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University of Nottingham Annual Health Communication Lecture 2009

"We have your medical details online"

Clinician-patient communication in an age of distributed electronic patient records

© Trish Greenhalgh
University College London

1997

"We should connect every hospital to the Internet, so that doctors can instantly share data about their patients with the best specialists in the field."

1998

"If I live in Bradford and fall ill in Birmingham, then I want the doctor treating me to have access to the information he needs to treat me."

2009

"A computerized medical record for every American within the next five years…..

…could prevent medical error, save lives and create hundreds of thousands of jobs"

"The Prime Minister does not seem to distinguish between good public spending and bad public spending. At a time when every penny of public money needs to be spent wisely, he wants to waste £13 billion on an NHS computer system that does not work, £12 billion on a surveillance database, which will spy on everybody in the country, and billions more on ID cards."

MEDICINE'S DICKENSIAN PAST

MODERNISING INFORMATING INTEGRATING

Healthcare's utopian future

THE OLD SYSTEM
Inconsistent
Error-prone
Fragmented
Unaccountable
Inefficient
Doctor-centred
Reactive

THE NEW SYSTEM
Evidence-based
Safe
Connected
Accountable
Efficient
Patient-centred
Proactive

NHS Connecting for Health

The NHS Care Records Service

Better information for better, safer care

Information as Superhero: is there Anything it Can't Do?

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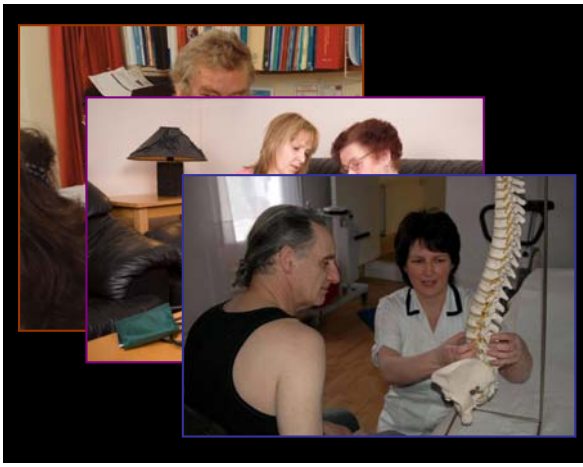
NHS Connecting for Health

FORMER SHIPMAN PATIENT IN CONTROL

Margaret Rickson 79, retired

Half of GPs refuse to put patients' records online



Society People Technology

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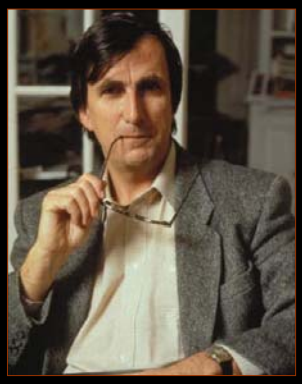
RESEARCH QUESTION

What happens – at both macro and micro level – when government tries to modernise a health service with the help of big IT?



Bruno Latour

"All technology projects are fictions because at the outset they do not exist"

Marc Berg

"The medical record is a tool…it does not represent the work but feeds into it, structures and transforms it in complex ways: it structures communication between healthcare personnel, shapes medical decision making and frames relations between personnel and patients"

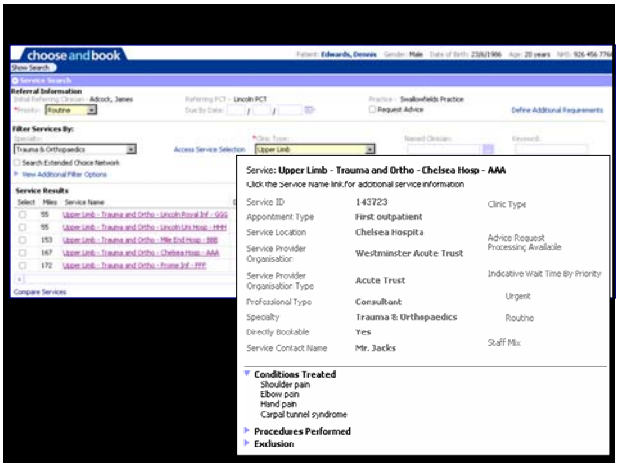
Geoff Walsham

"Software is frozen organisational discourse"

DATA FRAGMENT 1

Our team wanted to observe the use of a newly introduced electronic outpatient booking service (Choose and Book), which allows GPs to offer their patients a choice of hospital and clinic date, and book the appointment in real time.

When we applied for the grant, a quarter of practices in our intended field site used Choose and Book. We anticipated catching the late majority of adopters. But by the time the research began in mid 2008, all but one practice had abandoned it – allegedly because the technology did not "work" properly.



TRADITIONAL REFERRAL

GP dictates letter (patient not present) → Secretary types and posts letter → Admissions clerk collates referrals → Hospital doc prioritises 'urgent' cases → Appointment sent to patient

'MODERNISED' REFERRAL

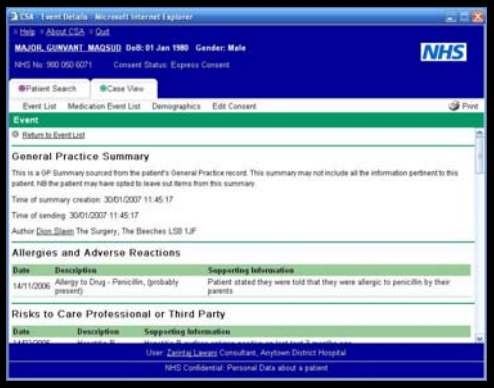
GP logs onto Internet → Asks "where/when would you like to be seen?" → Empowered patient consults diary → Booking made in real time

DATA FRAGMENT 2

Summary Care Records (SCRs, centrally stored, internet-accessible summaries of patients' medical records) had recently been introduced in one area.

A commercial IT company offered to fund a pilot study in which district nurses were issued with Portable Digital Assistants (PDAs) so they could access the SCRs of the patients they visited on their rounds.

The nurses were positive about the scheme, though few regularly called up patients' SCRs. Their enthusiasm seemed due to a combination of feeling valued; the perceived appropriateness of the PDA (as a mobile workforce, they should have a mobile technology); and its general communications functions (e.g. Internet access).



"I kept it in the car and put the postcode of the next house into Google Maps to find my way about town"

"I used it regularly to access data on the patient's medical record"

PDA device with access to NHS N3 'Spine'

"I used it to call up pictures on Google Images when explaining things to patients"

"I didn't use it at all"

DATA FRAGMENT 3

Almost all GP practices in the UK now use electronic records, known as local detailed records (LDRs). We found that considerable work went into constructing the LDR (for example, by adding coded data via pull-down menus) and keeping it up-to-date.

A high proportion of this 'data quality' work was oriented towards a financial incentive scheme known as the Quality and Outcomes Framework (QOF), a government-funded initiative oriented to promoting evidence-based care of chronic diseases and increasing the transparency and accountability of GPs' performance.

QOF SCENARIO
(with acknowledgement to Dr Deborah Swinglehurst)

A 24 year old man attended for a "routine" asthma review with a nurse.

Early in the consultation he explained that he had awoken from sleep 3 weeks ago, feeling "tight" in his chest and unable to breathe. He had to use his inhaler several times and was not able to get back to sleep because of it.

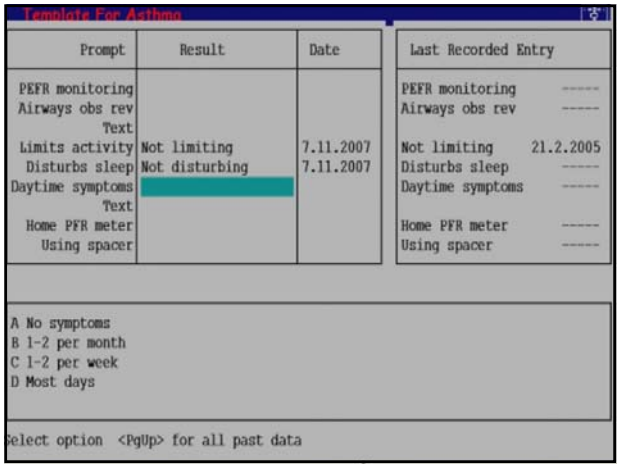
The template

The nurse starts to complete an electronic template which offers a series of fields / prompts for her to complete.

She comes to a prompt "Disturbs sleep" and there are two possible answers to this question which she can record:

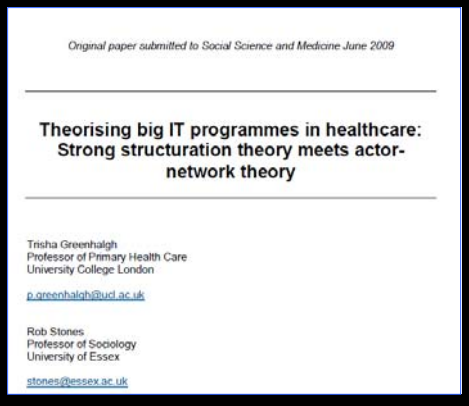
A: Disturbing sleep
B: Not disturbing sleep

	Spoken word	Gesture
N	And do you (.) em (.) I know recently (.) the other n(.) night you said you woke up during the night(.) wi:th(.) breathlessness(.) Is that something that occurs regularly↑	*N Points to a piece of paper on desk on which she had written notes previously. Pt nods.*
	(1)	
Pt	Uummmm(.) its occurred a couple of (…) uuh a couple of times but not sort of=	*Pt shifts slightly in his chair*
N	=a couple of times in the past how long↓	
	(2)	
Pt	°°How long°° what (1) how long↑ ago	*Pt sits back in his chair*
N	Yeah. You say a couple of times. What(..) a couple of times in the last ye::ar↑(.) a couple of times in the last mo::nth↑	*Nurse gestures demonstratively with both hands*
Pt	A couple of times in the last year	*N nods and turns to screen*
N	A couple of times in the last year so that's fine. So it's not regularly↓	*N still looking at screen*
Pt	No	*Pt shakes head.*



The 'macro' background

- Quality and Outcomes Framework ("QOF")
  - Clinical and administrative indicators / targets
  - Conducting an asthma review is one indicator
  - The practice achieved 100% in asthma care
- Patient invited to attend
  - Prompted by request for inhalers
  - One of the "Denominator Population"
- Completion of template integral to nursing role


Original paper submitted to Social Science and Medicine June 2009

Theorising big IT programmes in healthcare: Strong structuration theory meets actor-network theory

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University of Essex
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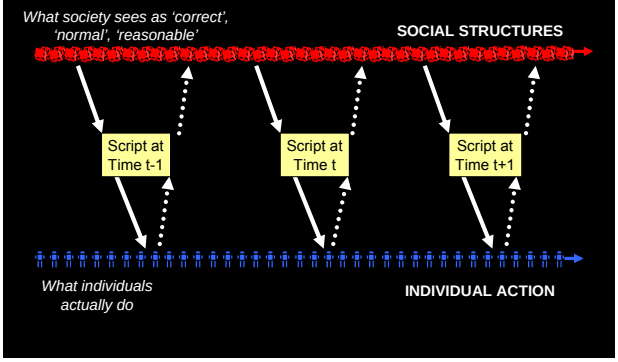
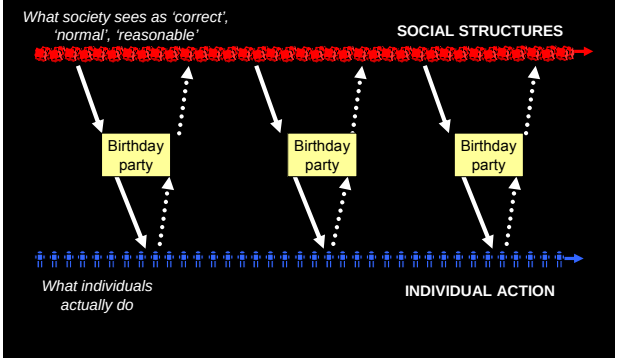
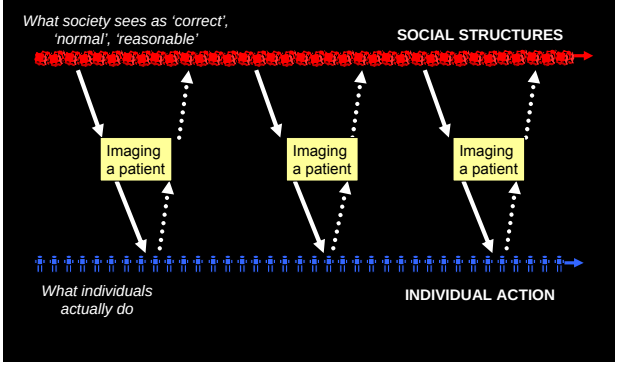
STRUCTURATION THEORY



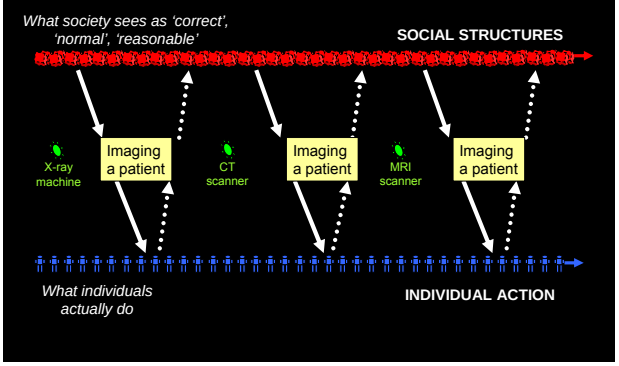
STRUCTURATION THEORY

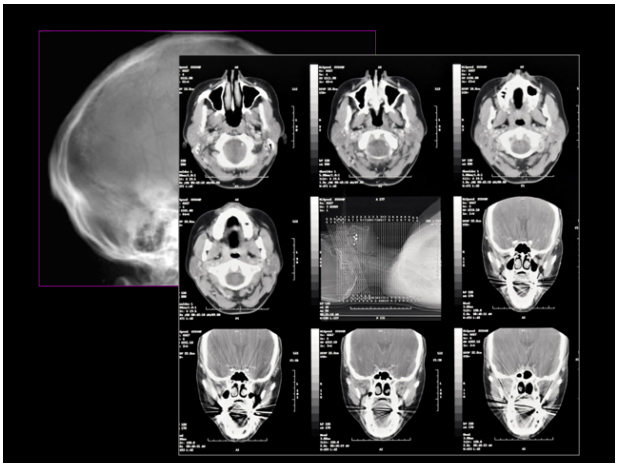


STRUCTURATION THEORY

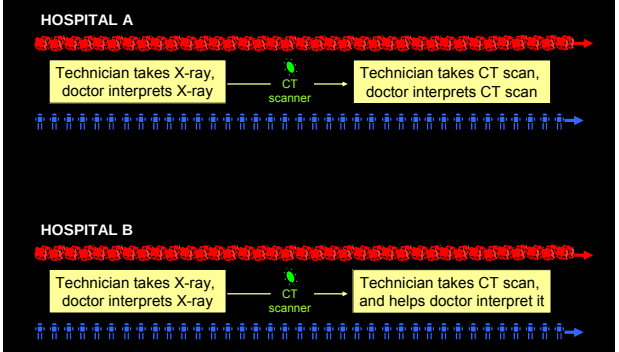


TECHNOLOGY STRUCTURATION THEORY





TECHNOLOGY STRUCTURATION THEORY

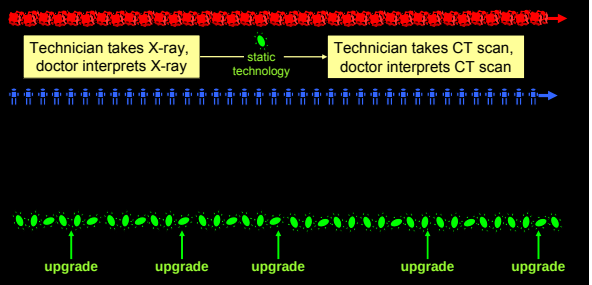


Technology as an Occasion for Structuring: Evidence from Observations of CT Scanners and the Social Order of Radiology Departments

Stephen R. Barley
Cornell University

New medical imaging devices, such as the CT scanner, have begun to challenge traditional role relations among radiologists and radiological technologists. Under some conditions, these technologies may actually alter the organizational and occupational structure of radiological work. However, current theories of technology and organizational form are insensitive to the potential number of structural variations implicit in role-based change. This paper expands recent sociological thought on the link between institution and action to outline a theory of how technology might occasion different organizational structures by altering institutionalized roles and patterns of interaction. In so doing, technology is treated as a social rather than a physical object, and structure is conceptualized as a process rather than an entity. The implications

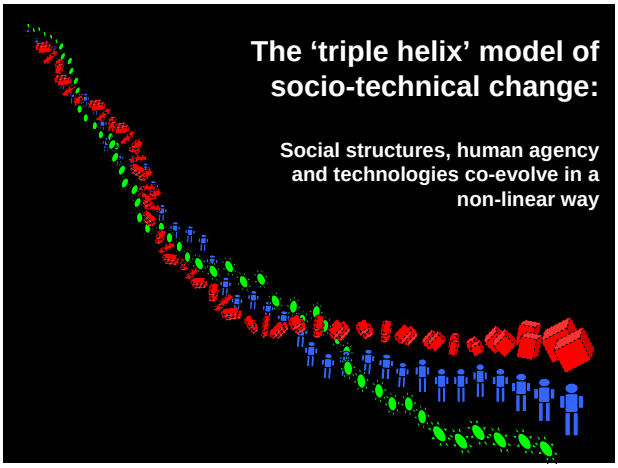
TECHNOLOGY STRUCTURATION THEORY

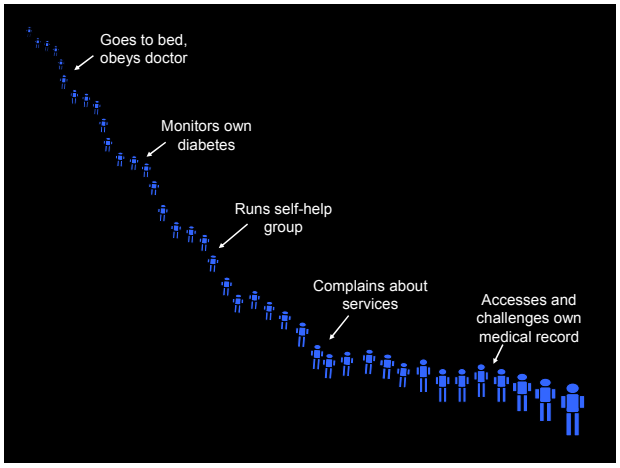


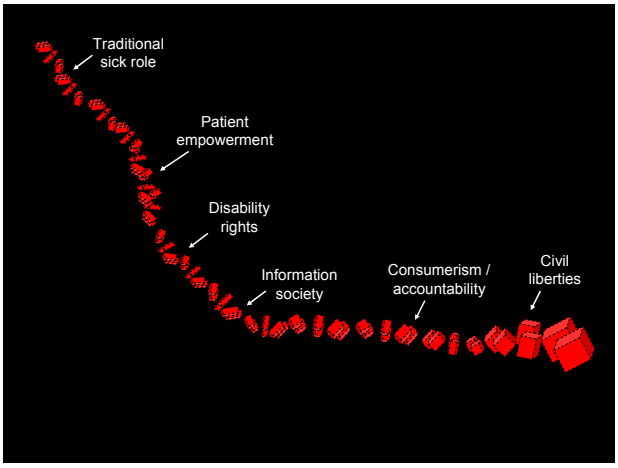
Software is an evolving technology!

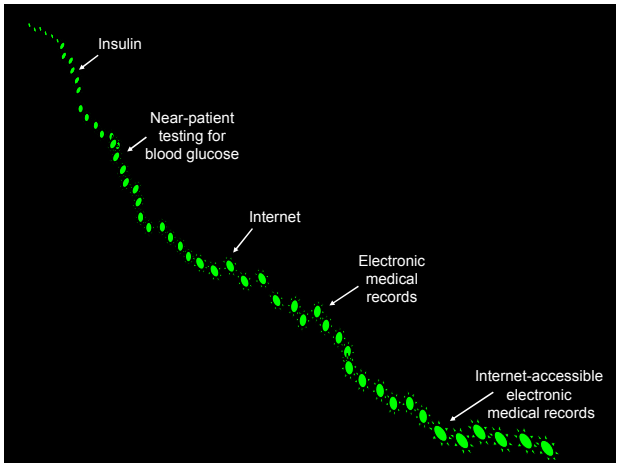
The 'triple helix' model of socio-technical change:

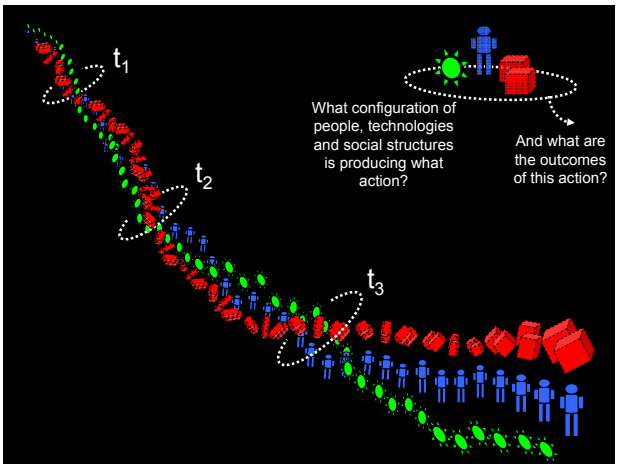
Social structures, human agency and technologies co-evolve in a non-linear way

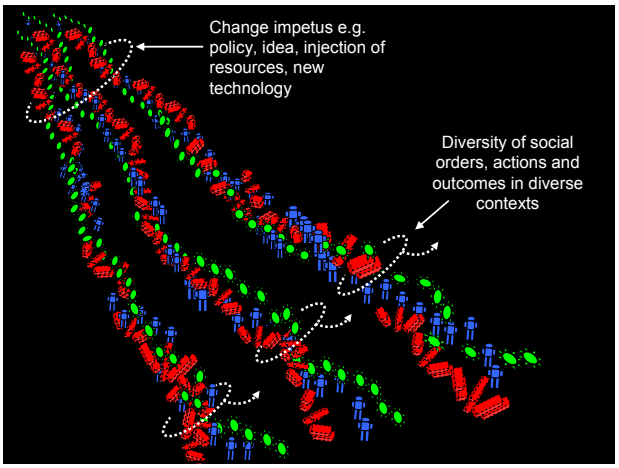


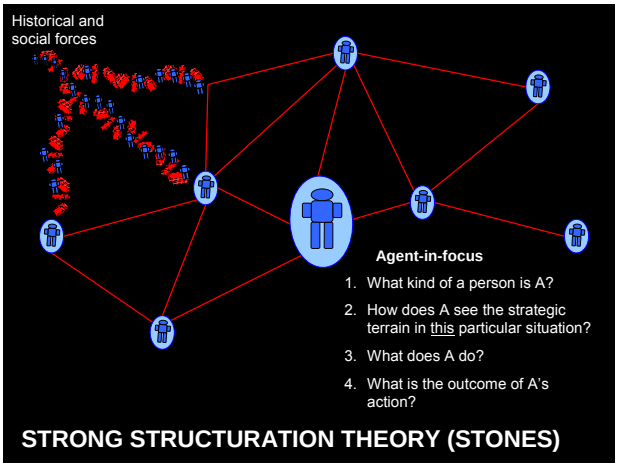


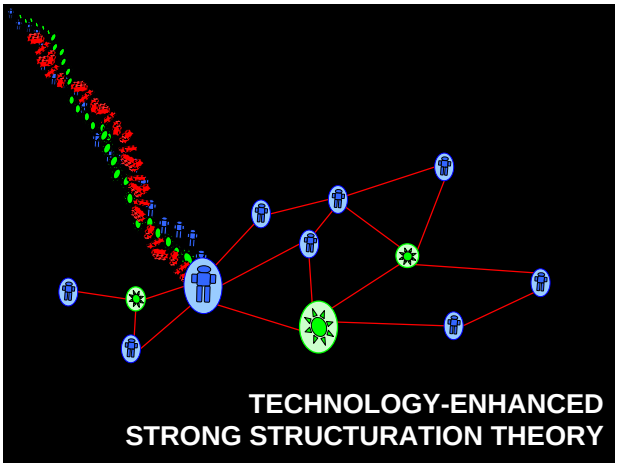


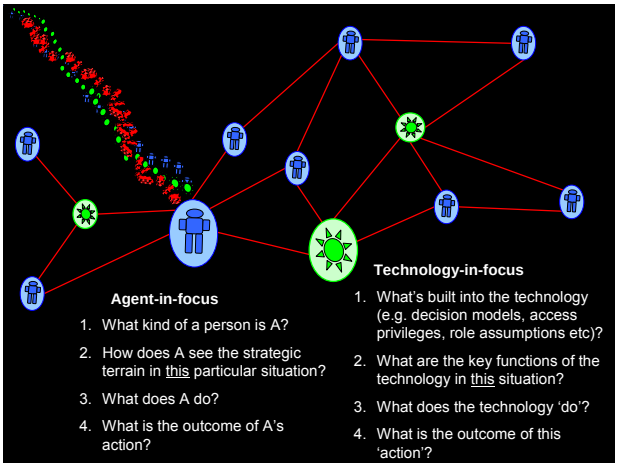


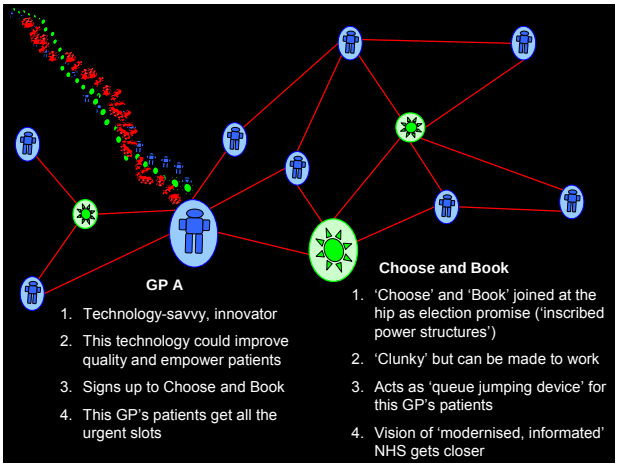

t_1
t_2
t_3
What configuration of people, technologies and social structures is producing what action?
And what are the outcomes of this action?

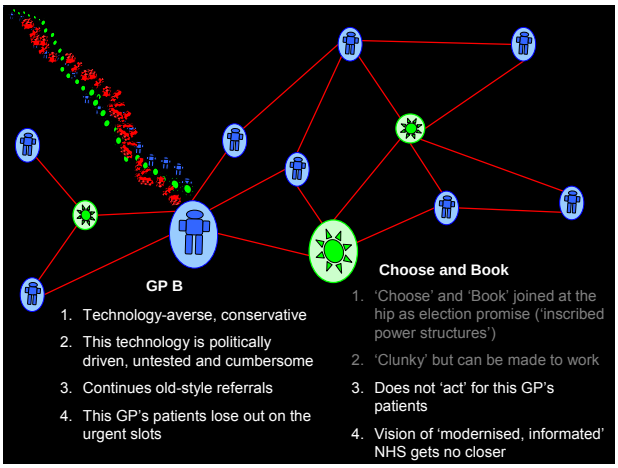

Change impetus e.g. policy, idea, injection of resources, new technology
Diversity of social orders, actions and outcomes in diverse contexts

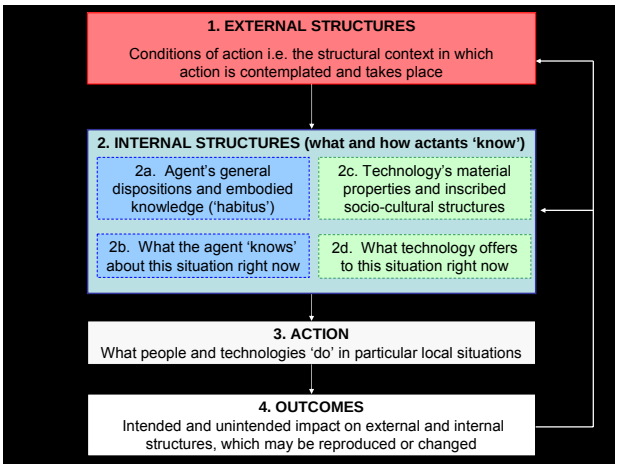

Historical and social forces
Agent-in-focus
1. What kind of a person is A?
2. How does A see the strategic terrain in this particular situation?
3. What does A do?
4. What is the outcome of A's action?
STRONG STRUCTURATION THEORY (STONES)


TECHNOLOGY-ENHANCED STRONG STRUCTURATION THEORY


Agent-in-focus
1. What kind of a person is A?
2. How does A see the strategic terrain in this particular situation?
3. What does A do?
4. What is the outcome of A's action?
Technology-in-focus
1. What's built into the technology (e.g. decision models, access privileges, role assumptions etc)?
2. What are the key functions of the technology in this situation?
3. What does the technology 'do'?
4. What is the outcome of this 'action'?


GP A
1. Technology-savvy, innovator
2. This technology could improve quality and empower patients
3. Signs up to Choose and Book
4. This GP's patients get all the urgent slots
Choose and Book
1. 'Choose' and 'Book' joined at the hip as election promise ('inscribed power structures')
2. 'Clunky' but can be made to work
3. Acts as 'queue jumping device' for this GP's patients
4. Vision of 'modernised, informated' NHS gets closer





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SUMMARY

- Networked electronic records have profound implications for healthcare
- A networked record system that provides a direct and uncomplicated improvement in communication is fiction
- We need new theories to help conceptualise what is happening at both macro and micro level (and how these are related) when networked systems are introduced
- A disciplined synthesis of structuration theory and actor-network theory offers exciting opportunities for illuminating this complex field

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Thank you for your attention!

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