Q-ing up the colloquial: a place for quotidian language in the EAP paradigm?

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Today's journey

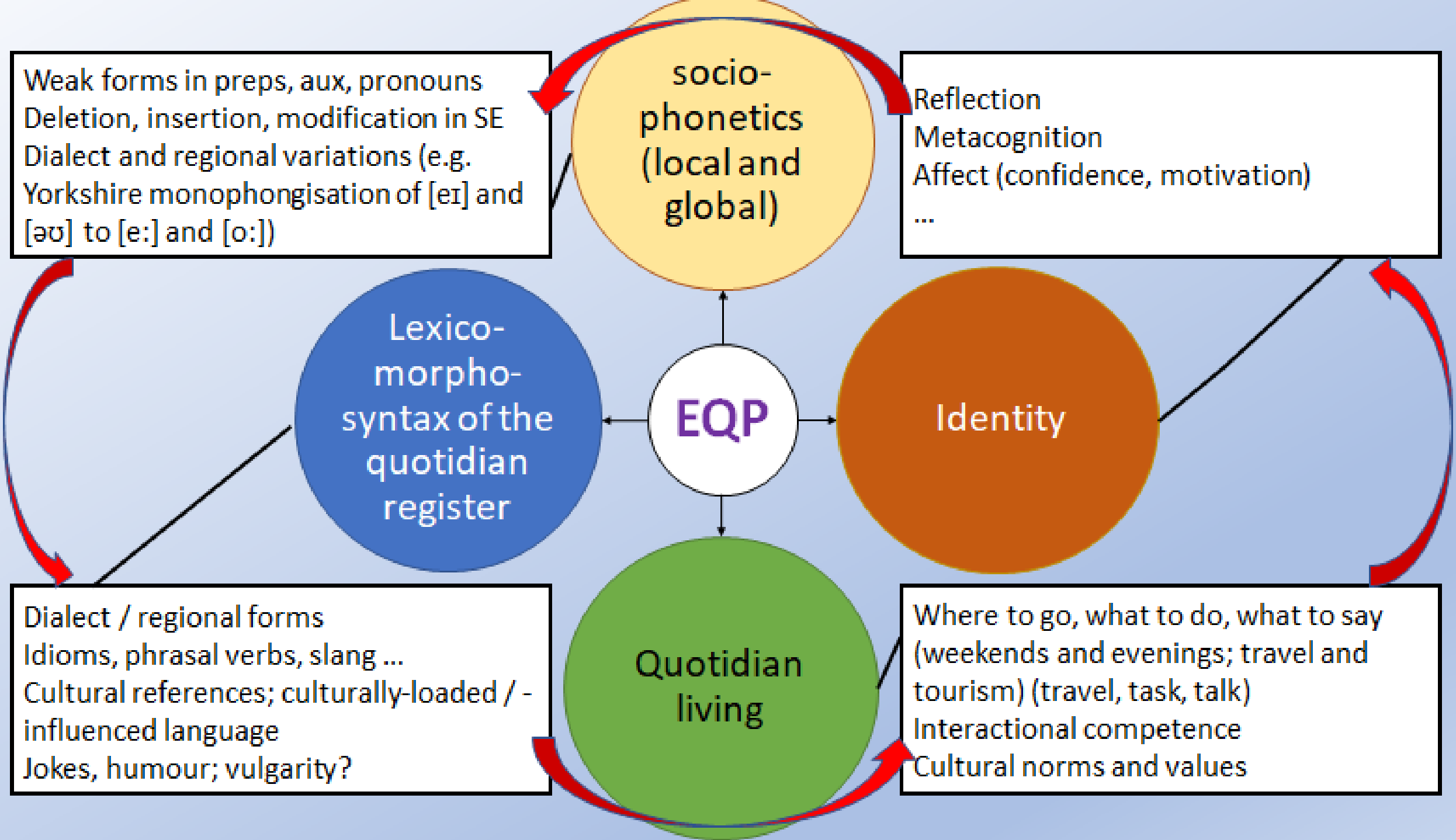
- **Part 1:** conceptualising quotidian language
  - Defining quotidian language
  - A conceptual framework of EQP
  - Where is EQP?
- **Part 2:** in practice on In-sessional Mathematics
  - What mathematics texts often look like
  - What's not EQ(A)P in In-sessional Mathematics?
  - Some operationalisations of EQ(A)P within Mathematics
- **Part 3:** concluding comments
  - Summary and some discussion questions

1.1a. Defining quotidian language

- **Terminologically,** a close synonym to colloquial language: 'A … term for the vernacular forms of a language or … for informal everyday speech including slang.' (McArthur et al. 1992) - but includes informal/ quasi formal writing.
- Primarily a **register** (field, tenor and mode (Halliday and Hasan, 1978) as opposed to a dialect (Halliday, McIntosh and Strevens, 1968) - but includes regionalisms.
- And: **a pedagogical concept:** includes awareness of and attitudes towards the quotidian as well as an understanding of where to find it and when to use it
- QL = language; EQP = a teaching-learning journey

1.1b. A working definition of EQP

- EQP is the teaching of **quotidian language**. Quotidian language is a term for an informal register of language used in speaking **or writing**.
- Phonologically, EQP includes patterns indicative of informal speech such as non-standard phonological contractions **as well as regionalisms**
- Lexico-morphosyntactically, EQP includes colloquialisms and slang forms as well as humour and language that may include cultural references.
- **As a pedagogical construct**, EQP includes a developing understanding of the nature, purpose and use of quotidian language as well as a developing ability to engage with quotidian language
- All of the above in the context of academic study within an HE institution


Weak forms in preps, aux, pronouns
Deletion, insertion, modification in SE
Dialect and regional variations (e.g. Yorkshire monophongisation of [eɪ] and [əʊ] to [e:] and [o:])
socio-phonetics (local and global)
Reflection
Metacognition
Affect (confidence, motivation)
...
Lexico-morpho-syntax of the quotidian register
EQP
Identity
Dialect / regional forms
Idioms, phrasal verbs, slang ...
Cultural references; culturally-loaded / -influenced language
Jokes, humour; vulgarity?
Quotidian living
Where to go, what to do, what to say (weekends and evenings; travel and tourism) (travel, task, talk)
Interactional competence
Cultural norms and values

1.3. Where is EQP in the University context?

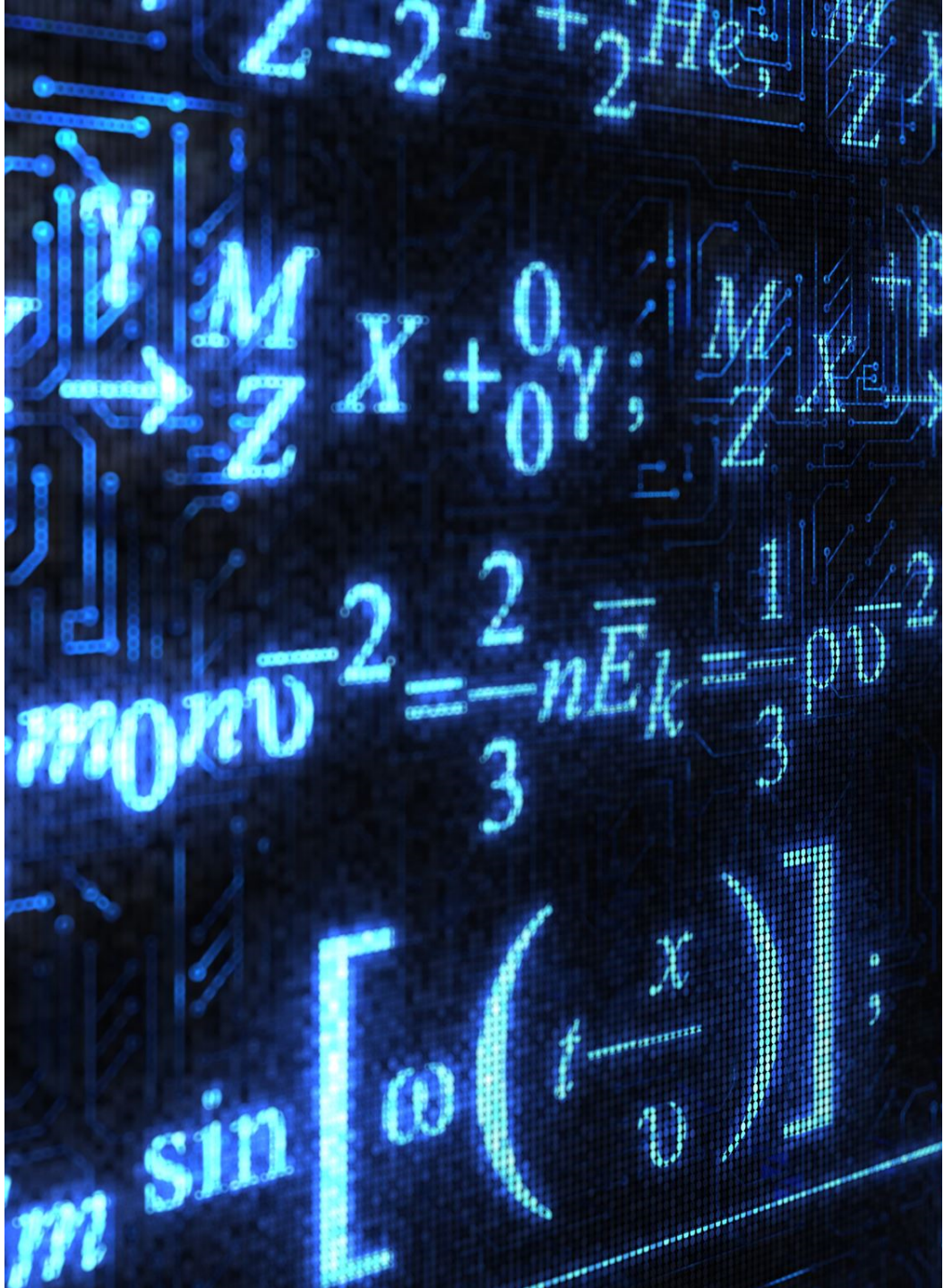
- **Within the University**
  - Informal spoken interaction with lecturers, students (both on-course and beyond-course), University staff; informal written communication
  - Social events within Schools and Student Union (Maths Soc)
- **Around the University**
  - In local, off-campus commercial and cultural transactions
- **Regionally/ nationally**
  - Travel and tourism in colloquial speech e.g., as passengers on a train, booking into hotels and BnBs; engaging in cultural activities
- **Conceptually**
  - understanding that English language competence goes beyond mastery of one form of the Englishes

Part 2: Putting this into practice

- What does standard maths text look like?
- Sources of EQP-type language and discourse in mathematics-related texts
- What I've done with these sources
- The affordances of an EQP-type approach

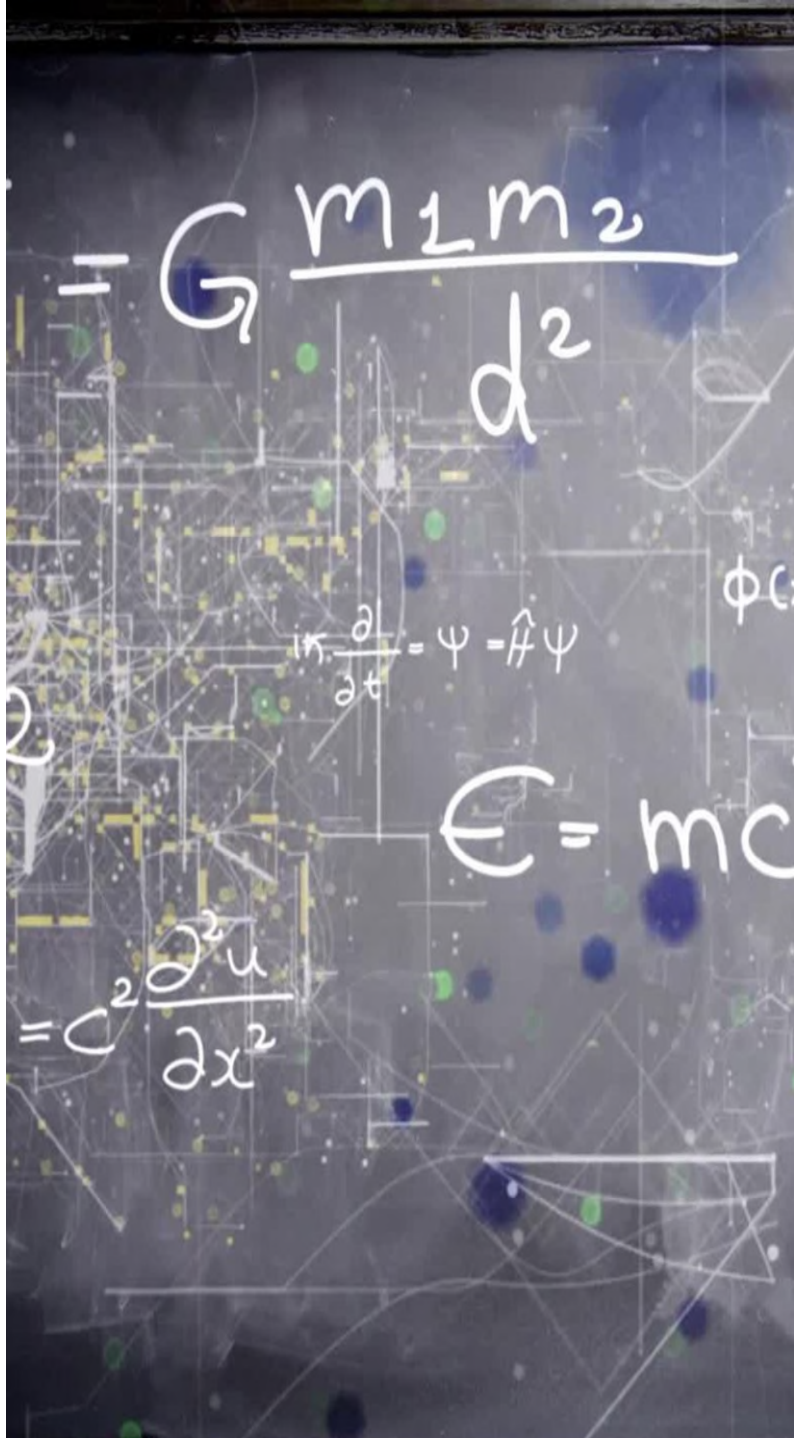
2.0 What does maths prototypically 'look like' in a UK HE learning and teaching context?

- Module course notes
- Textbook expositions
- Boardwork in lectures and seminars
- Research articles
- Problem sheets
- …

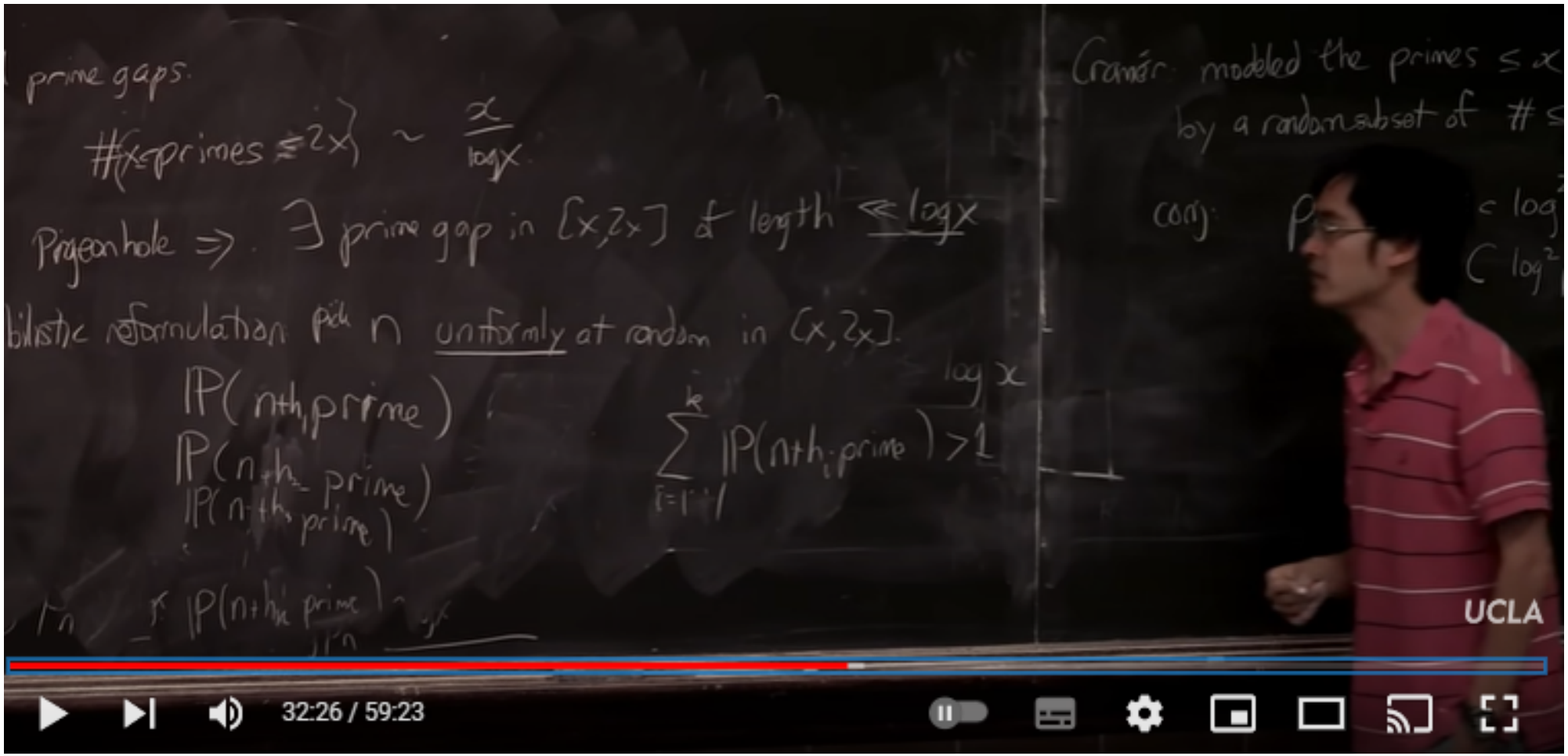


2.0 Maths and the quotidian? (1)

- Zhang, Y. 2013. Bounded gaps between primes. *Annals of Mathematics.* 179, pp.1121-1174.
- https://annals.math.princeton.edu/wp-content/uploads/annals-v179-n3-p07-s.pdf
- Abstract, contents and introduction and fairly familiar.
- Notation and sketch of the proof somewhat less so
- From p.8, fairly 'language-lite'



2.0 Maths and the quotidian? (2)



UCLA. 2014. Terry Tao, Ph.D. Small and Large Gaps Between the Primes

2.0 Maths and the quotidian? (3)

1. For each function, $f(x)$ below, show that $\frac{d^2f}{dx^2} < 0$ when $x > 0$.

   (i) $f(x) = ln(x)$.

   (ii) $f(x) = \sqrt{(x)}$.

   (iii) $f(x) = -e^{-\frac{1}{2}x}$.

Note that this means these functions are strictly concave on $(0, \infty)$.

This and following slide, courtesy of Dr Graham Murphy, University of Leeds

2.0 Maths and the quotidian? (4)

3. * An investor has logarithmic utility function, $U(w) = ln(w)$, $w > 0$ and initial wealth £100. The investor chooses a portfolio at time $t = 0$ from the investments available in the market to maximise the expected utility of (random) wealth W at time $t = 1$.

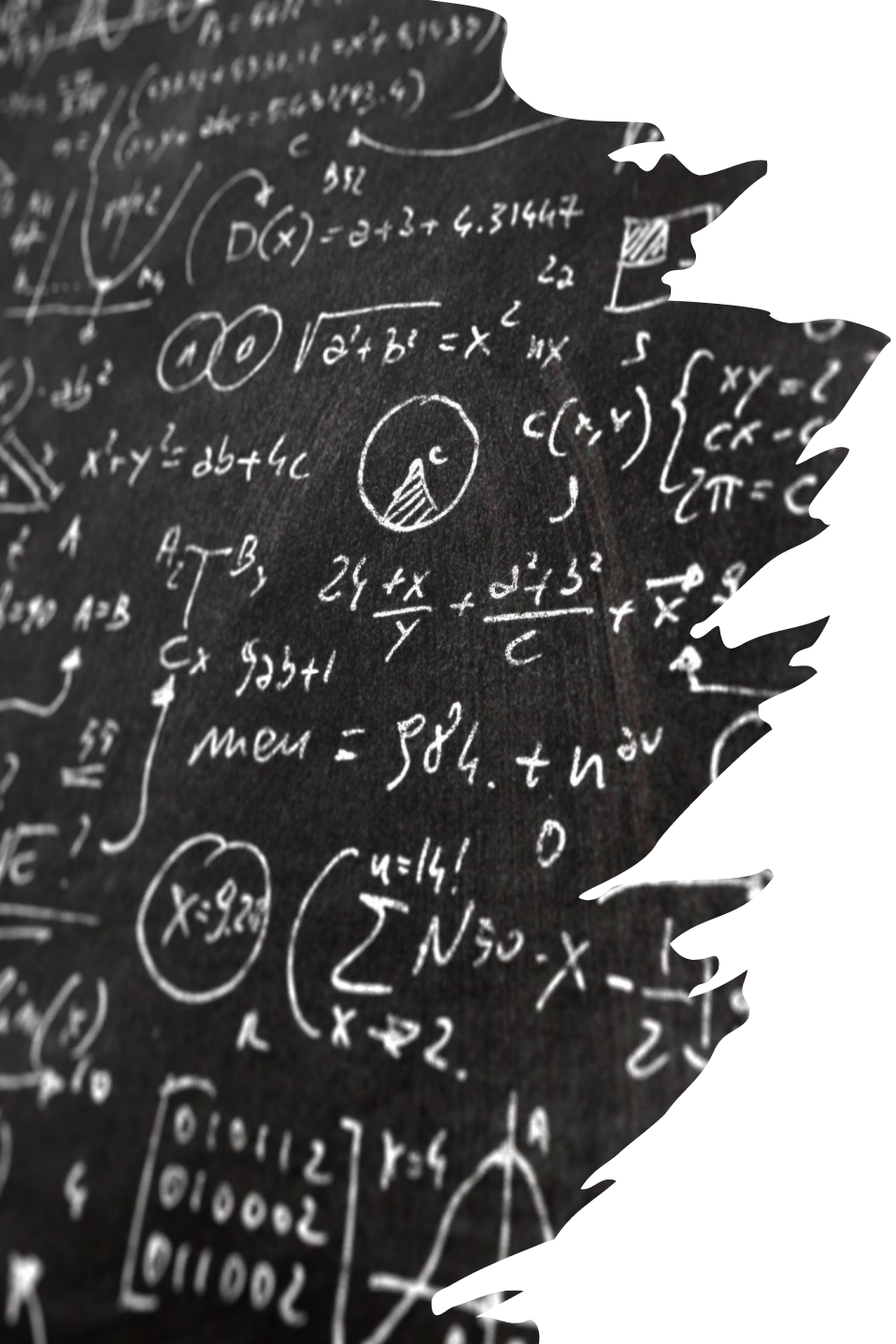
   In the market, there are two investments a money market account with continuously compounded interest rate 5% (per period) and a risky asset with price $S_0 = £13$ at $t = 0$ and random return Y over 1 period. Y takes the value $d = 0.75$ with probability 0.3 and $u = 1.2$ with probability 0.7. (This means that S_1, the price at time $t = 1$, is either $S_0 \cdot d$ or $S_0 \cdot u$ with the probabilities specified.) Assume that the investor pruchases $M \in \mathbb{R}$ units of the risky asset.

   (i) State the expected utility theorem.

   (ii) Explain why there exists an optimal portfolio in the scenario described above.

   (iii) Find the optimal value of M_* for this investor and state the optimal amount to deposit in the money market account.

   (iv) (Harder) Suppose d falls and u increases, keeping $\mathbb{E}[Y] = 1.065$ (the same as before). In this case the value of M_* decreases. Explain why this happens.



2.0 Interim observation

- Thus far, **an underwhelming amount of the quotidian**
- Indeed, in some cases human language (as opposed to the symbolic systems of mathematics) is poorly represented/ marginal.
- Formulaic language; narrow lexical range; absence of stance- or position-taking.
- That is another story, and one worth telling; but we're here for the quotidian.

2.0 Non-EQP kinds of things I might do

- Text-based work on reading, reading-into-writing and writing production, structure, coherence and paragraph development:
  - analysis of authentic and non-authentic texts and re-writings thereof
  - working with mathematics technical writing guides
  - integrating equations into text
  - the processes of writing: research, note-taking, planning, referencing ...
- Academic language work
  - lexical sets: *lemma, theorem, conjecture, axiom …*
  - technical language for symbols and equations
  - relevant word formation and grammar work

2.1 Some sources of EQP in mathematics

- **YouTube videos** e.g., Numberphile and some lecture resources
- **Vlogs:** personal, reflective accounts in quotidian language
- **Maths in the media:** journalistic articles on mathematics
- **Maths jokes:** lighthearted fillers with some 'telling jokes' exponents
- (**Other:** aspects of presentations; roleplays; maths jargon; EQP in particular lectures; popular mathematics books ...)

2.2a. Numberphile on YouTube

- A YT channel established in 2011 with 4.24m subscribers.
- On-camera conversations/ chats/ impromptu interviews with mathematicians (some extremely well known – Hannah Fry, Ron Graham) on various topics.
- This clip: **Matt Parker** (former mathematics school teacher and stand-up mathematician; author of *Humble Pi*) and **Brady Haran** (Vlogger; the mind behind Numberphile)
- Today's clip: Some street maths and shoelaces:
- https://www.youtube.com/watch?v=XPIgR89jv3Q

2.2a. The quotidian at last!

- A'right
- We're gonna do
- The outdoors – which I've heard a lot about **(humour)**
- So, we need to fix that
- Not me … I've got maths to do **(humour)**
- Again, in slo-mo!

- On the maths circuit
- It's been passed down
- I've not come across any one [i.e. name] that particularly sticks
- Do my/ your shoes
- I literally tie my shoes that way
- Up to once a day **(humour)**

2.2a. Other features of EQP on Numberphile

- Fast pace; some colloquial modification of the phonetic string
- False starts etc.; jokes and asides
- The context of the talk i.e., by the bins in front of the boarded-up window in a t-shirt and jeans
- Other Numberphile clips can contain cultural references e.g. 'Nerd' is uttered as a gentle jibe when BH picks 42 as an example number
- Hitchhikers Guide to the Galaxy: https://en.wikipedia.org/wiki/Phrases_from_The_Hitchhiker%27s_Guide_to_the_Galaxy#The_Answer_to_the_Ultimate_Question_of_Life,_the_Universe,_and_Everything_is_42

2.2a# How I use Numberphile

- A serious mathematical point being made in a light-hearted, fun(ny) way, amid a flurry of colloquial and technical language
- Often has a **practical dimension**: a puzzle to figure out, paper loops to cut, shoelaces to tie; or a **problem dimension**: 'proper maths' as in 'What's do you think the answer is?
- **Gap fills**; quotidian lexis matching tasks; **Why are things funny (or intended to be)**; Bottom-up processing work on the phonetic string
- Also: hopefully inspiring and a bit different; gives the provision a look and a feel that is very different from a typical maths lecture
- Introduces students to a range of sometimes well-known mathematics communicators

2.2b. Maths media

- Dijkgraaf, R. 2020. The two forms of mathematical beauty. [Online]. Quanta magazine. Accessed on 14 April 2023 Available from https://www.quantamagazine.org/how-is-math-beautiful-20200616/
- EQP features:
  - Layout, format, design
  - 'And roughly speaking; I would go so far as to say that; it's tough for non-experts to see …'
  - Absence of references; absence of mathematical symbolism
  - Yet a robust and articulate argument about mathematics and beauty

2.2b# How I might use 'maths media'

- Dijkgraaf (2020) is used in PGT dissertation input alongside an academic article on beauty in mathematics:
- (Other article: Zeki, S., Romaya, J. P, Benincasa, D. M. T. and Atiyah, M. F. 2014. The experience of mathematical beauty and its neural correlates. *Frontiers in human neuroscience*.)
- The theme is 'Maths and X' where 'X' is any concept or field related to maths e.g. beauty, finance, philosophy, gardening …
- Comparative genre analysis of the two articles leads into a writing task on the theme.

2.2c. Vlog: Ellie Sleightholm's vlog

- Former University of Leeds Mathematics student
- Thence to Cambridge University for Master's degree
- Now in employment
- Vlogging since c.2019
- A very open and honest reflection on her own progress, successes and challenges in studying
- Once again, serious points about the nature of study being made but in a sometimes highly informal register accompanied by some of the standard editing techniques of vlogs.

Ellie Sleightholm

@EllieSleightholm 7.48K subscribers 86 videos

Hello everyone! I'm Ellie and I have just finished Part III Masters in Math... >

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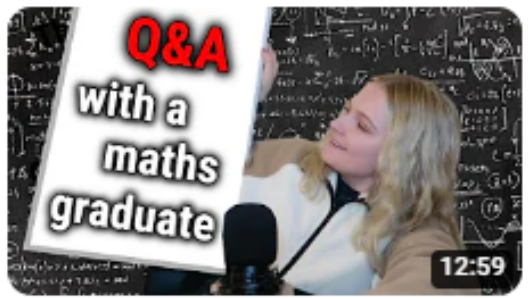

Q&A with a Maths Grad

972 views • 1 month ago

2.2c# One video which I have used

Day in the Life // Write my Dissertation with me (Mathematics & Physics)

1.8K views • 2 years ago

Ellie Sleightholm

A day in the life of a final year **mathematics student** writing their **dissertation**! Hope you all enjoy :)) any questions, comment them ...

Intro | What Im doing | Lunch | Topology | Haircut | Facetime | Evening | Outro 8 chapters

2.2c Some features of quotidian language

'Language'

- Stay up to date
- It's been quite a hectic year
- … basically … (as a filler)
- I'm jus' gonna get on (i.e. continue to work)
- I know I'm such a nerd with things like this but ...

Other

- Chatty, informal tone
- Explication of the process of dissertation writing in the context of literally quotidian (lunch, taking a walk etc.)
- Features of connected speech e.g. [səjəkənsi] ('so you can see')

2.2d. Maths jokes

- Enjoy! (or not!)

Match the halves to make three side-splittingly hilarious mathematics-related jokes

Part 1	Part 2
I saw my math lecturer with a piece of graph paper yesterday.	“You’re pointless.”
What did the triangle say to the circle?	It’s a shame they’ll never meet.
Parallel lines have so much in common	I think she must be plotting something.

Answers

Part 1	Part 2
I saw my math teacher with a piece of graph paper yesterday.	I think she must be plotting something.
What did the triangle say to the circle?	“You’re pointless.”
Parallel lines have so much in common	It’s a shame they’ll never meet.

Shall we have a go at explaining them?

As we all know, to explain a joke is to kill the joke.

That said, explaining jokes in language study can help us to understand them. Explanations are welcome!

Does anyone know any other mathematics-related jokes?

Some of the language of jokes

- **Did you hear the one about …?** (= An standard intro formula for jokes)
- **Juh geddit?** ('Do/ did you **get it**?' = 'understand it')
- **Groan! That's terrible** (= 'It's not that funny really'.)
- **Telluzanuvva one.** ('Tell us another one'.)

2.2.d# How I use joke triplets

- Judiciously!
- Breaks things up
- Some solid mathematics technical language in there ...
- … alongside some EQP: puns and polysemy; language awareness
- An EQP genre?

2.3. Learning affordances of these approaches

- EQP offers alternative forms and formats of input and learning which break up a potential over-reliance on 'heavy' texts
- EQP demonstrates that maths, while clearly challenging, difficult, often highly abstract and technical and to be conducted in a serious spirit can at the same time be fun, funny, light-hearted
- EQP introduces interesting people and personalities and highlights resources sets that can be used for further study
- The content of some EQP-type resources afford 'talking point' in a way that a paper on the twin prime conjecture may not always do
- A rich array of language input that interfaces with, complements and goes beyond the lexicon and morphosyntax of 'traditional' EAP

Part 3

- Concluding comments

3.1. Concluding comments

- Quotidian language is part of all languages.
- We can draw on QL in our EAP teaching for many good motivations and reasons: serious and more light-hearted; lexis and text
- Despite its association (rightly) with the abstract, the highly technical, the 'abstruse', mathematics can be – and is – talked about, written about, discussed and presented in Q-terms
- It's possible – and in my view advisable – to integrate Q-elements of 'the language of mathematics' into In-sessional mathematics E(Q)AP
- The above comments are true of any discipline, I suggest.
- EQP is one (and only one) rough working model of this dimension of language. Ongoing question: what's the best way to capture the Q-elements of academic language and to integrate them into teaching?

3.2. Ongoing reflections

- How best to integrate EQP into an EAP delivery?
- What other affordances might EQP-type resources have?
- In-sessional and pre-sessional?
- Is EQP a distinct thing from EAP or is it part of it in some way? Is there such a thing as 'EQAP'? Are there specific forms of language that are quotidian but relevant to the academy?

Thanks for listening

- Deak Kirkham: d.e.a.kirkham@leeds.ac.uk
- References available on request

- Happy to talk about **the newly ratified In-sessional SIG** (DK is co-convenor with Jeni Driscoll)

Some questions to reflect on and/ or discuss

- What were **any key take-aways** for you from this session?
- Where does this stuff lie on a **continuum** from **gimmickry** to the **revolutionary**? Is it, perhaps, not revolutionary enough?
- To what extent is this **a genuine DeConstruction** (or merely/ only a 'Deak Construction') of EAP?
- How much **time** (if any) should 'EAP' or indeed any kind of language teaching dedicate to quotidian language?
- Practically speaking, how can we integrate QL and EQP into EAP – if indeed we should at all?
- Conceptually speaking, how can we best **think about and model EQP** in general? How formal or clear do we need to be in our thinking about EQP? Is the informal approach taken here sufficient?