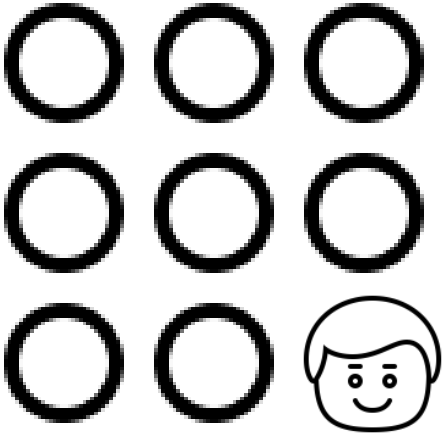

Humanizing big data

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Our quantified lives…

Emotions

Speech

Relationships

Off-line lives

Culture

Gives us access to fundamentally new types of data…

Longitudinally

Social

Breadth

Real time

Unobtrusive

Retrospective

So we have something new…

*What is new is the **macroscopic** global scale and **microscopic** behavioural extensiveness of the data that is becoming available for social and behavioural science. The web sees everything and forgets nothing. Each click and key press resides in a data warehouse waiting to be **mined for insights** into behaviour.*

Which surely has huge potential…

> *Disciplines are **revolutionized** by the development of novel tools: the telescope for astronomers, the microscope for biologists, the particle accelerator for physicists, and brain imaging for cognitive psychologists. [Big Data is] a high-powered lens into the **details of human behavior and social interaction that may prove to be equally transformative**.*

But is it delivering?

*Through 2017, **60% of data projects will fail** to go beyond piloting and experimentation and will be abandoned*
Gartner

*72% of business and analytics leaders **aren't satisfied** with how long it takes to retrieve the insights they need from data* Alteryx

***Only 27%** the executives surveyed described their data initiatives as successful*
Capgemini

***90%** of digital start-ups fail*
Mashable

*65% of CEOS think their organisation is able to **interpret only a small proportion** of the information to which they have access*
The Economist

Is the answer technical?

Better integration of legacy systems

More data scientists

Better tools

Necessary but not sufficient conditions?

Or is it something more fundamental?

I have lost count of the times I have been presented with some amazing fact that data has told us through the use of some incredible new technology, to be left thinking "so what?" or "isn't that obvious"?

Caroline Morris Sky IQ

Three aspects of humans in data:

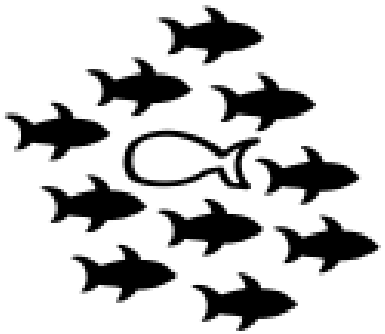
Data does not speak for itself

The human hand in the big data machine

Finding the human behind the data

Data does not speak for itself

Big data = false positives?



- More data does not automatically equal more insight
- Statistical value does necessarily reflect real relationships.
- Nate Silver:

  "Our predictions may be more prone to failure in the era of Big Data"

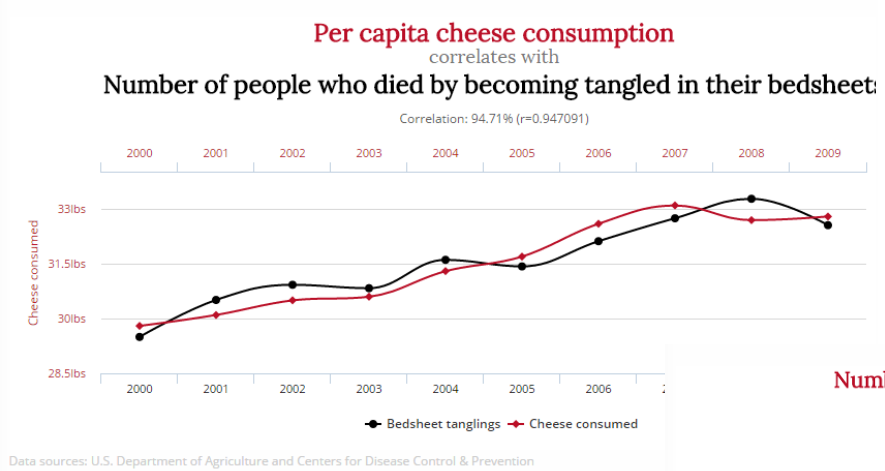
What is significance?

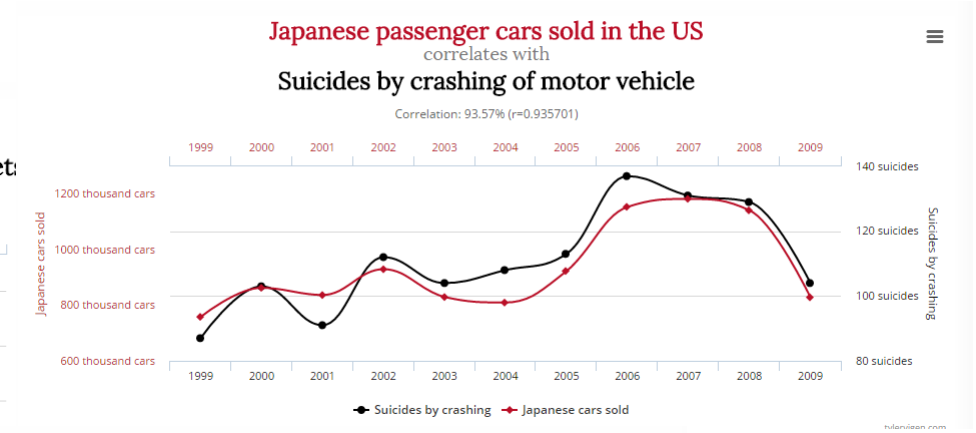
- In 1967 a professor spent much of the year flipping a coin 300,000 times
- Found it came up heads 50.2% of the time
- Deemed this to be 'statistically significant'
- John Ioannidis:

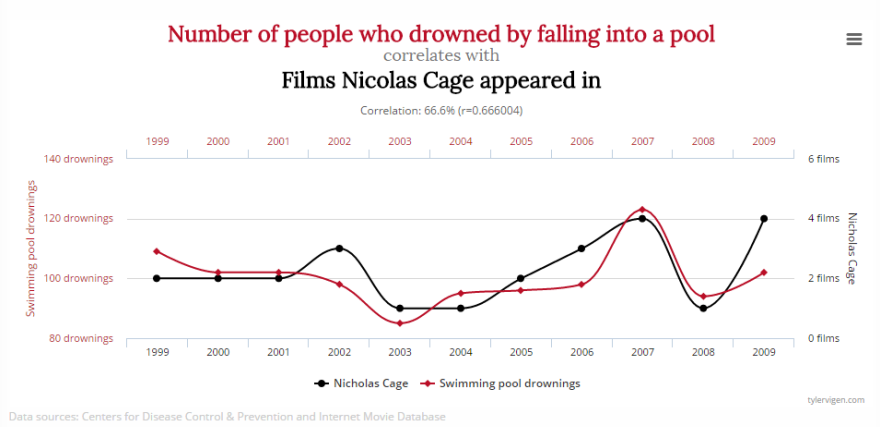
  "Most published research findings are false"

  "…more likely to happen in fields that chase subtle, complex phenomena"

Spurious correlations:







So what do we do?

- Undertaking due diligence such as using ranges rather than directional predictions / establishing multiple corroboration / comparing models

- But ultimately it is contextual expertise:

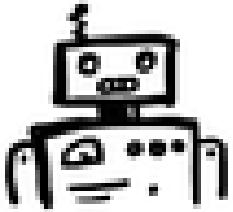
  "An understanding of consumer behaviour and category expertise is often the litmus test to determine whether a statistically significant result has any real validity."

- Much closer relationship needed between data analytics and consumer insights

The human hand in the big data machine

The analytics industry fails to question its assumptions of how humans 'work':

The big debates



vs

Are our thoughts dictated by neurons or vice-versa?

vs

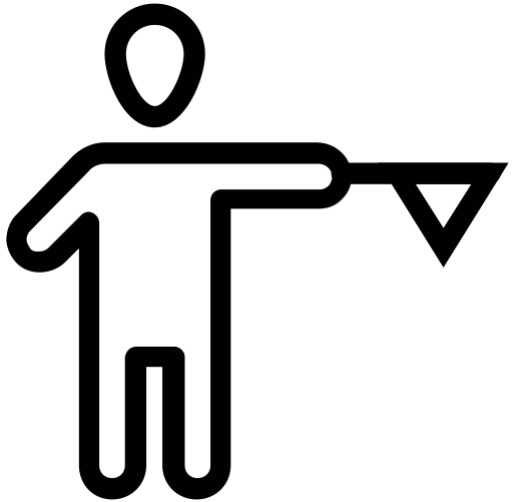
Are our behaviours shaped at an individual level or by our social circumstances?

But these assumptions shape our analytics:

Our implicit thinking abut how humans operate will influence the way in which we:

- Chose which questions to ask
- Select the data we look at
- Determine how we clean the data
- Shape our choice of analytics
- Influence the way we interpret patterns

The human side to the analytics process:



29 different teams of analysts asked to determine whether soccer refs more likely to give red cards to players with darker skin tones.

- Each team was given an identical dataset.
- 21 different sets of variables chosen for analysis.
- Different teams used different statistical models.

No surprise that teams came to fundamentally different conclusions

And we are all susceptible to biases:

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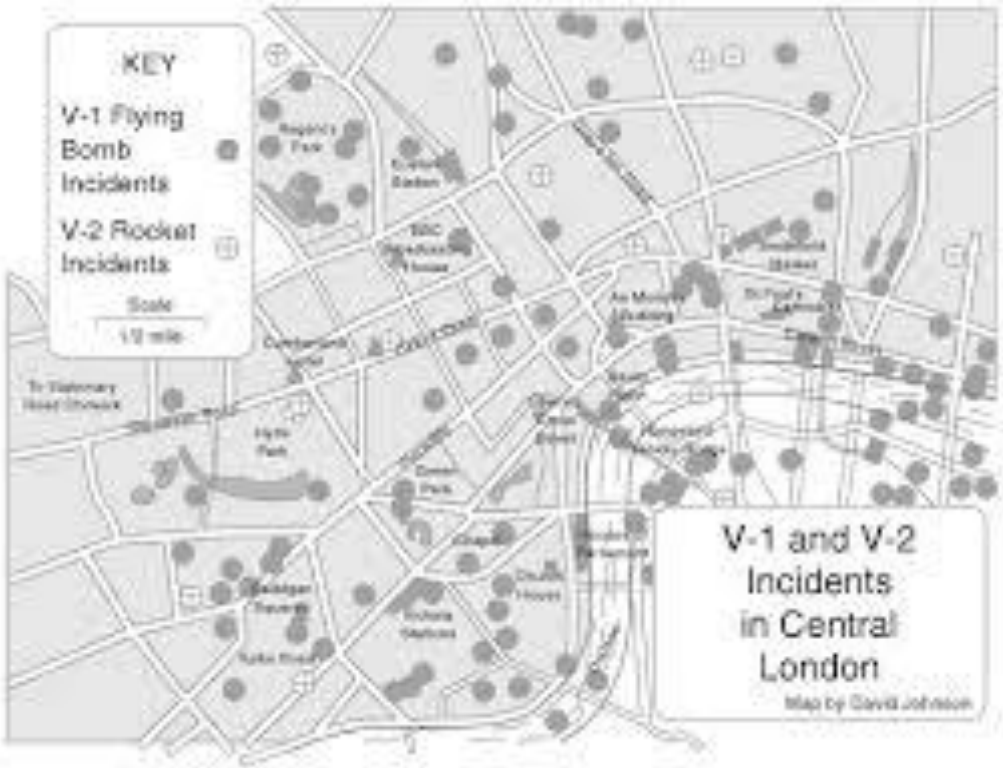


And we are all susceptible to biases:

Calls for:

- Greater awareness of implicit assumptions about human behaviour
- Use of behavioural science to help frame questions / catch potential biases
- Greater reflexivity in the analytics process

Finding the human behind the data

The data analytics environment is fundamentally changing:

From:		**To:**
Who you are	→	What you are like
Where you are now	→	Where you are going
What you are doing	→	Why you are doing it
Outer lives		**Inner lives**

Customer interactions moving from physical to digital:

- More of our lives played out online – revealing more about ourselves
- Opportunity lies in exploring the human characteristics that can be derived from corporate data

“The present time is a very special time in the history of social science because we are witnessing a dramatic transformation in our ability to observe and understand human behaviour.”

Duncan Watts, Microsoft

Crystal

Build healthy relationships based on **personality**.

PREDICTED PERSONALITY PROFILE

Colin Strong

GfK »

Location: London, United Kingdom

Senior management position in restru
role in
experi

Colin is detail-oriented, skeptical of change, and prefers a clear set of expectations and a step-by-step plan before making a decision.

Tweet this sentence | Save screenshot | Improve my accuracy

Accuracy confidence: **74%**

When **speaking** to Colin...

- Speak with a calm, steady tone
- Emphasize the future
- Don't appear over-aggressive
- Don't stick to the big picture

Increasing number of studies demonstrating linkages to our inner landscapes:

- Likes can predict wide range of personality and demographic attributes
- Not directly explicitly linked to Facebook Like

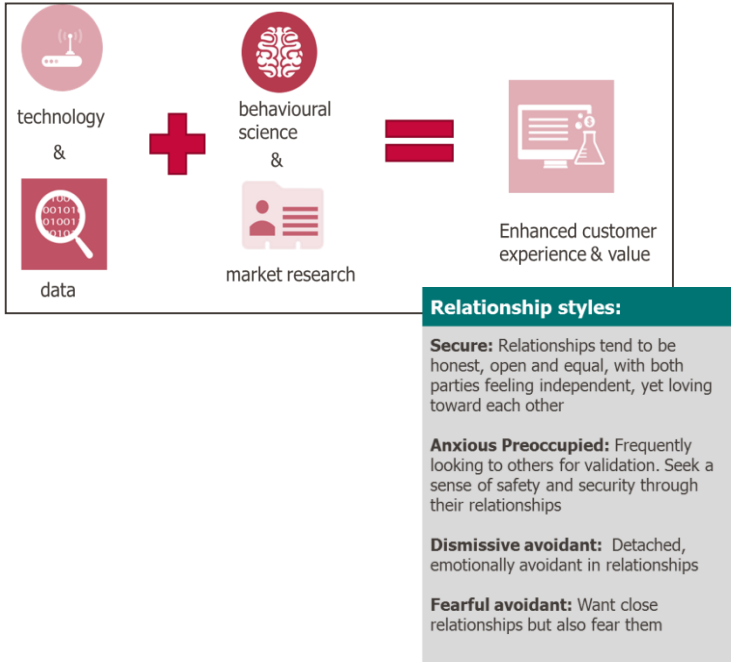
Musical tastes reflect thinking styles:

- ‘empathizer’ who likes to focus on and respond to the emotions of others,
- ‘systemizer’ who likes to analyse rules and patterns in the world

Smartphone usage can detect bi-polar disorder:

- Hyperactivity measured by an accelerometer, and GPS
- Rapid speech monitored by speech analysis
- Frequent conversations monitored through phone records.

Offers a real opportunity to optimise the customer experience:



- Identify the key psychological attributes that could make a difference
- Develop appropriate measurement tools (psychometrics)
- Test impact
- Predict attribute from data to roll-out

The bigger opportunities?

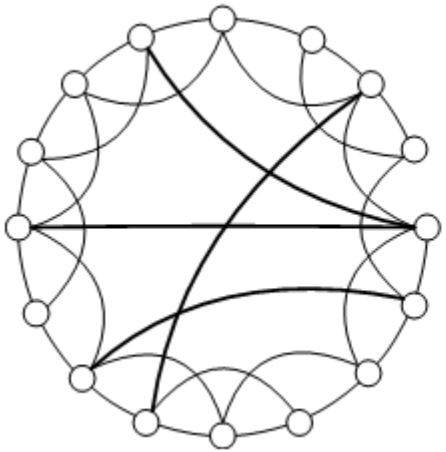
Moving from individuals to networks:

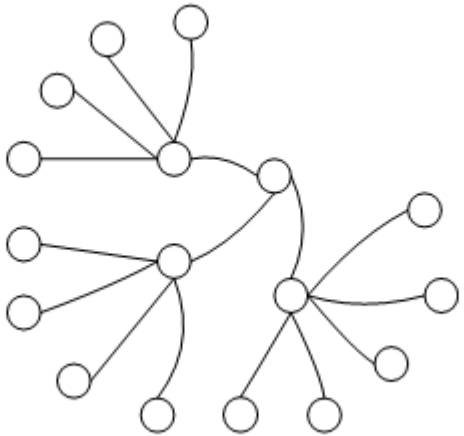
Western psychological model promotes individual over group as key means by which ideas spread and behaviour changes:

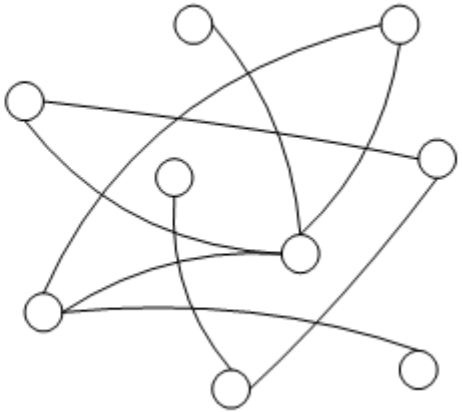
No-one would claim that the size of a forest fire can be in any way attributed to the exceptional properties of the spark that ignited it, or the size of the tree that was the first to burn. Major forest fires require a conspiracy of wind, temperature, low humidity, and combustible fuel that extends over large tracts of land. Just as for large cascades in social influence networks, when the right global combination of conditions exists, any spark will do; and when it does not, none will suffice"

Duncan Watts

Are there marketing opportunities by mathematically modelling relationships?

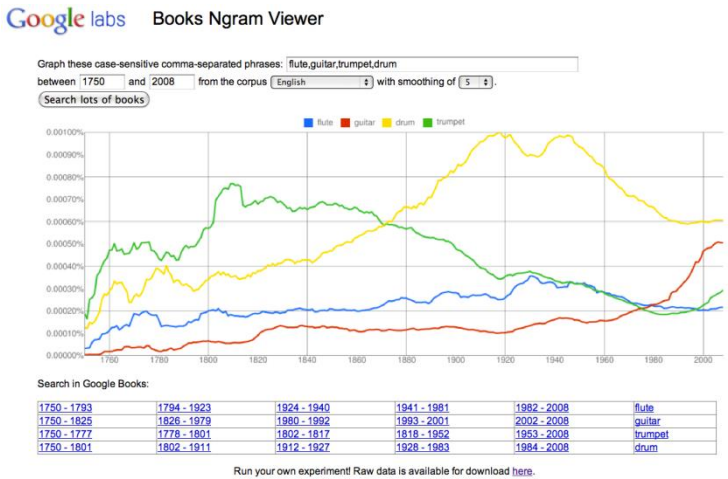






- Does connected computing allow us to identify relationships?
- Are there consistent patterns of relationships that can be categorised?
- Can we identify ways to leverage these for attitude / behaviour change?

Can we start identifying long term global trends?



Google Ngram

Lev Manovitch- Culturomics

And then make more sense of these through the use of theoretical frameworks?

Michel Maffesoli: key theorist on the way images used to form personal and social identities.

Opportunities for market research to take brands in new strategic directions?

What does the consumer think of all this?

What questions does a changing privacy environment raise?

- Privacy an important element of **selfhood** – ability to create and maintain healthy relationships. Is there long term damage for brands by not respecting that?

- **Privacy paradox**: Do people really not care about their privacy or do they struggle to manage it effectively?

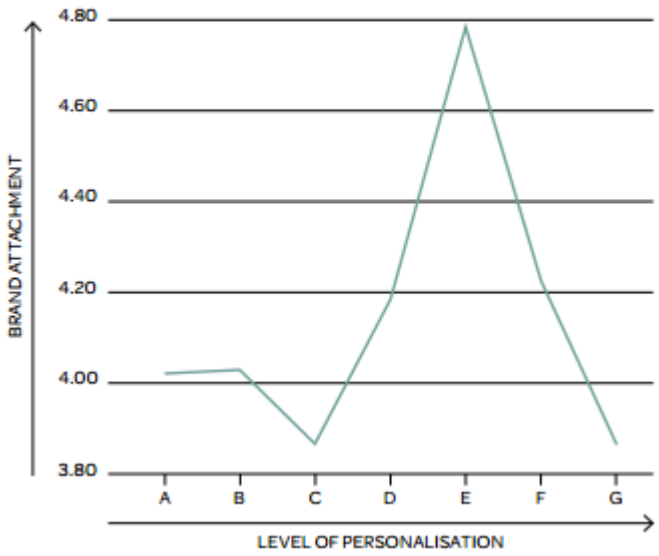
- **Context collapse**: What is the effect of not being able to be a different sort of person in different contexts?

- **Social sorting:** Will we create an environment where only marginalised, low paid vulnerable groups will be tracked?

Hyper-personalisation: Are brands at risk of an Uncanny Valley?

- Not a linear relationship between engagement and personalisation
- What is the optimal level of personalisation?
- Can brands damage their relationships by too much personalisation?

FIGURE 1: IMPACT OF INCREASED PERSONALISATION ON BRAND ATTACHMENT



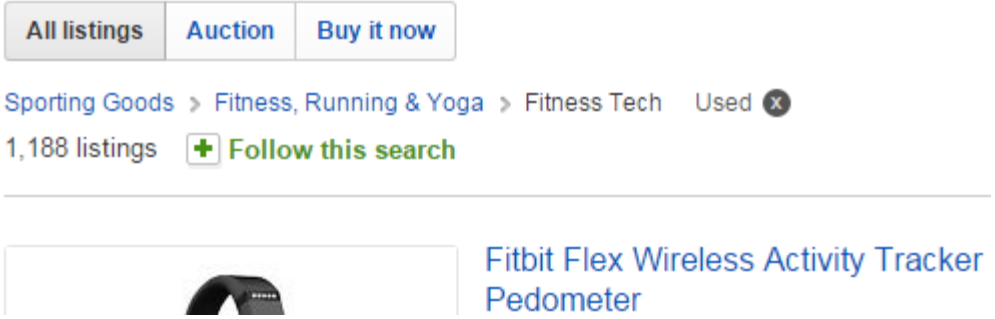
Empowerment: A simplistic understanding of peoples' lives generally does not work:

- Can we empower consumer decision making by giving them access to data?
- When can transparency and control mechanisms work?
- What do we need to do to encourage take-up and usage of digital services?

Fitness devices:

Owned < 6 months: 88% use ≥ once a week

Owned > 6 months: 62% use ≥ once a week

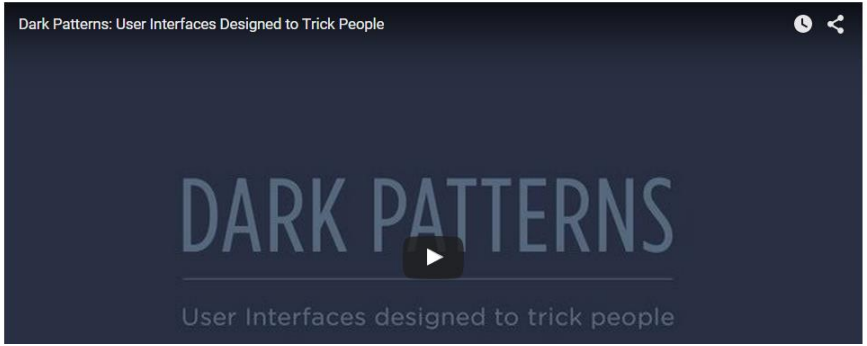


Are we heading in a direction where it is less about engagement and more about 'nudging'?

- Data imbalances can mean that brands know:
  - Your propensity to pay more
  - What behavioural nudges you are susceptible to
- How should we use that information?

A Dark Pattern is a user interface that has been carefully crafted to trick users into doing things, such as buying insurance with their purchase or signing up for recurring bills.

Normally when you think of "bad design", you think of the creator as being sloppy or lazy but with no ill intent. This type of bad design is known as a "UI anti-pattern". Dark Patterns are different – they are not mistakes, they are carefully crafted with a solid understanding of human psychology, and they do not have the user's interests in mind. We as designers, founders, UX & UI professionals and creators need to take a stance against Dark Patterns.



Analytics is a human endeavour:

Companies need to invest in understanding this to really generate value from their data assets

Thank you:

Do feel free to drop me a line:

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www.addverve.com

www.colinstrong.net

And to buy the book….