. It implies that in order to be accepted as an evidence, biometric systems should be calibrated in a way to minimize false positive even if this implied a higher rate of false negative.

- This would not be the case with old, analog, fingerprint recognition based on experts' eyes, which were not probabilistic in essence.

Consequences

- In case of accidental biometric database, we are facing data search which are calibrated in a way to minimize false negative, say, the odds of failing to recognize a subject, even if this implies a higher rate of false positive.

- The puzzling consequence is that biometric evidence obtained outside the forensic context, and in particular by searching large, online, accidental, databases, should not be used routinely within the forensic context.

TABULA

Thank you for your patience and attention

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