Understanding: Between Contents and Phenomena

1   State-of-the-art and Objectives

1.1   Academic Context and Main Objectives

Understanding is something we seek. We seek to understand how life came about, why some actions are morally right, what thoughts others attempt to convey in speech. No wonder, therefore, that our most important intellectual enterprises such as the sciences, the humanities or the arts promise to improve our understanding of certain aspects of reality. But what exactly is understanding and how can it be achieved by subjects endowed with capacities such as ours?

Given that the desire for understanding is so pervasive in our intellectual life, such questions are of utmost importance to epistemology. How can we make sense of intellectual enterprises such as the sciences without having an understanding of what understanding is? Yet, modern epistemological theorizing has primarily been concerned with our ability to secure **knowledge** of reality as illustrated by the various attempts to offer an informative and systematic elucidation of this notion.[1] One reason for this is that it has often been assumed that understanding is fundamentally a matter of knowing certain truths, that, for instance, the understanding one can have of how life came about amounts to knowing true propositions that belong to a comprehensive account of this phenomenon.

Recent developments in epistemology, philosophy of language and philosophy of science, however, cast doubt on that assumption and several philosophers have come to think of understanding – be it **linguistic**, **empirical** or **moral** – as a cognitive standing that needs to be addressed for its own sake, the question of its nature acquiring thereby a central place. While the growing research on linguistic, empirical and moral understanding has made important contributions toward answering this question, one problem is that these epistemic phenomena are being investigated separately. This is unfortunate as, plausibly, there are important relationships between these epistemic phenomena. It is reasonable to think, for instance, that the understanding we have of empirical and moral phenomena depends on our understanding of linguistically articulated contents such as explanations.

This research project, by relying on tools from the philosophy of language, the philosophy of science, epistemology and moral philosophy, will remedy this situation and offer a **novel** and **unified** treatment of those epistemic phenomena. In particular, by bringing together **three areas of research**, this project will **identify** the capacities whose deployment makes each type of understanding possible, **investigate** the relationships between each type of understanding in light of the capacities that are responsible for their achievement and **develop** original accounts of linguistic, empirical and moral understanding that highlight both the differences and the commonalities between them.

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[1]   See for instance Dretske ([1971](#)), Harman ([1973](#)), Goldman ([1979](#)), Sosa ([1980](#)), Nozick ([1981](#)) and Greco ([2003](#)).

Offering such a treatment promises to make a crucial contribution to the recently initiated shift from a **knowledge-centred epistemology** to an **understanding-centred epistemology**. If the notion of understanding is to occupy a central place in our epistemological theorizing, it is indeed crucial to have a coherent view of how that notion applies to our understanding of language, empirical phenomena and moral phenomena.

1.2 State-of-the-art

As no general treatment of the notion of understanding as it applies to our understanding of language, empirical phenomena and moral phenomena has been offered in the literature, the current state of the research concerning these epistemic phenomena is presented in separate sections.

Linguistic Understanding: As Pettit (2010, p. 1) remarks "perhaps the most natural view [of linguistic understanding] is that we hear a speaker's utterance and *infer* what was said, drawing on our competence in the syntax and semantics of the language.". That is, the process of gaining linguistic understanding is essentially an inferential one; its result being a piece of **inferential knowledge** that a certain content was expressed by a speaker.

Part of the appeal of what can be labelled as the **inferential view** of linguistic understanding is that it is intuitively correct that understanding an utterance *u* that expresses a proposition *p* amounts to knowing what *u* means – where knowing what *u* means is a matter of knowing that *u* means *p* or that *p* was said by means of *u*. For, if linguistic understanding consists of such knowledge, it is plausible that it is gained through an inferential process that draws on the subject's competence in the syntax and semantics of the language.[2]

The inferential view however faces several problems. On the one hand, challenges have been raised for the claim that the process of linguistic understanding is inferential in nature. Pettit (2010), for instance, argues that the inferential view of linguistic understanding is vulnerable to a problem of underdetermination in that what is available to a subject as premises for interpreting a particular utterance underdetermines facts about the utterance meaning.[3] On the other hand, challenges have been raised for the claim that understanding an utterance amounts to knowing what it means.[4]

The main alternative to the inferential view of linguistic understanding is the **semantic perceptual view**. According to this view, competent speakers of a language have a **non-inferential** capacity to **perceive** the content of the utterances produced in that language. Part of the motivation for this view stems from the widely acknowledged phenomenal contrast between hearing speech in a language in which one is competent and hearing speech in a language with which one is unfamiliar. Indeed, according to philosophers such as Bayne (2009)

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[2] For proponents of some version of the inferential view of linguistic understanding, see Campbell (1982), Evans (1982), Davies (1989), Higginbotham (1992), Dummett (1991, 1993), Lepore (1997), Heck (1995, 2006), Matthews (2003, 2006), Johnson (2007), Gross (2005, 2010), Weiss (2004, 2010) and Waights Hickman (2020).

[3] See McDowell (1980, 1998) and Recanati (2002) for additional problems with conceiving of the process of linguistic understanding as being inferential. See Schiffer (1987), Fodor (1989), Hornsby & Stanley (2005) and Devitt (2011) for arguments against the cognitivist conception of linguistic competence on which the inferential view relies.

[4] See Hunter (1998) and Pettit (2002, 2005) for the claim that linguistic understanding is compatible with rationally withholding belief concerning the fact that *u* means *p*. See Pettit (2002) and Longworth (2008) for the claim that linguistic understanding is compatible with certain forms of knowledge-undermining luck. See Peacocke (1975) and Fricker (2003) for the claim that knowledge that *u* means *p* is not sufficient for linguistic understanding.

and Siegel ([2006](#), [2010](#)), this contrast is best explained by the fact that it is part of the phenomenology of a competent speaker's auditory experiences of understood speech that the speaker hears that speech as expressing certain meanings.[5]

The semantic perceptual view of linguistic understanding is however not without problems and other alternatives to the inferential view such as the one explored by Longworth ([2018](#)) deserve much more attention than they have received in the literature.[6] In particular, it remains to be seen whether **non-inferential** views that are also **intellectualist** in that they are not committed to explicating linguistic understanding in terms of perceptual states are better suited to elucidate the nature of linguistic understanding than the semantic perceptual view.

Empirical Understanding: The nature of the understanding one can have of empirical phenomena – *e.g.* the trajectory of Mercury in space – is as much a matter of dispute as the nature of linguistic understanding is. The current debate pertaining to empirical understanding revolves around the two following claims:

> **Necessity$_U$**: Knowledge of some propositions belonging to an account of o is necessary for understanding o, where o stands for some empirical phenomenon.
>
> **Sufficiency$_U$**: Knowledge of some propositions belonging to an account of o is sufficient for understanding o, where o stands for some empirical phenomenon.

The conjunction of Necessity$_U$ and Sufficiency$_U$ amounts to the view that empirical understanding is a species of propositional knowledge, and several challenges have been raised in the recent literature for this view.[7]

Challenges to Necessity$_U$ concern mainly empirical understanding's connection to **justification** and **luck**. On the one hand, cases offered by Hills ([2009](#), [2016](#)) and Dellsén ([2017](#), [2018](#), [2019](#)) purport to show that, contrary to propositional knowledge, empirical understanding can be based on defeated evidence.[8] On the other hand, cases offered by Kvanvig ([2003](#)), Pritchard ([2008](#), [2009](#), [2010](#)) and Belkoniene ([2023b,c](#)) purport to show that contrary to propositional knowledge, empirical understanding is not vulnerable to certain forms of epistemic luck.[9,10]

Challenges to Sufficiency$_U$ are, for their part, related to what can be labelled as the **grasping component** of empirical understanding. According to Kvanvig, empirical understanding requires "the grasping of explanatory and other coherence-making relationships in a large and comprehensive body of information" (Kvanvig [2003](#), p. 192). The central idea that transpires from this observation is that understanding a phenomenon does not simply

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5   For a defence of the semantic perceptual view see McDowell ([1998](#)), Recanati ([2002](#)), Fricker ([2003](#)), Nes ([2016](#)), Azzouni ([2013](#)) and Brogaard ([2018](#), [2020](#)).

6   One important challenge raised for perceptual views of linguistic understanding concerns the context-sensitivity of linguistic understanding. See Stanley ([2005](#)), Pettit ([2010](#)), O'Callaghan ([2011](#)), Gasparri & Murez ([2019](#)) and Drożdżowicz ([2023](#)).

7   For explicit or tacit endorsements of this view see Achinstein ([1983](#)), Salmon ([1989](#)), Woodward ([2003](#)) or Lipton ([2004](#)). For a recent defense, see Sliwa ([2015](#)).

8   See Belkoniene ([2022](#)) for a defence of a justification requirement on understanding.

9   See also Zagzebski ([2001](#)), Morris ([2012](#)), Rohwer ([2014](#)) and Hills ([2016](#)). See Grimm ([2006](#)), DePaul & Grimm ([2007](#)), Khalifa & Gadomski ([2013](#)), Greco ([2014](#)), Riaz ([2015](#)), Sliwa ([2015](#)), Khalifa ([2013](#), [2017](#)), Kelp ([2014](#), [2017](#)) and Boyd ([2020a](#)) for the claim that knowledge and understanding do not differ when it comes to their connection to epistemic luck.

10   See also Zagzebski ([2001](#)), Riggs ([2009](#)), Janvid ([2014](#)) and Elgin ([2004](#), [2007](#), [2017](#)) for the claim that contrary to knowledge, empirical understanding is only weakly factive. See Kvanvig ([2003](#), [2009a,b](#)), Carter & Gordon ([2014](#)), Greco ([2014](#)), Rice ([2016](#)), Khalifa ([2017](#)), Gordon ([2021](#)), Lawler ([2021](#)) and Belkoniene ([2023b](#)) for moderate factivist constraints on empirical understanding.

involve knowing the propositions that belong to a comprehensive account of the phenomenon.[11] It involves, in addition, **grasping how those propositions relate to one another** and this, according to philosophers such as Pritchard ([2010](), [2014]()) and Hills ([2016]()), puts pressure on Sufficiency$_U$.[12] A detailed and systematic account of the grasping component of empirical understanding is however still lacking and this constitutes an important gap in the current research, as without such an account the question of whether the existence of this component is a reason to reject Sufficiency$_U$ remains open.

Moral Understanding: Moral phenomena, like empirical phenomena, can be understood by means of ethical theories and moral explanations. However, moral understanding raises its own set of questions and a burgeoning debate has developed in relation to them.

Besides questions pertaining, more generally, to the nature of understanding, current discussions concerning moral understanding are rooted in an apparent problem concerning **moral testimony**. As noted by Fletcher ([2016](), p. 46), while deferring to others when it comes to empirical matters seems perfectly acceptable, there is something problematic about deference when it comes to normative matters such as morality.[13] Relying on others when it comes to questions about what is wrong or right appears somehow "fishy", as Enoch put it (2014). But what makes deference regarding moral matters specifically problematic? According to one influential answer, it is the incompatibility of deference with moral understanding.[14]

This explanation of the fishiness of moral testimony is predicated on the claim that as moral understanding involves "a grasp of the relation between a moral proposition and the reasons why it is true" (Hills [2009](), p. 101) and not merely knowing why a moral proposition is true, moral understanding **cannot be transmitted through testimony**.[15] Yet, different challenges have been raised for this claim. On the one hand, proponents of knowledge-based accounts of moral understanding such as Riaz ([2015]()) and Sliwa ([2015](), [2017]()) resist the claim that understanding why a moral proposition is true involves something additional to knowing why it is true. On the other hand, philosophers such as Boyd ([2017](), [2020b]()) argue that the supposed impossibility of transmitting moral understanding through testimony relies on a far too restrictive conception of testimonial transmission.[16]

In addition to the challenges specifically directed at the claim that moral understanding cannot be transmitted through testimony, Callahan ([2018]()) and Howard ([2018]()) argue that the explanation of the fishiness of moral testimony, as proposed by philosophers such as Hills ([2009](), [2016]()), fails to take into account the specifically **motivational** and **affective** component of moral understanding.[17] Indeed, this explanation is predicated on another important assumption according to which the possession of moral understanding is closely connected

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[11] See Belkoniene ([2023a](),[b]())

[12] See also Zagzebski ([2001]()), Kvanvig ([2003]()), de Regt & Dieks ([2005]()), Wilkenfeld ([2013]()), Newman ([2012](), [2013](), [2014]()), Wilkenfeld & Hellmann ([2014]()), Carter & Pritchard ([2015]()), Hills ([2016]()), Elgin ([2017]()) and Grimm ([2014](), [2017]()).

[13] See also Hopkins ([2007]()), McGrath ([2009](), [2011]()), Howell ([2014]()), Crisp ([2014]()), Groll & Decker ([2014]()), Hills ([2009](), [2016]()), Callahan ([2018]()) and Howard ([2018]()). See Sliwa ([2012]()) for the claim that there is nothing specifically problematic with moral testimony.

[14] See Nickel ([2001]()), Hopkins ([2007]()), Lockhart ([2012]()) and Hills ([2009](), [2016](), [2020]()).

[15] See also Zagzebski ([2009]()) and Jäger (2016)

[16] See also McShane ([2018]()) and Malfatti ([2020](), [2021]()).

[17] See also Slome ([2022]()).

to the possession of moral virtues and thereby to one's **ability to act with moral worth**.[18] Yet, it is not clear why moral understanding in particular should be closely connected to such an ability and an account of moral understanding that would show this is still missing. This represents an important gap in the current research, for moral understanding's connection to one's ability to act with moral worth is plausibly what makes this cognitive standing particularly valuable in addition to distinguishing it from other types of understanding.

1.3   Research Objectives

This project will bridge the current research concerning linguistic, empirical and moral understanding in order to:

1) **Identify** the capacities whose deployment makes each type of understanding possible.

2) **Investigate** the relationships between each type of understanding in light of the capacities that are responsible for their achievement.

3) **Develop** original accounts of linguistic, empirical and moral understanding that highlight both the differences and the commonalities between them.

The aim of offering such a treatment is to show that while, contrary to what has often been assumed, inferential approaches are not suited to elucidate the nature of linguistic understanding, they can allow accounting for the way in which both empirical and moral understanding **go beyond** linguistic understanding of certain contents.

To achieve this aim, this project will first identify the kind of capacities that make linguistic understanding possible by exploring a non-inferential intellectualist view of that cognitive standing. More precisely, it will show that although linguistic understanding results from the deployment of a subject's conceptual capacities, that deployment need not be conceived of as either an inferential process or a perceptual one. As this will contribute to the development of a novel and largely underexamined alternative to the inferential view of linguistic understanding, it will have a great impact on the current research being conducted on the **epistemology of language**. In particular, it will contribute to offering an alternative framework thanks to which the phenomenon of **speech comprehension** can be approached – be it as implemented in conscious subjects or in automated agents such as large language models.

The exploration of a non-inferential intellectualist view of linguistic understanding, in addition to its specific contribution to the epistemology of language, will lay the groundwork for providing a detailed examination of the way linguistic understanding and empirical understanding relate to one another. By offering a precise account of the grasping component of empirical understanding, this project will show how empirical understanding depends on the deployment of capacities that are conducive to linguistic understanding. But it will also show that the grasping component of empirical understanding involves the deployment of inferential capacities that go beyond mere linguistic understanding in that they are responsible for the generation of specific inferential

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[18] See Hursthouse (1999), Annas (1995, 2001, 2008, 2011), Hills (2015) and Tsai (2016) for accounts of moral virtues that relate the possession of such virtues with abilities that are characteristic of moral understanding. See McDowell (1979), Arplay (2002) Stichter (2007a), Driver (2013), Sliwa (2016, 2017) and Croce (2020) for the view that the possession of moral virtues does not require the possession of abilities typical of moral understanding.

knowledge about the understood phenomenon. The account to be offered will make an important contribution to the **philosophy of science**. For it will clarify the way in which our understanding of empirical phenomena depends on our conceptual grip on linguistically articulated contents such as explanations and scientific theories. In addition, by providing a precise characterisation of the conceptual and inferential capacities that are conducive to empirical understanding, this account will fill an important gap in the current research concerning empirical understanding and play a structuring role in the current debate. In particular, it will show to what extent the differences between **knowledge** and **empirical understanding** are attributable to the grasping component of empirical understanding.

The examination of the relationship between linguistic and empirical understanding will in turn provide the basis for investigating the distinctively practical dimension of moral understanding. By offering a precise account of the connection between moral understanding and practical deliberation, this project will show that moral understanding is distinctively practical in that the specific grasp it involves depends on the deployment of inferential capacities in the context of **practical deliberations**. In addition to highlighting a crucial difference between moral and empirical understanding, this will show why moral understanding, in particular, is closely connected to one's ability to act with moral worth, thereby filling an important research gap. As a result, this project will have an important impact on **moral** and **social epistemology**. It will provide central tools to better understand the cognitive dimension of moral virtues as well as the specific constraints that exist on the propagation of moral understanding within an epistemic community.

The unified treatment of linguistic, empirical and moral understanding that will be conducted in the context of this project promises, more generally, to make a crucial contribution to the currently undergoing **paradigm-shift** toward an **understanding-centred epistemology**. For such a treatment essentially promises to uncover how our cognitive familiarity with worldly phenomena – denoted by the notion of understanding – is mediated and yet goes beyond our understanding of language.

2 Methodology

2.1 Scientific Approach

When it comes to its scientific approach, this research project will be aligned with the analytical tradition in philosophy. From a methodological point of view, this tradition is first characterized by very demanding argumentative standards. The **acceptability** of philosophical hypotheses is evaluated in light of **logically valid** and **sound** arguments that are designed to identify the assumptions on which those hypotheses logically depend as well as the consequences that logically follow from them. In turn, tools such as thought experiments, assessment of compatibility with larger theorical commitments and assessment of compatibility with empirical findings allow for evaluating the plausibility (or implausibility) of the assumptions and consequences that the arguments are designed to identify.

Another key aspect of the analytical tradition is the method of **analysis** – be it reductive or connective – which plays a central role in the way hypotheses are formulated and, to some extent, evaluated. **Reductive**

analysis aims at analysing complex notions in terms of simpler ones. Stating, for example, that a subject understands an utterance if and only if she knows what that utterance means amounts to offering a reductive analysis of the notion of linguistic understanding. Such an analysis counts as being potentially **informative** if it is not **circular** and if the notions that are part of the analysans are simpler than the one being analysed.

Connective analysis, for its part, primarily aims at explicating the **function** of different notions by highlighting their connections. While this type of analysis, as advocated by philosophers such as Strawson (1992) and Kelp (2021), is often motivated by scepticism about the possibility of providing informative reductive analyses of philosophically relevant notions, it should be noted that the use of connective analysis does not exclude relying on reductive analyses. Indeed, as this project aims, in part, at investigating the **relationships** between the notions of linguistic, empirical and moral understanding, it will engage in connective analyses. Nonetheless, reductive analysis will also be relied upon to identify core components of those notions.

2.2 Structure of the Project and Intermediate Goals

As mentioned in Section 1.3, this project will bridge the current research concerning linguistic, empirical and moral understanding. As a result, it is structured around three subprojects, each of which focuses on one of the epistemic phenomena to be investigated.

2.2.1 Subproject A: Understanding Contents

Non-inferential Intellectualism: The main aim of Subproject A is to explore an intellectualist alternative to the inferential view of linguistic understanding. To that end, this part of Subproject A will investigate the hypothesis that linguistic understanding is best analysed as a first-order cognitive engagement with a content that results from one's perceptual encounter with an utterance.

Intellectualist views of linguistic understanding have in common a rejection of an explanation based in perceptual phenomenology of the phenomenal contrast between hearing speech in a language in which one is competent and hearing speech in a language with which one is unfamiliar. A first aim of this part of Subproject A is therefore to motivate an alternative explanation of that phenomenal contrast by arguing that what ultimately makes a difference when it comes to one's experiences of speech comprehension are the **cognitive** attitudes adopted by the hearer.

Explaining the relevant phenomenal contrast by appeal to the cognitive attitudes adopted by the hearer remains perfectly compatible with the inferential view of linguistic understanding as this view is typically intellectualist. Yet, it should be noted that the explanation of the contrast supported by the inferential view is also **representationalist** in that it explains the relevant contrast by appeal to second-order cognitive attitudes that represent the understood utterance as having a certain content – *e.g.* by appeal to a belief that *p* has been said.[19]

A second aim of this part of Subproject A will be to motivate a **non-representationalist** approach to linguistic understanding. One way to do so is to outline, following philosophers such as Soames (1989), Burge

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[19] See Nes (forthcoming) for the distinction between representationalist and non-representationalist approaches to linguistic understanding.

([2018](#)) and Longworth ([2008](#), [2018](#)), that representationalist views of linguistic understanding place overly demanding constraints on that cognitive standing. As they require that the understander be able to form second-order representations about the perceived utterances, they rule out unsophisticated thinkers who lack concepts such as the concept of 'meaning' from counting as having linguistic understanding. In contrast, according to the view that will be explored here, all that is required from the understander is that she possesses the concepts that articulate the content expressed by the understood utterance and that her conceptual capacities be **non-inferentially** triggered by her perceptual encounter with that utterance.

An important question left open by the view to be explored concerns the precise nature of the **first-order** cognitive attitudes in terms of which linguistic understanding is to be analysed and the final aim of this part of Subproject A will be to address this question. To that end, attention will be paid to what Grodniewicz ([forthcoming](#)) labels **Cartesian** and **Spinozan** models of speech comprehension. Spinozans such as Millikan ([2004](#), [2005](#)) and Mandelbaum ([2014](#)), relying on certain empirical studies,[20] take belief to constitute the basic cognitive attitude adopted toward contents in speech comprehension. In contrast, Cartesians such as Longworth ([2018](#)) argue that contents in speech comprehension are often entertained without being believed and that, as a result, linguistic understanding should not be modelled on the attitude of belief.[21]

Reflective Linguistic Understanding: A potential worry raised by the hypothesis that will be investigated in the first part of Subproject A is that the resulting view of linguistic understanding is not well equipped to account for one important aspect of this epistemic phenomenon: its rational dimension. This part of Subproject A will investigate the hypothesis that linguistic understanding comes in two kinds – reflective and unreflective – and that the rational dimension of linguistic understanding is to be accounted for in light of this distinction.

Part of the appeal of the inferential view of linguistic understanding stems from the idea that both the composition and the understanding of the utterances produced in a given language are, as Dummett ([1993](#), p. 104) puts it, **rational** activities. Lepore ([1997](#), p. 54), for instance, argues that in order to account for this dimension of linguistic understanding it is not sufficient to conceive of linguistic understanding as being non-inferentially triggered by one's perceptual encounter with an utterance. Linguistic understanding needs to be **rationally** guided by one's semantic and syntactic knowledge.

To address the demands expressed by those philosophers, the first aim of this part of Subproject A will be to motivate a distinction between **unreflective** and **reflective** linguistic understanding along the lines of the distinction drawn by Sosa ([2009](#)) between unreflective and reflective knowledge. According to Sosa, a subject's epistemic position can be improved by adopting a second-order perspective on the reliable faculties that deliver first-order knowledge to her. By adopting a second-order perspective on her perceptual belief that there is a barn in the field she is looking at, a subject can, for instance, improve her epistemic position insofar as that perspective allows her to appreciate the source of her perceptual knowledge as being reliable.

Sosa's general strategy will be applied to draw a distinction between unreflective and reflective linguistic understanding. More precisely, it will be argued that while the possession of unreflective linguistic understanding

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[20] See Gilbert ([1991](#)), Gilbert, Krull & Malone ([1990](#)), Gilbert, Tafarodi & Malone ([1993](#)).

[21] See Kriegel ([2013](#)) for an independent motivation of the claim that the entertaining of contents does not entail belief.

only amounts to the non-inferential triggering of one's conceptual capacities by a perceptual encounter with an utterance, reflective linguistic understanding amounts to a specific perspective taken by the understander on the deployment of the capacities that are conducive to her (unreflective) linguistic understanding. Part of the motivation for drawing such a distinction is that it has the potential to account for the way in which the content expressed by an utterance is connected to the perceived utterance **from the understander's perspective**. This is an aspect of linguistic understanding that, as Nes ([forthcoming](#)) notes, cannot easily be captured by non-representationalist views of linguistic understanding. In addition, this distinction has the potential to shed light on another one made by Carter, Gordon & Grodniewicz's ([2020](#)) between the possession of linguistic understanding and the **grasping** of a content expressed linguistically. For there are reasons to think that to count as grasping some content, one needs more than mere unreflective linguistic understanding.

A second aim of this part of Subproject A will be to show that the rational dimension of linguistic understanding is tied to the perspective constitutive of reflective linguistic understanding. This will be achieved by showing that the perspective taken by the understander on the deployment of the capacities that are conducive to her (unreflective) linguistic understanding is rationally guided by the understander's semantic and syntactic knowledge. The hypothesis is that while unreflective linguistic understanding can be possessed **without inferential processes**, the perspective constitutive of reflective linguistic understanding, as it involves reflecting on the connection between a content expressed by an utterance and that utterance, draws on such knowledge.

It is worth outlining that the question of whether linguistic understanding involves adopting an attitude of belief toward the understood content or another type of attitude such as the attitude of entertaining will have important consequences for the hypothesis to be explored in this part of Subproject A. For while the attitude of belief typically comes with rationality conditions, it is far from clear that the attitude of entertaining does. That is, it is not clear that there are conditions in which it is either rational or irrational to entertain certain thoughts. If it turns out that linguistic understanding is best characterized in terms of the attitude of entertaining, there will therefore be a need to provide a plausible characterization of the perspective with which **reflective** linguistic understanding is to be identified in terms of another kind of attitude – *e.g.* belief.

The expected results of both parts of subproject A will make a substantial contribution to the **epistemology of language**. By bringing tools from traditional epistemology such as Sosa's distinction between unreflective and reflective knowledge, Subproject A will allow for establishing non-inferential intellectualist views of linguistic understanding as serious contenders to the main options that are currently being examined. In addition, by precisely identifying the kind of capacities that make linguistic understanding possible, Subproject A will lay the groundwork for providing a detailed examination of the way linguistic understanding and empirical understanding relate to one another.

2.2.2   Subproject B: Understanding of the Empirical Realm

Grasping in Empirical Understanding: The main aim of Subproject B will be to provide a systematic account of the grasping component of empirical understanding. To that end, this part of Subproject B will investigate the hypothesis that the grasp involved in empirical understanding requires the deployment of capacities that go

beyond mere linguistic understanding – be it reflective or unreflective.

A natural way to conceive of the relationship between linguistic understanding and empirical understanding is to hold the view that empirical understanding depends on the **right contents** being intelligible to a subject. Suppose for instance that Sara, who just observed a particular chemical reaction, is told by her chemistry teacher that the reaction occurred because oxygen was introduced into the experimental setup. Under the assumption that the explanation provided to Sara is correct, it seems that insofar as she understands what she is told she has all she needs to understand why the reaction occurred. After all, if she understands what she is told, it is plausible that she is in a position to **know why** the reaction occurred.

According to philosophers such as Pritchard (2010, 2014) and Hills (2016), coming to know the correct explanation of some empirical phenomenon is however not sufficient to gain an understanding of that phenomenon. This is because for a subject to understand a phenomenon based on a correct explanation, she needs to grasp the explanation in such a way as to be able to **use it in the right way**. She needs to grasp it in such a way as to be able to make predictions and answer "what-if-things-had-been-different?" questions about the explained phenomenon. Yet, as the argument goes, it is in principle possible for a subject to know the correct explanation of a phenomenon without being able to use it in such a way.

A first aim of this part of Subproject B will be to examine this line of argument critically. To that end, the distinction made by philosophers such as Grimm (2014) and Khalifa (2017) between minimal and outright empirical understanding will be put to use. Indeed, one problem with this line of argument is that for a subject to understand an utterance such as "the chemical reaction occurred because oxygen was introduced" she must possess the relevant concepts – *e.g.* the concept of 'because'. Yet there are reasons to think that **possessing those concepts** and **applying them correctly** typically involves the possession of abilities that are characteristic of minimal empirical understanding.[22]

A second aim of this part of Subproject B will be to explore another line of argument in favour of the claim that the grasp involved in empirical understanding requires the deployment of capacities that go beyond those required for either reflective or unreflective linguistic understanding. Part of the motivation for denying that mere linguistic understanding of a correct explanation is sufficient to have even minimal empirical understanding is that a subject can possess the concept of 'explains' or 'because' without having a grip, as Pritchard (2014, p. 331) puts it, on the **reason why a cause might produce some effect** – *e.g.* why the introduction of oxygen might trigger the observed reaction. This suggests that a distinction between the **empirical understanding** a subject can have of a phenomenon based on her correct application of explanatory concepts and the more **general understanding** the subject has of the concepts she applies can be drawn. Such a distinction, if it can be articulated in a satisfactory manner, will allow for showing that while the grasping component of empirical understanding involves the deployment of capacities that are conducive to linguistic understanding, the nature of that component goes beyond the deployment of those capacities.

Grasping and Inferences: In light of the distinction that will be explored in the first part of Subproject B, the

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[22] Attention will be paid to the claim, put forward by philosophers such as Burge (1979), that subjects can understand certain utterances and come to believe their contents without having a complete understanding of the concepts that articulate those contents. Indeed, such a claim opens new questions with respect to the line of argument to be examined here.

main aim of this part of Subproject B will be to articulate a plausible account of the grasping component of empirical understanding.

Philosophers such as Hills (2009, 2016) and Elgin (2017) tend to construe this component as an **ability**. To grasp some explanation in such a way as to be in a position to understand a target phenomenon based on that explanation is, according to that construal, a matter of being able to use it in the right way. One advantage of such a view is that it manages to account for the intuitive connection between the grasping component of empirical understanding and the possession of the **cognitive abilities** that are characteristic of empirical understanding. Yet, an important drawback of this approach is that it leaves the abilities with which the grasp involved in empirical understanding is identified unexplained. What makes a subject able to make predictions or answer "what-if-things-had-been-different?" questions about the phenomena she understands? Stating that it is her grasp of a correct explanation is simply uninformative if that grasp is itself identified with the possession of such abilities.

The first aim of this part of Subproject B will be to explore an inferential alternative to ability-based accounts of the grasping component of empirical understanding. Taking cues from the work of philosophers such as Strevens (2013) for whom what empirical understanding requires is a grasp of the structure of the explanation on which it is based, an inferential account of how this structural grasp is achieved will be articulated. In particular, this part of Subproject B will explore the hypothesis that this structural grasp is achieved by making appropriate conceptual connections between the elements of the account on which one's understanding is based thanks to **inferences** that pertain to the understood phenomenon. If correct, such a hypothesis would show that, in addition to requiring the deployment of capacities that are conducive to either reflective or unreflective linguistic understanding, the grasp involved in empirical understanding requires making certain conceptual connections by way of generating **specific inferential knowledge** about the understood phenomenon.

One question left open by the view to be explored is whether the relevant knowledge cannot be acquired by a subject through other means. Indeed, it might turn out that acquiring the relevant knowledge through **testimony** instead of inference is sufficient to operate the required conceptual connexions. Such a result would, of course, force a revision of the hypothesis that will be investigated in this part of Subproject B. Yet, it would not put into question the claim that the grasping component of empirical understanding involves the deployment of capacities that go beyond those which make linguistic understanding possible. What would need to be done, given such a result, would be to provide a plausible explanation of how the acquisition of testimonial knowledge about the understood phenomenon can suffice to operate the required conceptual connexions.

The second aim of this part of Subproject B will be to explain how the possession of the cognitive abilities characteristic of empirical understanding depends on the inferences that are conducive to the grasping component of empirical understanding. To that end, **intellectualist views** of know-how and abilities defended by philosophers such as Stanley & Williamson (2001) will be examined in relation to the inferential account of the grasping component of empirical understanding to be offered.[23] As such views establish an essential relation between the possession of propositional knowledge and the possession of certain abilities, they have the potential to help

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[23] See also Stanley (2011) and Pavese (2015). For anti-intellectualist views of know-how see Ryle (1949), Adams (2009) and Devitt (2011).

account for the connection between the inferential knowledge responsible for a subject's grasp of the account on which her empirical understanding is based and the possession of certain cognitive abilities.

The expected results of both parts of Subproject B will make an important contribution to the **philosophy of science** and to the current epistemological debate concerning the nature of empirical understanding. By offering a systematic account of the grasping component of empirical understanding, Subproject B will clarify the nature of the **cognitive grip** on explanatory contents that is required for those contents to deliver an understanding of certain aspects of reality. In addition, this account promises to shed light on the way linguistic and empirical understanding are connected to one another. For it will show that while the grasping component of empirical understanding depends on the deployment of capacities that are conducive to linguistic understanding, it also requires the deployment of **inferential capacities** that go beyond linguistic understanding.

2.2.3 Subproject C: Understanding of the Moral Realm

Grasping in Moral Understanding: The main aim of Subproject C will be to provide a detailed examination of the relationship between moral understanding and a subject's ability to act with moral worth. To that end, this part of Subproject C will explore the hypothesis that the grasp involved in moral understanding depends on one's engagement with moral reasons in the context of practical deliberations.

Like empirical understanding, moral understanding involves a grasping component which is often taken to account for its incompatibility with deference. Yet, it is an open question as to whether the grasp involved in moral understanding – be it minimal or ideal – is substantially different from the one required to secure empirical understanding. While Hills's (2009, 2016) preferred characterisation of the grasping component of moral understanding supports the conclusion that it is not, philosophers such as Callahan (2018) and Howard (2018) argue in favour of a richer conception of moral understanding. In particular, Callahan (2018, p. 450) proposes that we see moral understanding as requiring not only cognitive facility with moral reasons but also **affective** and **motivational** engagement with them.

A first aim of this part of Subproject C will be to motivate such a richer conception of moral understanding. One reason for favouring that conception is that it is in principle possible for a subject to possess the kind of reasoning abilities that are taken as being characteristic of the grasp involved in understanding without engaging either affectively or motivationally with moral reasons. Yet, given the plausible connection between moral understanding and a subject's **ability to act with moral worth**, this result appears problematic. A richer conception of moral understanding is required to explain why moral understanding cannot easily come apart from one's ability to act with moral worth.

A second aim of this part of Subproject C will be to explain why moral understanding involves a motivational and affective engagement with moral reasons by examining the role of **practical deliberations** in the grasp required for moral understanding. In particular, this part of Subproject C will investigate the hypothesis that moral understanding depends on a subject's motivational and affective engagement with moral reasons because the grasp it involves itself depends on conceptual connexions that are made by the subject in the context of

practical deliberations. To that end, a precise account of the role practical inferences play in establishing the appropriate connections between some moral proposition and the reasons why it is true will be provided.[24]

Moral Understanding and Virtues: In light of the hypothesis that will be explored in the first part of Subproject C, this part of the subproject will investigate more specifically the connexion between moral understanding and the possession of the virtues that enable a subject to act with moral worth.

The first aim of this part of Subproject C will therefore be to clarify the connexion between the possession of **moral virtues** and the **practical inferences** that are conducive to moral understanding. This will be done by relying on the skill-based models of moral virtues developed by philosophers such as Annas (1995, 2001, 2008, 2011) and Stichter (2007a,b, 2011). The main tenet of these models is that the manner in which practical skills are acquired can give us insight into the development of moral virtues. The quick and effortless performances of athletes or musicians can, for example, be taken as a model to understand the development of moral virtues. While the performance of the skilled musician does not appear to involve effortful deliberations, the acquisition of such skills typically requires conscious reflections.[25] Taking cues from these considerations, an account of the role played by the practical inferences that are conducive to moral understanding in the development of moral virtues will be offered and the skill-based models of virtues from which it derives will be shown to have independent plausibility.

A second aim of this part of Subproject C will be to examine the specific nature of the skills which moral virtues are to be identified with. In particular, an **articulacy condition** on the possession of moral virtues will be defended to show why and how moral understanding is related to the possession of such virtues. Indeed, it is a matter of debate whether being fully morally virtuous requires being able to **explain** and **justify** particular judgments and specific courses of action. According to philosophers such as Stichter (2007a), Driver (2013) and Sliwa (2016, 2017), such a view of moral virtues would be overly demanding for, they argue, moral virtues can be fully possessed by a subject without that subject being able to provide moral explanations. Against such a line of reasoning it will be argued that, given the role played by practical deliberations in the development of moral virtues, the full possession of such virtues involves what may be called an articulacy requirement. That is, the full possession of moral virtues requires an ability to engage in **explanatory reasoning** pertaining to the moral status of particular judgments and specific courses of action.

One question left open by the view to be developed concerns the role of theoretical inferences about moral matters in the acquisition of moral understanding and moral virtues. Indeed, the hypotheses that will be explored in Subproject C do not rule out the possibility of such inferences playing a **complementary** role in the achievement of moral understanding and moral virtues, especially if there exists an articulacy condition on the possession of moral virtues. Although such a finding would not put into question the view to be explored in Subproject C, it would constitute an interesting finding as it would suggest the existence of a more subtle relationship between moral understanding, the possession of moral virtues and **moral expertise**.

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[24] A particular attention will be paid to the pre-emptive role that moral considerations can play in practical deliberations. See Nagel (1978), Scanlon (1998), Voorhoeve (2014) and Kiesewetter (forthcoming).

[25] Skill-based models of moral virtues have been offered, at least in part, as responses to the scepticism expressed by philosophers such as Haidt (2001) and Doris (2015) regarding the connection between deliberations and moral virtues.

By establishing a relation between the deployment of inferential abilities in the context of practical deliberations and the acquisition of moral understanding, the expected results of both parts of Subproject C will outline the distinctively **practical dimension** of moral understanding. This, in addition to making an important contribution to the debate concerning the cognitive dimension of moral virtues, promises to shed light on the differences as well as the similarities between moral, empirical and linguistic understanding. More precisely, the expected results of Subproject C, along with the expected results of the other two subprojects, will support a general picture of the relationships between moral, empirical and linguistic understanding according to which the achievement of both moral and empirical understanding goes beyond the achievement of linguistic understanding in that it involves the deployment of specific **inferential capacities**. What distinguishes empirical from moral understanding according to this picture are the contexts in which these inferential capacities are deployed. As moral understanding involves a distinctively practical dimension it depends, contrary to empirical understanding, on the deployment of inferential capacities that results in **actions** or in **intentions to act** for moral reasons.

This general picture of the relationships between moral, empirical and linguistic understanding is in turn expected to find many interesting applications that will also be explored in the context of this project. One such application is the question of whether automated agents such as large language models can be credited with understanding – be it either linguistic, empirical or even moral. While there is undeniably an intuitive pull toward a negative answer to this question, a clearer picture of the capacities whose deployment make each type of understanding possible will undoubtedly be extremely useful to address this question in a more systematic manner.

2.3   Schedule and Milestones

If approved, the project "Understanding: Between Contents and Phenomena" will be based at the Department of Philosophy of the University of Zurich. This department provides the perfect environment for the undertaking of the planned research as there will be possibilities for collaborations and fruitful exchanges with Prof. Hans-Johann Glock on philosophy of language, with Prof. Christoph Halbig on metaethics and theories of moral virtues and with Prof. Anne Meylan with whom a joint weekly research colloquium will be held. In addition to those collaborations, external collaborations with renowned specialists such as Claus Beisbart (University of Bern), Kareem Khalifa (UCLA) and Christoph Kelp (University of Glasgow) will allow the research team to gain helpful feedback in the course of their research.

This team will be composed of the principal investigator (PI) Miloud Belkoniene, one postdoctoral researcher with a strong background in moral philosophy as well as one PhD student. While the PI will work on the three subprojects that compose this research project, the postdoctoral researcher will focus on issues related to moral understanding. The PhD student, for their part, will write a dissertation focusing on some of the issues that will be addressed in Subproject B and a great deal of time and effort will be devoted to guarantee optimal supervision of their PhD thesis. The following table summarizes the planned activities and output:

	Year 1	Year 2	Year 3	Year 4	Year 5
Milestones & Output	PI *Literature review, 1 article*	PI *2 articles*	PI *2 articles*	PI *Monograph (habilitation thesis): Concepts and Understanding*	
		PD *Literature review, 1 article*	PD *1 article, 1 article co-authored with PI*	PD *2 articles*	PD *2 articles*
		PhD *Literature review and outline*	PhD *Monograph or cumulative PhD thesis*		*PhD defence*
		PI & PD *Stanford Encyclopaedia entry: linguistic understanding*		PI & PD & PhD *Edited volume: understanding as it applies to language and phenomena*	
Events		Workshop *Linguistic understanding*	Workshop *Empirical understanding*	Workshop: *Moral understanding*	Closing conference

Table 1: Summary of Activities:

Abbreviations: PI = Principal Investigator; PhD = PhD student; PD = Postdoctoral researcher. In addition to the publications, it is planned that each team member will present their research several times per year at conferences.

2.4 Risks

The description of this research project's objectives and structure has already illustrated the "high-risk/high-gain" character of the present application. It is nevertheless worth outlining here specific risks involved in this project.

As stated in Section 1.3, this research project aims at identifying the capacities whose deployment makes each type of understanding possible. Future research might however reveal that the notion of understanding is context-sensitive in the sense that the standards one must meet to count as having understanding – be it linguistic, empirical or moral – vary from context to context. In turn, this risks making the identification of the capacities whose deployment makes each type of understanding possible far more difficult. Nevertheless, it must be noted that if the notion of understanding turned out to be context-sensitive, an account of the capacities whose deployment makes each type of understanding possible **independently of the context** could still be provided. For it could still be the case that, independently of the context, certain capacities must be deployed in order for a subject to count as having understanding.

Another potential difficulty is that the achievement of this research project's objectives will depend on the team members being able to competently bridge different areas of research. This difficultly will be mitigated by the fact that I have had the opportunity to acquire a solid research experience in the fields in which the planned research will be undertaken, which will allow me as the PI to manage effectively a team composed of researchers with different backgrounds.

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