

Quality, Quantity, and (Im)measurability

.....
The Common Core@HKU

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A Statement and Three Questions

Measurability is Miraculous

What Does It Mean to Measure Anything?

To Measure Learning (and Performance)?

What are the Conditions That Make This (Im)Possible?



The Common Core@HKU

4 Areas of Inquiry; 170 Courses to Choose From;

6 Required Courses; 2-3 Years

Scientific and
Technological
Literacy

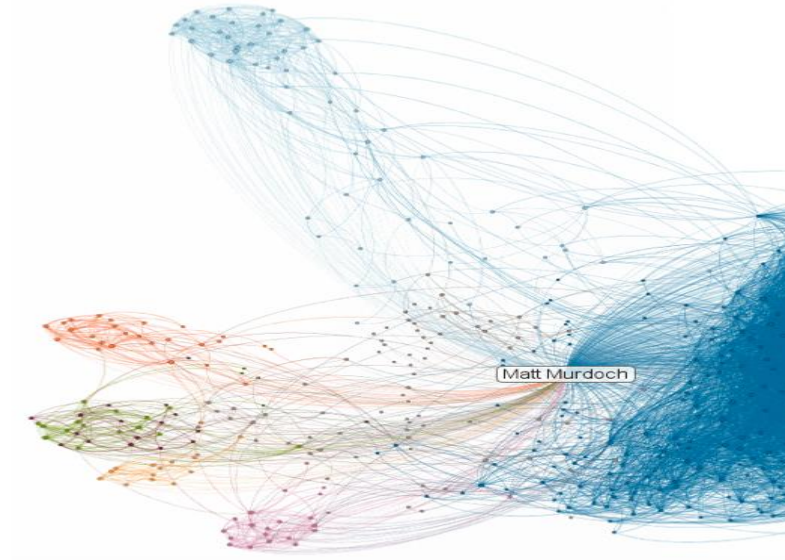
Humanities &
Arts

Global Issues

China



The Culture of Millennials



Dwelling in the Digital
(the page to the screen reorganizes everything)

We are living in a distributed space of immediate neighborhoods.

The learning process, which has fallen into the computer, has left us the incandescent **joy of invention.**

Michel Serres

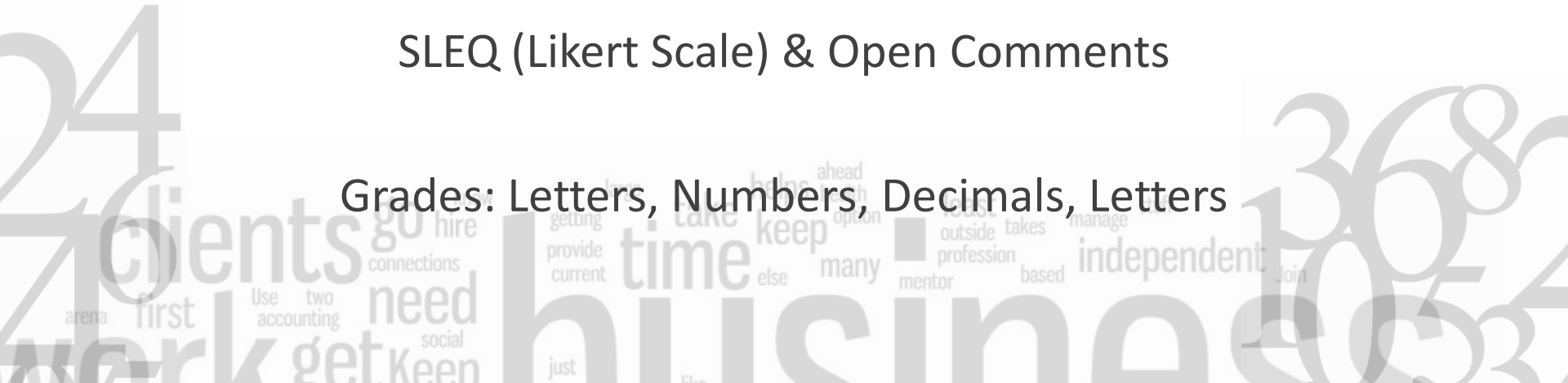
Common Core@HKU

Numbers and Words

Student Evaluation of Teaching and Learning:
Course, Teacher, and Tutor Effectiveness

SLEQ (Likert Scale) & Open Comments

Grades: Letters, Numbers, Decimals, Letters



The Dilemma of Assessment

We Want: Precision and Accuracy (of Data)

But There Is: A (Necessary) Lack of Clarity about What We're Measuring
(Since We Are Always in Language and the Question of Definition)

And: Reflexivity and Judgment Are Always Beyond the Immediately
Measurable Object of Knowledge: Student Learning & University Performance



A Ridiculous History of Western Philosophy

Ratio, Number, Order, Logic, Control, Excess

Pythagoras: Number is Divine (Order)

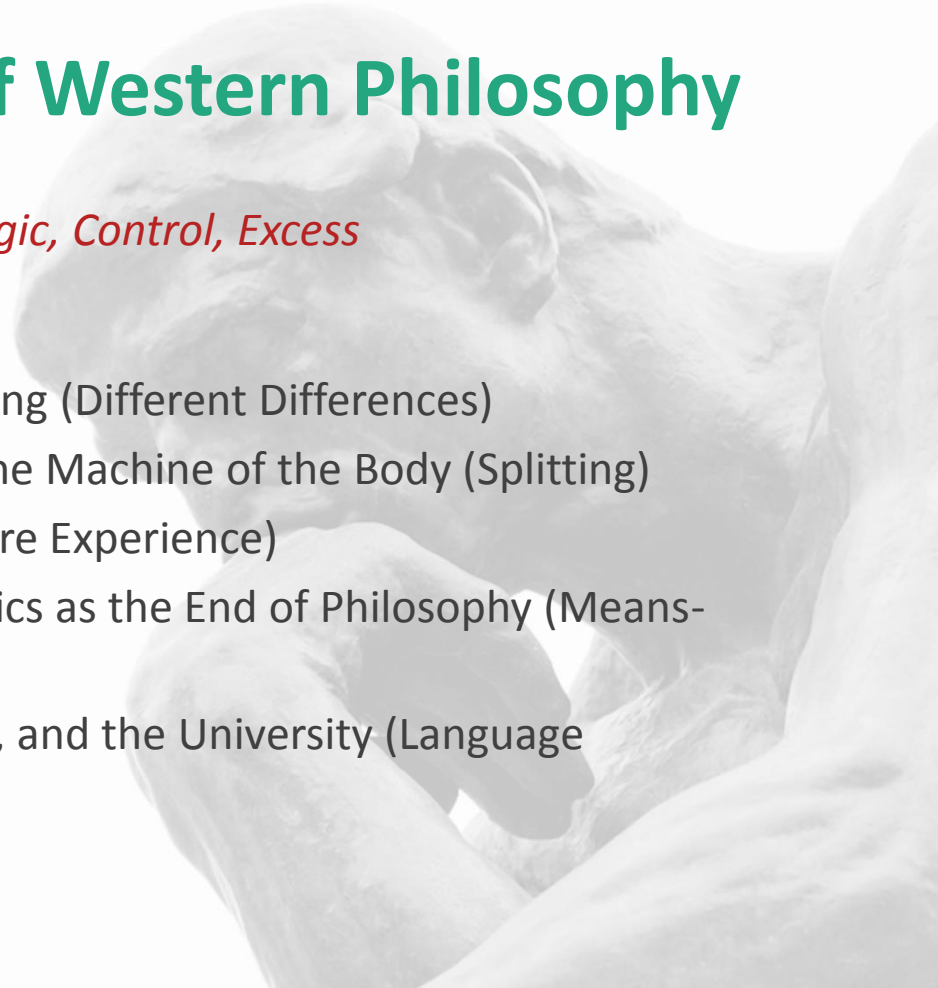
Plato: Euthyphro: Accountability and Counting (Different Differences)

Descartes: *Res Cogitans*, *Res Extensa*, and the Machine of the Body (Splitting)

Kant: $7+5=12$ (Synthesizing Experience Before Experience)

Heidegger: Calculative Thinking & Cybernetics as the End of Philosophy (Means-Ends Logic)

Lyotard: Performance Metrics, Legitimation, and the University (Language Games at Work)





Pythagoras

Number, Divinity, Order

I have learned that many of the Greeks believe Pythagoras said all things are generated from number. The very assertion poses a difficulty: How can things which do not exist even be conceived to generate? But he did not say that all things come to be from number; rather, **in accordance with number** – on the grounds that **order in the primary sense is in number** and it is by participation in order that a first and a second and the rest sequentially are assigned to things which are counted. – Theano, *On Virtue*

Plato

Measurement and Justice

Soc. Or suppose that we differ about magnitudes, **do we not quickly end the differences by measuring?**

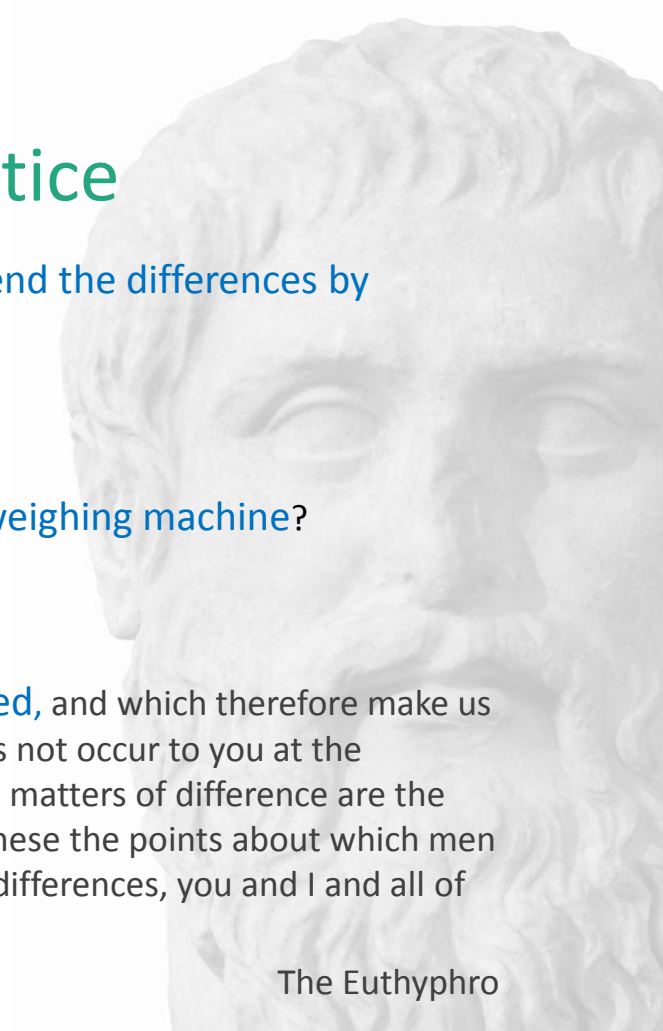
Euth. Very true.

Soc. And we end a controversy about heavy and light by resorting to **a weighing machine?**

Euth. To be sure.

Soc. **But what differences are there which cannot be thus decided,** and which therefore make us angry and set us at enmity with one another? I dare say the answer does not occur to you at the moment, and therefore I will suggest that these enmities arise when the matters of difference are the just and unjust, good and evil, honourable and dishonourable. Are not these the points about which men differ, and about which when we are unable satisfactorily to decide our differences, you and I and all of us quarrel, when we do quarrel?

The Euthyphro



The Cartesian Split

...but if there were **machines bearing the image of our bodies**, and capable of imitating our actions as far as it is morally possible, there would still remain two most certain tests whereby to know that they were not therefore really men. Of these the first is that they could never use words or other signs arranged in such a manner as is competent to us in order to declare our thoughts to others; for we may easily conceive a machine to be **so constructed that it emits vocables, and even that it emits some correspondent to the action upon it of external objects which cause a change in its organs; for example, if touched in a particular place it may demand what we wish to say to it; if in another it may cry out that it is hurt**, and such like; but not that it should arrange them variously so as appositely to reply to what is said in its presence, as men of the lowest grade of intellect can do. --*Discourse on Method V*

(Siri & Friends)



Kant

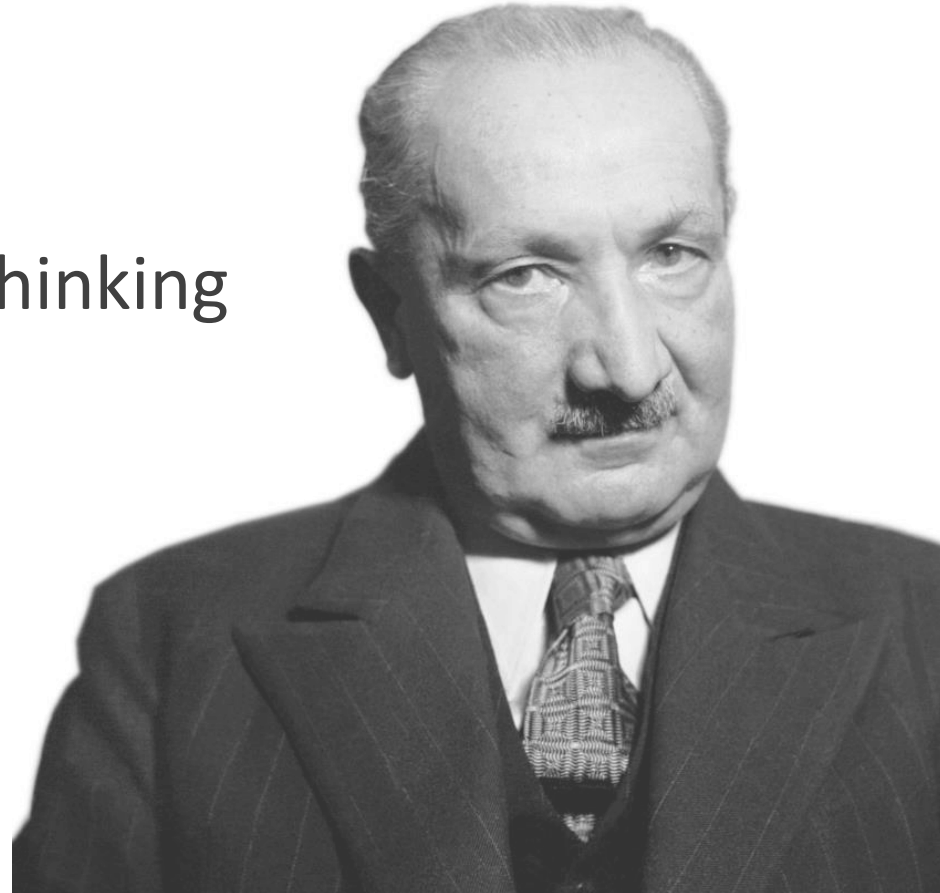
7+5=12

Kant, Immanuel: *Critique of Pure Reason*, Introduction V: In all Theoretical Sciences of Reason, Synthetic Judgements "a priori" are contained as Principles.

- Before all, be it observed, that proper mathematical propositions are always **judgements a priori, and not empirical**, because they carry along with them the conception of **necessity**, which cannot be given by experience. If this be demurred to, it matters not; I will then limit my assertion to pure mathematics, the very conception of which implies that it consists of knowledge altogether non-empirical and a priori.
- We might, indeed at first suppose that the proposition $7 + 5 = 12$ is a merely analytical proposition, following (according to the principle of contradiction) from the conception of a sum of seven and five. But if we regard it more narrowly, we **find that our conception of the sum of seven and five contains nothing more than the uniting of both sums into one, whereby it cannot at all be cogitated what this single number is which embraces both**. The conception of twelve is by no means obtained by merely cogitating the union of seven and five; and we may analyse our conception of such a possible sum as long as we will, still we shall never discover in it the notion of twelve.

Heidegger

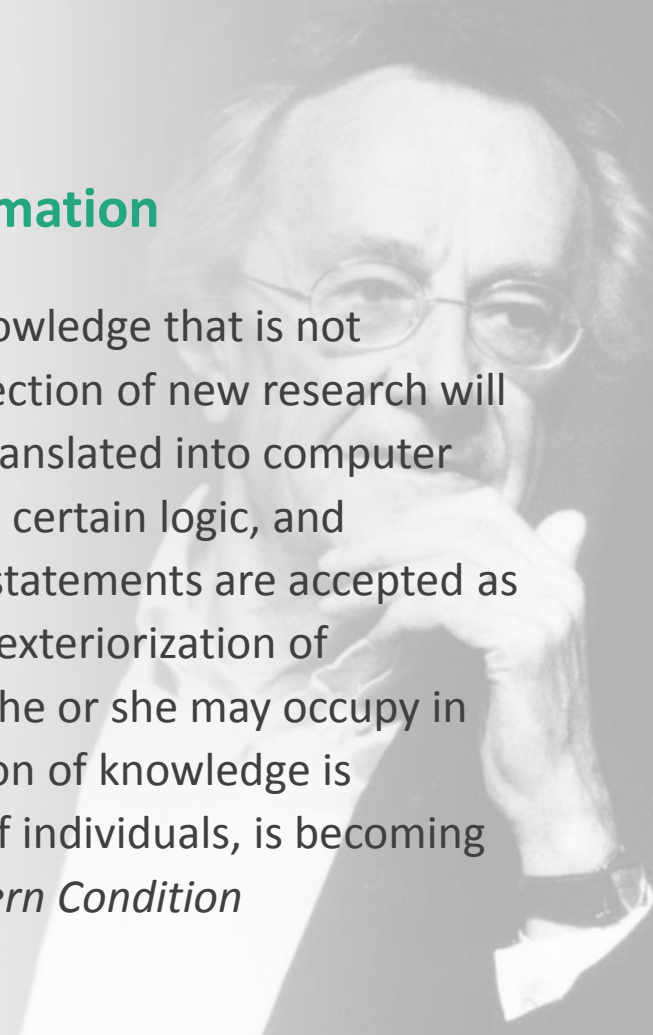
Modernity as Calculative Thinking
Cybernetics as the End
of Philosophy



Lyotard

Performance Metrics and Legitimation

We can predict that anything in the constituted body of knowledge that is not translatable in this way will be abandoned and that the direction of new research will be dictated by the possibility of its eventual results being translated into computer language...Along with the hegemony of computers comes a certain logic, and therefore a certain set of prescriptions determining which statements are accepted as “knowledge” statements...We may thus expect a thorough exteriorization of knowledge with respect to the “knower,” at whatever point he or she may occupy in the knowledge process. The old principle that the acquisition of knowledge is indissociable from the training (*Bildung*) of mind, or even of individuals, is becoming obsolete and will become even more so. --*The Postmodern Condition*



Performance Metrics as Recent Social Thematics

The Global Context

Thatcher, Reagan, and Neoliberalism:

The Privatization of Everything

Surveillance, Discipline, and the Production of (Human) Products

Uniformity across Differences

Translatability into Machine Language

Rankings as Power

Number as Truth

Audit Culture

Quantification and statistics have long served as instruments of governance and state power. However, in recent decades new systems of measurement and rankings have emerged that operate both beyond and below the nation-state. **Using contemporary examples, we explore how international measurements, rankings, risk management and audit are creating new forms of global governmentality. We ask, who – or what – is driving the spread of audit technologies and why have indicators and rankings become a populist project?** What are the impacts of these ever-more pervasive systems on organisational behaviour and professional life?

Cris Shore & Susan Wright. “Governing by numbers: audit culture, rankings and the new world order,” *Social Anthropology*. Volume 23, Issue 1, pages 22–28, February 2015



The Fantasy of Quantification

All Phenomena are Quantifiable

No Translation or Interpretation is Necessary

Numbers “Speak for Themselves”

Quantity is True for All of Us in All Situations

The Erasure of the Subject & Differences



(Im)measurability and the Quality of Quantity

The Irreducibility of...

Judgment

Chance

Tenor & Tone

Differences & Swerves

The Remainders of Reflexivity

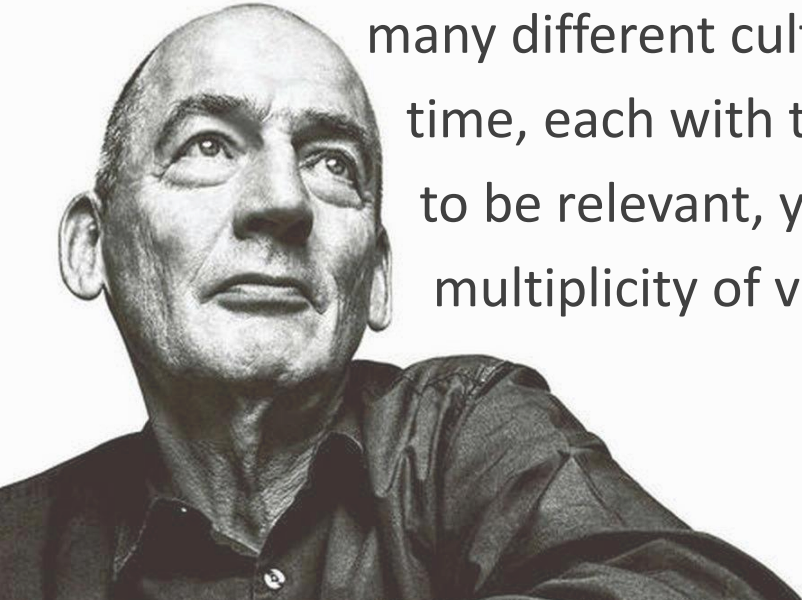
Error

Chaos



A Virtuosity of Interpretation

To have a certain virtuosity of interpretation of every phenomenon is crucial. We're working in a world where so many different cultures are operating at the same time, each with their own value system. If you want to be relevant, you need to be open to an enormous multiplicity of values, interpretations, and readings.



Rem Koolhaas

Make Things Count!

Thank You!

