



BOOK OF ABSTRACTS
Abstract Concepts, Perception, and Language:
What we think and how we say it

We are delighted to announce the upcoming workshop, **Abstract Concepts, Perception, and Language: What we think and how we say it**, taking place in the Lucia Windsor Room at Newnham College on the **25th April 2024**. This event, organised by members of the [Semantics, Pragmatics, and Philosophy](#) (SPP) research group of the University of Cambridge, aims to bring together those interested in abstract concepts across disciplinary boundaries.

Concepts are the lens through which humans experience and interact with the world, and as such, understanding concepts has a broad implication for understanding reality. However, the ways in which concepts are analysed are still primarily limited to Rosch's categorisation approach from the 1970s. This workshop aims to encourage and explore innovative ways, both theoretical and experimental, of analysing and understanding the meaning of abstract concepts. This means focussing on issues concerning abstract concepts, such as their meaning, their processing and perception, and new approaches to analysing and defining them. More specifically, we encourage a focus on the following research questions: *To what extent are categorisation approaches sufficient for concept analysis? How should the meaning of a concept be approached and what should be included in it? What are the limitations of subjective concepts in processing and representing an objective world?*

The workshop aims to be an environment in which PhD students and other graduate researchers may present their work and get feedback from their peers, as well as those who may not traditionally fall within their discipline's boundaries. The event will also include talks from two academics: [Dr Sean Enda Power](#) (University of Cork), and [Dr Derek Ball](#) (University of St Andrews).

1 Schedule

Time	
08:30-09:00	Registration
09:00-10:30	Dr Sean Enda Power (Is our concept of time in the ‘specious present’ abstract or concrete?)
10:30-11:00	Coffee Break
11:00-11:30	Nadia Ben Hassine (Evaluative Overextension: A Wittgensteinian Account of Variability in Normative Concepts)
11:30-12:00	Lena Wang (Engineering Gender: The Inherent Injustices of AI Gender Concepts)
12:00-12:30	Santiago Chambó (Analysing and Representing Humanitarian Attributes)
12:30- 13:00	Anastasiia Petrenko and Nina Haket (Conceptual Engineering: fixing the concept of NOW in Russian)
13:00-14:00	Lunch
14:00-14:30	Oscar Westerblad (Operationalism, open texture, and the meaning of scientific concepts)
14:30-15:00	Mallory Hrehor (Is Buddhism a Scientific Religion? Rethinking Our Concepts of ‘Religion’ and ‘Science’)
15:00-15:30	Miriam Schmidt (The abstractness of thoughts, beliefs and regrets)
	Flash Talks -
	1. Niall Roe (Abstraction in Practice: A Pragmatic Account of Conceptual Choice)
15:30-15:50	2. Ronya Ramrath (The conceptual is political: how may concepts differ, and what happens when we think they don’t?)
	3. Adam Hexley (Grammaticalising Abstractness: The Old High German Abstract Noun Suffix <i>-heit</i>)
15:50-16:30	Poster Session / Coffee Break
16:30-18:00	Dr Derek Ball (Abstract Concepts, Metasemantics, and Temporal Externalism)
18:00-18:45	Drinks Reception

2 Keynote Speakers

Dr Sean Enda Power

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Is our concept of time in the 'specious present' abstract or concrete?

In *Metaphors We Live By*, Lakoff & Johnston argue we understand our abstract concepts through metaphors of more concrete concepts. They frequently use time as an example of this, arguing that concepts of time are understood metaphorically in terms of more concrete concepts of space.

Why is the concept of space concrete? One reason is we experience space directly, e.g., we hear an object moving through space. But, with time, we only metaphorically say we experience it; for example, we talk about a sense of events moving into the past.

However, in this talk, I argue that there are cases in which we do experience time similar to our experience of space. Reasons for holding that some spatial concepts are concrete have analogous reasons for holding that some temporal concepts are concrete. For example, we experience the time of the so-called 'specious present', the duration filled by perceived change. I propose that the concept of the specious present is as concrete as any concept of perceived space.

I also examine some philosophical objections: unlike spatial concepts, the 'specious present' depends in part on one's philosophy of time. Given some theories of time, we do not experience the time of a specious present. No analogous concept of perceived space depends on one's philosophy of space. However, this is not a genuine distinction: one could have of a philosophy of space that makes perceived space abstract. It is just that such a philosophy is one only radical sceptics would hold.

Furthermore, I argue that the perception of change, and thus the specious present, does not depend on a philosophical position. It's the reverse: we perceive change; that supports a concrete concept of the specious present, whatever our philosophy might be.

Dr Derek Ball

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Abstract Concepts, Metasemantics, and Temporal Externalism

I argue that an adequate account of the meaning or content of abstract concepts is constrained by two facts. First, abstract concepts are often employed in disagreement, including both disagreements about application in particular cases, and deep disagreements about definition and related matters. Second, the kinds of factors appealed to in many metasemantic accounts (accounts of what makes it the case that the concepts have the meanings/concepts they do), such as causation and naturalness, are not applicable in the case of abstract concepts. I defend an alternative metasemantic account; on my temporal externalist view, meaning is determined by a temporally extended practice of use, including future parts of that practice, and show how this view makes possible a straightforward semantics.

3 Speakers

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Evaluative Overextension: A Wittgensteinian Account of Variability in Normative Concepts

Normative concepts are distinguished by their prescriptive and evaluative roles. We use normative concepts not only to describe and categorize, but also to criticize. Under one view, it is through semantic ties with practical uses that a concept gains its normative component and can be carried across a wide range of contexts (Eklund, 2017). In this paper I will be building on a concern with this view, namely the worry that taking a normative role to be “tied” to a concept will result in overlooking important divergences from the associated normative convention. Such divergences from convention can, as I will suggest, be found in critical and subversive uses of a concept, and ought to be afforded a valuable position in political thought. The normative component of political concepts such as “equality”, or its inverse, “inequality”, play a principal role in recommending societal interventions due to their negative normative component. Simultaneously, there are spaces where the concept “unequal” does not carry a strong negative force, for instance in cases where local inequality is justified through its alleviation of wider social asymmetries. Although such cases may fit certain descriptive features of a given equality-concept, they do not fit its commonly associated normative component. Drawing on Wittgenstein’s notion of conceptual overextension, I develop an account of normative overextension: cases where a straightforward extrapolation of the associated normative role of a concept does not generate a fully considered evaluation (Wittgenstein, 1958; Wittgenstein, 2009; Horwich, 2013). By laying out the idea of normative overextension and its implications, I will be developing the wider argument that fixing a concepts’ normative role often lacks the flexibility necessary to generate apt social criticisms.

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Engineering Gender: The Inherent Injustices of AI Gender Concepts

The field of conceptual engineering seeks to assess and revise the concepts that we have, with the aim of addressing any defects in our existing concepts. This field has focused so far on how concepts can be engineered in beneficial ways. I argue that concepts can be and have been engineered in ethically detrimental ways as well. For example, the US state has engineered concepts of race in ways that exacerbate the harms of colonialism. I analyse how defects in gender concepts can be introduced by non-human agents, and how efforts to ameliorate those defects prove futile. Specifically, machine learning systems used for gender classification will inherently engineer problematic gender concepts. Attempts at ameliorating these concepts, I argue, will inevitably fail.

Haslanger's (2000) analysis of the concepts of WOMAN and MAN sought to improve gender concepts to better serve the goals of unmasking and addressing gendered oppression. I identify several requirements that any satisfactory theory of gender should meet, through a review of responses to Haslanger's account. I then interpret the mechanisms of AI systems which perform gender classification using Haslanger's account. Based on Haslanger's (ibid.) theory of semantic amelioration, I argue that, when AI predicts gender, it does not use the gender concepts we already have, but revises them in an act of conceptual engineering. I evaluate AI engineered concepts by the requirements I identify and explain how they are not met. I consider potential correctives and argue that they are unsuccessful in enabling AI to engineer gender concepts address gendered oppression. Hence, conceptual engineering needs to attend to not only the contents of the ameliorated concept, but the source of the engineering.

In applying conceptual engineering to understanding the gendered harms of AI, my presentation aims to develop a novel account of how non-human agents can affect our concepts, and therefore, shape our perspectives of the world. I also highlight the explanatory power of conceptual analysis in providing insights into the wrongs discussed in contemporary ethical debates.

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Analysing and Representing Humanitarian Attributes

The Humanitarian Encyclopedia (HE) studies 129 ill-defined or contested concepts, including abstract notions such as accountability, community-based approach and solidarity. By combining expert knowledge with corpus-based analyses, the HE (2021) aims to mitigate biases and content gaps in entries and detect conceptual variation [1], [2]. Employing Frame-based Terminology (FBT) [3], [4], a method informed by Frame Semantics [5], the HE substantiates conceptual modelling by decomposing knowledge-rich contexts (KRCs) [6] into quantifiable semantic triples associated with corpus metadata [7]. However, while FBT excels in representing entities and events, it has major limitations in representing attributes [8].

Attributes, also known as qualities or properties, consist of values assigned to entities and events, ranging across binary, discrete and continuous scalar representations. [9], [10] A prototypical example is colour [11], whose values are represented nominally by adjectives (e.g. ‘red’) or numerically (e.g. 625-740 nm wavelength on the visible light spectrum). Attributes vary in complexity, with some being composed of simpler attributes (e.g., momentum as the product of mass and velocity) [12, p. 45]. Assuming a direct correlation between attribute complexity and abstraction is reasonable, given that the values of colour are directly perceptible [13, p. 559], while assessing vulnerability requires complex composite indicators [14].

Current research aims to further systematise and accelerate conceptual analysis, but FBT’s limitations in representing attribute structure, values and adscription need to be tackled first [8]. This contribution will report on an ongoing exploratory study on humanitarian attributes like aid dependence, effectiveness and poverty. The methodology comprises three stages: (1) KRC extraction with Sketch Engine [15] through pattern-based targeting [16] and supplementary collocational analysis, (2) annotation with INCEPTION [17] to identify unlabelled relations, and (3) comparison with available indicators for attribute measurement. Expected findings will enhance FBT, inform HE concept entries and uncover discrepancies in attribute conceptualisation.

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Conceptual Engineering: fixing the concept of NOW in Russian

Conceptual Engineering aims to fix our concepts when these are found to be defective. This process usually occurs over three stages: conceptual analysis, conceptual improvement, and conceptual implementation. This presentation focuses on concepts of time, more specifically Russian NOW as expressed by *seichas* and *teper'*, and how these can be engineered to target any perceived defects.

We begin the investigation of NOW through conceptual analysis by examining mistakes made by translators when they translate English now as Russian *seichas* (50 examples) and *teper'* (50 examples). While the main focus of *seichas* is on the present, the main function of *teper'* is a contrastive one, mostly expressing an emotionally negative connotation. Being guided by these differences, it was found that 98% of using *teper'* as an equivalent to now in translation was justified. Meanwhile, only 66% of the instances of now being interpreted via *seichas* were accurate, with the rest of 34% instantiating the cases of rather *teper'*. The examination of this data has shown that the principal defect at play is that of confusion which undermines the illocutionary force and leads to misunderstandings and that even native speakers do not correctly map the concepts and lexical items when translating into Russian.

Moving on to the improvement stage, we examine the notion of *amelioration as clarification*, or Explication (Carnap, 1950). Since the defect resides in inconsistencies in lexical usage and word-concept mappings, we propose that the amelioration of these concepts consists of explicit procedures in guiding language users to minimise this confusion. Such a procedure includes a componential analysis of *seichas* and *teper'* and the main parameters which differentiate the cases of their usage.

Furthermore, such a concrete procedure makes implementation more feasible (see e.g. Jorem 2021, Nimtz 2021), allowing us to avoid cases of misunderstanding of an emotionally negative connotation, irony or sarcasm, which are more accessible by *teper'* rather than *seichas*.

Amelioration as clarification, when used in this way, can be used to engineer notoriously slippery concepts such as concepts of time, which are abstract, culture-bound, and complex. Improvement, in such cases, can be understood as reducing the confusion between the concepts through explicit guidance.

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Operationalism, Open Texture, and the Meaning of Scientific Concepts

How do abstract scientific concepts like ‘temperature’, ‘hardness’, ‘force’, and ‘length’ retain empirical content? How, in other words, can these theoretical concepts be about the world at all? One suggestion found in the history and philosophy of science is that such concepts gain empirical meaning through operationalisation. Percy Bridgman (1927) infamously suggested that the whole meaning of a concept is given by the operations in which it figures. Due to influential objections operationalism has long been thought to be an implausible view of the empirical meaning of abstract scientific concepts (Hempel 1966). In this talk, the aim is to contribute to a recent revitalisation of operationalism (Wilson 2006; Chang 2017; Feest forthcoming; Haueis and Novick 2023). I do this by relating operationalism to the much-neglected work of Friedrich Waismann. Waismann ([1945] 1968) argued that all empirical concepts have open texture: there is a possibility of vagueness since concepts are not fully determinately applicable in all possible situations. For Waismann, this open texture is necessary for empirical meaning, because only open texture concepts are revisable in light of experience. I argue that for abstract scientific concepts to count as having empirical content, they must (a) have open texture and (b) they must be operationalisable, and that (a) and (b) are two sides of the same coin of empirical meaningfulness. On the face of it, these two conditions seem in tension with each other: operationalism is often seen as a view that meaning is forever fixed by a specific and determinate set of operations, while the open texture of concepts contradicts this — the meaning of a concept is neither fully fixed nor fully determinate. What I will argue is that for open texture concepts to have some determinate contents for particular purposes, they must be operationalised with particular rules of application. Open texture is temporarily remedied by operationalising concepts, but it is not forever overcome: indeed, for concepts to have empirical meaning at all, they must continue to be possibly revisable.

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Is Buddhism a Scientific Religion? Rethinking our Concepts of “Religion” and “Science”

In recent years, there has been a wealth of literature that argues for the compatibility of Buddhism and science, particularly in the cognitive sciences (Hut 2003; Wallace 2003; Bstan-'dzin-rgya-mtsho 2005; Davis 2013; Loy 2015; Jacobs 2017; Thompson 2023). These discussions map onto broader debates about the relationship of religion and science: are they “nonoverlapping magisteria” (Gould 1997) or do their domains overlap in some respects? My goal here is to analyze how the concepts of “religion” and “science” play into the debates we see about the relationship between Buddhism and science and how these concepts have been used over time. In my research, I have found that the concept of “science” has historically been closely tied to notions of truth and rationality, which contributed to the denigration of non-Western knowledge systems, like Buddhism, during the colonial era and since. At root, this is caused by a monistic conception of scientific knowledge, which has contributed to non-Western religious traditions, like Buddhism, shifting and adapting to be able to make stronger claims of compatibility with science in order to be able to survive in the face of colonialism (McMahan 2008; Lopez 2012). I will conclude by suggesting that we rethink our categories of “religion” and “science” in such a way that is compatible with a pluralist scientific framework. Not only would these conceptual changes reflect the historical usage of these categories, but I believe this will also allow us to have much more productive dialogue across these fields, encouraging us to take each seriously and separately while still promoting interdisciplinary dialogue and discussion.

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The abstractness of thoughts, beliefs and regrets- perspectives from category theory

The mental objects embedded under verbs like think, believe, and regret have a long-standing history of being taken as propositions, the abstract referent for a thing with content. Having no spatio-temporal location and being somewhat unperceivable, we treat them as abstract and distinguish them from concrete entities. But as these mind-dependent objects cannot be observed explicitly, it is somewhat unclear, how they are to be compared to each other or to concrete entities, because they inhibit the epistemological opacity of the mind itself.

These ‘things with content’ thus can’t be described explicitly, their referents can’t be compared pair-wise, and they show various sorts of non-transparent behaviour. Therefore, I argue that abstract objects such as thoughts, beliefs, and regrets should not be analysed with a set theoretic based semantics – this would imply, that we could describe the set and therefore its elements exhaustively, which we can’t. Thus, I argue for consequently taking the abstract objects as objects, i.e., to apply a category theoretic perspective.

Category Theory allows us to match the empirical abstractness with the same abstractness in descriptive means by taking the objects ‘anonymously’ and only defining the character of things by the relation of these to their (entire) environment. In addition to the better epistemological fit, we can naturally introduce (in)transparency-explaining variables into a semantics for attitude reports via monads. Moreover, its methodological implications force us to zoom out on less frequently regarded objects, hopefully leading to a more exhaustive understanding of the ‘things with content’ that make up our conscience.

In my talk, I will start by discussing some problems for a set theoretic analysis. I will then develop some first thoughts on thoughts with a new approach to (attitude) semantics by taking a category theoretic perspective.

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4 Flash Talks/Posters

Niall Roe

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Abstraction in Practice: A Pragmatist Account of Conceptual Change

The Practice Turn has shifted philosophers' attention away from theory and towards scientific practice (Waters, 2019)¹ While abstract concepts are at home in theories, how are they understood through scientific practice? I argue that C.S. Peirce's provides a way to understand the role of abstract concepts in a practice-based philosophy of science, similar to leading accounts today. E.g., Chang (2011a, 2011b, and 2014).

Peircean concepts are introduced through what he called Hypostatic Abstraction (HA). This aspect of Peirce's thought has been investigated extensively by T. L. Short, e.g., (2007, 1988); I follow Short's characterization here. Though there are others, e.g., Cristalli and Pietarinen (2021). An HA is an (often implicit) mode of inference whereby an unknown something is introduced as an abstract concept, presumed to be real (e.g., heat), in relation to something actual (e.g., a thermometer reading, the felt warmth of a fire, etc.) thus allowing for the unknown something to be studied without any theory about what it is. These concepts are inexact when introduced. The role of scientist is to clarify them—not in the sense of completing the puzzle of a given paradigm or through conceptual analysis, but in cultivating them to develop as they are actually used to solve actual problems—in practice. On such an account, “a theory is tested most notably in being developed and refined. It either succeeds by being made more concrete or fails by resisting improvement” (Short, 2022: 30). This encourages methodological pluralism, urging us to allow such progression to take all its forms (to “let a hundred flowers bloom” to use Hasok Chang's words (2011b, 428)).

As a concept changes through time (e.g., as our understanding of heat changes from theories of phlogiston to theories of Brownian motion) theoretical abstractions must be abandoned. However hypostatic abstractions can be maintained because such concepts are abstracted from scientific practice. Hypostatic abstractions therefore provide a continuity through theory change as well as a role for philosophers and historians: namely, to reapproach scientific episodes to unearth the (implicit) concepts used therein.

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The conceptual is political: how may concepts differ, and what happens when we think they don't?

The question of concepts is also a political one. Concepts are the lens through which we experience the world, but it is all too easy to forget that a lens is a lens, and other people's lenses may differ. "One thinks that one is tracing nature over and over again, and one is merely tracing round the frame through which we look at it," says Wittgenstein (PI §114), but what happens when we take our frame for granted? I'm interested in two interlinked lines of inquiry:

Firstly, in what sense are our concepts contingent on our social and cultural background? Critical genealogies offer us an insight into the origins of our conceptual schemes and their scaffolding, and cross-cultural comparison allows us to observe how they may have developed differently, drawing our attention to the frame shaping our experience. Why do we see the world the way we see it, and how could we see it differently?

Secondly, how are conceptual schemes tied to power? In what sense was their development shaped by certain interests, and how does this feed into current relations of oppression and domination? For instance, the European concept of land as private property usurped the Indigenous Australian concept of Country as a living entity, facilitating colonisation and shaping society to this day. This indicates the potential danger of concepts – when we dismiss another's claim because their conceptual basis doesn't align with ours, are we committing an epistemic injustice?

In order to answer these questions, we need to acquire a better understanding of how concepts develop and differ across cultures and languages. In this presentation, I will bring these political concerns into focus and draw on parts of Wittgenstein's later work to sketch the preliminaries of an account of concepts that could serve to sharpen our analysis of these questions.

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Grammaticalising Abstractness: The Old High German Abstract Noun Suffix -heit

It is well-established amongst morphologists and historical linguists that certain noun suffixes begin as nominal free morphemes in a particular language and develop diachronically to become bound suffixes. This is certainly the case for English -hood and is likely to be so for the German -heit. Despite both suffixes deriving from nouns with a distinctly concrete meaning, namely ‘person’, they develop into suffixes which are only productive of abstract nouns, such as *Kindheit* or ‘childhood’. However, this then poses the question as to when a change in conception of morphemes occurs, and ultimately when does it become grammaticalised into the language? This is naturally an incredibly broad question and therefore, I have chosen to focus specifically upon the case of *heit* in German. It is known that this shift in perception must have occurred during the Old High German period, given that there are instances of *heit* as both a free and bound morpheme in this stage of the language, but only as a bound morpheme in Middle High German. For this project, I am completing a corpus study of *heit* in Old High German, using the Deutsch Diachron Digital – Referenzkorpus Altdeutsch. I am analysing the examples of *heit* appearing both as a bound and free morpheme. This involves considering the texts in which they occur, in order to give a sense of the time period when *heit* became grammaticalised as a suffix. Furthermore, I will consider the location from where the texts originate to establish how this process may have spread in the Germanic Sprachraum. I will then link my findings to research completed about the perception of abstract nouns, in order to create a detailed account of how and why *heit* may have become grammaticalised in Old High German as a suffix, and consequently gained an abstract sense.

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