

The Visualisation of Virtual Surveillance

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<http://rogerclarke.com/DV/VVS> {.html, .pdf}

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Case's deck enabled him to jack into **Cyberspace**
"**a graphic representation of data abstracted from
the banks of every computer in the human system ...**
lines of light ranged in the nonspace of
mind, clusters and constellations of data"



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Gibson W. (1984) 'Neuromancer', pp. 12, 67

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Dataveillance

The systematic collection and use of personal data
to monitor or investigate the actions or communications
of one or more people

- Originally, through the re-purposing of existing data
- Later, by means of purposeful collection of data
- Now, as a spin-off from all kinds of transactions

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<http://rogerclarke.com/DV/CACM88.html>
<http://rogerclarke.com/DV/Intro.html#DV>

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Surveillance Capitalism *a la* Zuboff

The contemporary paradigm, within which corporations
predict and modify human behavior as a means to
produce revenue and market control

The Digital Surveillance Economy

The combination of institutions,
institutional relationships and processes,
which enables **corporations to exploit data
that arises from the monitoring of
people's electronic behaviour**
and on which consumer marketing
corporations have become dependent

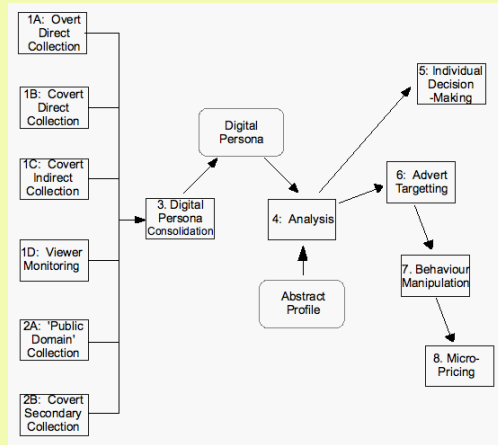
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Zuboff, JIT 30,2 (Jun 2015)
Clarke, JIT 34,1 (Mar 2019)

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How NOT to Help People Visualise



A Model of the Digital Surveillance Economy

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Categorisation of Surveillance

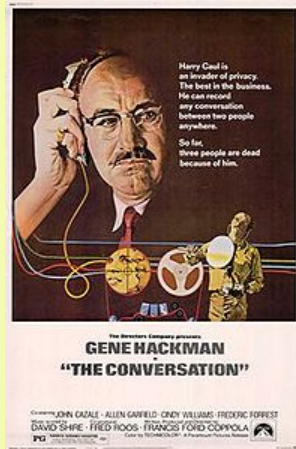
- | | |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (1) Of What? | Person, Object, Space |
| (2) For Whom? | Person, Involved Party, Third Party |
| (3) By Whom? | Person, Involved Party, Third Party |
| (4) Why? | Wellbeing, Evidence, Deterrence |
| (5) How? | Physical (visual, aural, at distance, auto-surveillance); Dataveillance (retrospective, real-time, predictive); Communications / Experience
Personal / Mass surveillance |
| (6) Where? | Physical, Virtual, Intellectual |
| (7) When? | Once, Recurrent, Scattered, Continuous |

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Aural Surveillance

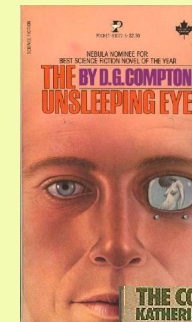
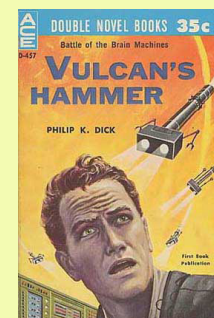


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Visual Surveillance



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Identification, Location and Tracking

- Identification (who?)
 - Location (where?)
 - Tracking (from where to where?)
 - Retrospective
 - Real-Time
 - Prospective
- Artefacts as Proxies
 - Motor Vehicles
 - Mobile Phones
 - Iris Scanning
 - Attachments
 - Implantation

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Identification, Location and Tracking Vehicles as Proxies

The policemen on duty have instantaneous kodaks mounted on tripods, which show the position of any vehicle at quarter-second intervals, by which it is easy to ascertain the exact speed; so there is no danger of a vehicle's speed exceeding that allowed

John Jacob Astor IV
Died on the Titanic, **1912**

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Identification, Location and Tracking Vehicles as Proxies

Vehicle Id

She fumbled in the storage compartment on the instrument board, apparently purposelessly.
But the registration number which the traffic control automatically photographed as she left the controlway was not the number in which the car was registered
Robert Heinlein, 1941

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Identification, Location and Tracking Vehicles as Proxies

Vehicle Id

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Robert Heinlein, 1941

ANPR

Invented in **1976**, Deployed in **1979**

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Case was at a vending console at the end of a rank of payphones. The phone nearest him rang. Automatically, he picked it up. 'Yeah?'. 'Hello, Case. Wintermute, Case. It's time we talk'. He hung up. On his way back from the vending machine, he had to walk the length of the ranked phones. Each rang in turn as he passed, but only once.

William Gibson
'Neuromancer', 1984

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Iris Scanning

- 'Minority Report', Stephen Spielberg, Dreamworks, Released 12 June 2002



- Abu Dhabi Illegal Immigrant scheme Deployed **October 2002**
http://www.accessmylibrary.com/coms2/summary_0286-22721314_ITM

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Human Implantation

- Radiant** – a substance injected into the shoulder, providing positioning, information – Jack Vance, 1954
- The Ring** – 'A surgically implanted electronic monitor that caused agony when a convict strayed ...' – Piers Anthony and Robert Margroff, 1968
- Skull Bug** – Electronic device implanted in the cranium at birth, for monitoring and control – Alfred Bester, 1974
- Resistance from a journal editor about the idea – 1992
- First chip implantation in animals – 1991
- First voluntary chip implantation in humans – 1998
- First imposed chip implantation in humans – 2000? 2004?

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The Blurring of Speculative Fiction and Reality



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Conclusions

- Surveillance offers fiction-writers a lot of scope
- Authors' imaginations have mostly run only a few, short decades ahead of technology
- Surveillance is increasing privacy concerns
- Active opposition is imminent, as surveillance goes beyond the levels of acceptability
- **'We must teach our technologies to forget'**
- **Maybe we must also teach our technologies to forego data collection, except with consent or where reasonable grounds for suspicion exist**