‘LEARNING (NOT) TO’ AND PRACTICAL KNOWLEDGE

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I raise objections to the intellectualist analysis of knowing-how on the basis of certain features of ‘learning to’ ascriptions. I start by observing that ‘learning to’ ascriptions can only have a first-personal reading. Since embedded questions make the generic reading available, this suggests that ‘learning to’ ascriptions are not embedded question configurations. Then I locate an ambiguity in ‘learning to’ ascriptions. They can be used to ascribe either the acquisition of practical knowledge, or the acquisition of a behavioural disposition—a habit—of some value. Once this ambiguity is taken into account, it can be shown that the embedded infinitival in practical learning ascriptions cannot be negated, by contrast to embedded question configurations. This suggests that the semantic value of the infinitival is not propositional. Hence the intellectualist analysis fails to extend to learning ascriptions, and cannot accommodate the systematic relationships between knowledge and learning. The two points above regarding ‘learning to’ ascriptions extend to ascriptions of practical knowledge in certain languages.

Keywords: Knowing-how – Learning ascriptions – Intellectualism

[1] Is knowing-how, or practical knowledge, a case of knowing-that, or propositional knowledge? Intellectualism is the view that knowing-how is a case of knowing-that. Anti-intellectualists claim knowing-how is a distinct kind of knowledge, which is non-propositional.

A central argument for intellectualism proceeds from the linguistic form of sentences that ascribe practical knowledge (Brown 1970, Stanley and Williamson 2001, Stanley 2011a, 2011b). Intellectualists claim that ‘S knows how to a’ is invariably an embedded question configuration. The knowledge attributed by embedded question ascriptions is
the knowledge of the answer(s) to these questions. And since these answers are propositions, the knowledge attributed by a ‘knowing how to’ ascription is a case of propositional knowledge.

This intellectualist argument faces the objection that the embedded question analysis on which it relies applies more smoothly to English than to several other languages. Indeed, subsequent research has shown that the majority of languages, or at least of those examined in the literature so far, are not co-operative to the intellectualist argument.\(^1\) Moreover, ascriptions of practical knowledge across different languages are not the only data that has a bearing on this issue. Sentences which ascribe—what we may call—*practical learning* are just as important, at least if it is granted that learning is coming to know.\(^2\) I shall argue that the intellectualist treatment of ‘knowing how to’ ascriptions is untenable for ascriptions of practical learning: ‘learning to’ ascriptions are not embedded question configurations. Further, I shall argue that the linguistic considerations adduced here with respect to learning ascriptions have application to learning *and* knowledge ascriptions in at least two other languages (they probably apply to several others as well).

If this is correct, intellectualism does not merely face problems regarding its cross-linguistic applicability. It also fails to accommodate the systematic relationships between knowledge and learning. Notice that these problems do not threaten merely the conclusion that the intellectualist argument aims to establish. They also deepen doubts about the methodological assumption on which the argument relies: that the question about the nature of practical knowledge can be settled by focusing on the linguistic analysis of its ascriptions. This assumption is plausible only to the extent that the proposed analysis applies cross-linguistically to both verbs of knowledge and learning.

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\(^1\) Rumfitt (2003) makes this point in connection to French, Russian and Ancient Greek. Stanley (2011b, ch.6) summarizes some of the relevant data. It should be added here that similar patterns are found in Hebrew (Ginzburg 2011) and modern Greek (Douskos 2013). Since these languages are not closely related, this attests a deeply rooted cross-linguistic pattern.

\(^2\) Learning ascriptions have not been given due weight in the literature, even though they have been occasionally considered, as in Rumfitt (2003), Ginzburg (2011) and Michaelis (2011). Their bearing on the debate is properly acknowledged only in Glick (2012). Glick argues that there is a reading of ‘learning to’ ascriptions that entails ability. Glick does not directly dispute the embedded question analysis of ‘learning to’ ascriptions on linguistic grounds, which is the focus of this paper.
Some people might dispute that consideration of learning ascriptions has a direct bearing on the debate. But these people should at least allow that some philosophical importance may attach to a distinction between two kinds of learning. And in any case, since the considerations adduced here equally apply to ascriptions of practical knowledge in certain languages, this objection has limited force.

Notice also that I do not need to assume that all knowledge comes from learning, or even that all practical knowledge results from a process of learning. The assumption I need is only this: at least in some cases, practical knowledge with respect to a-ing results from learning to a. This assumption is independently plausible. And for the dialectical purposes of this paper, it helps that an assumption of this kind is endorsed in the most comprehensive statement of intellectualism, Jason Stanley’s *Know How*. Thus, if it can be shown that there is non-propositional learning in certain sorts of case, the intellectualist will be hard pressed to explain why it fails to result in non-propositional knowledge.

Let me start by outlining two distinctions that will be central in what follows. Standard accounts of embedded infinitival questions predict that ‘learning-how-to’ ascriptions, such as [1], have four readings. These stem from two different interpretations of the modality involved in the infinitive, which might be either capacitative (abilitative) or deontic, and two interpretations of the implicit subject of the embedded clause: this may either co-refer with the subject of the main clause, which gives rise to a first-personal (the so-called ‘de se’) reading, or be roughly equivalent to the (generic) ‘one’. It follows that [1] can be paraphrased by the four sentences in the table below:

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3 In fact, Stanley seems to endorse the stronger assumption that *all* knowing how to ensues from learning. In the opening sentences of his book, Stanley writes: ‘The thesis of this book is that knowing how to do something is the same as knowing a fact. It follows that learning how to do something is learning a fact. For example, when you learned how to swim, what happened is that you learned some facts about swimming’. (Stanley 2011b, vii).

4 See Bhatt (2006), Stanley and Williamson (2001), and Stanley (2011b, ch.5).

5 In the examples below ‘learn’ is couched in the present perfect. I take it that the ‘present relevance’ of the present perfect ensures that what has been learned has not been forgotten at the time of the utterance.
Hannah has learned how to drive.

<table>
<thead>
<tr>
<th></th>
<th>Deontic</th>
<th>Capacity (ability)</th>
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<tbody>
<tr>
<td>Generic ‘one’</td>
<td>[1a] Hannah has learned how one</td>
<td>[1c] Hannah has learned how one</td>
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<tr>
<td></td>
<td>ought to drive.</td>
<td>could drive.</td>
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<tr>
<td>First-personal</td>
<td>[1b] Hannah, has learned how she,</td>
<td>[1d] Hannah, has learned how she,</td>
</tr>
<tr>
<td></td>
<td>ought to drive.</td>
<td>could drive.</td>
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In the literature there is general agreement regarding two points. First, the deontic readings in [1a], [1b] ascribe knowledge or learning of a proposition; they do not ascribe practical knowledge. Second, a practical knowledge or learning ascription is first-personal; it concerns what the subject (Hannah) herself knows how to do. Thus, it is generally assumed that the closest paraphrase of a genuine practical knowledge or learning ascription is [1d].

In what follows, I shall argue that genuine practical learning ascriptions are not a case of any of these four embedded question readings, and hence that the linguistic argument for intellectualism outlined above does not work. However, in order to make a convincing case for this, I must identify beforehand the differences between the practical learning reading and the other readings in our table, and show that these differences are semantic in character. So in section 2 I argue that ‘learning to’ ascriptions are semantically distinct from ‘learning how to’ ascriptions, whether the latter have the deontic or the capacity reading. In section 3 I turn to the distinction between first-personal and generic readings, and provide the first argument against the intellectualist analysis. I show that only the first-personal interpretation is available in ‘learning to’ ascriptions, by contrast to ‘learning how to’ ascriptions where the generic reading is also available. Since it is a standard assumption that embedded question configurations make the generic reading available, this suggests that ‘learning to’ ascriptions are not

When combined with the assumption that learning is coming to know, this suggests that ‘has learned’ and ‘knows’ are near equivalents.
embedded question configurations. This is not to say, however, that all ‘learning to’ ascriptions attribute practical knowledge. In section 4, I focus on a different reading of ‘learning to’ ascriptions on which they attribute a kind of propensity or behavioural disposition to do something in certain circumstances. This is what I call the *habitual* reading. I identify the main differentiating features of the habitual reading, in order to show that it is semantically distinct from all the other readings under consideration.

Having drawn the necessary distinctions, I proceed in section 5 to the second argument against the intellectualist analysis: negation of the infinitival clause has the effect of either engendering the deontic reading in ‘knowing how to’ and ‘learning how to’ ascriptions (if not already engendered), or of engendering the habitual reading in ‘learning to’ ascriptions (if not already engendered). But in neither case does negation combine with those ‘learning to’ ascriptions that attribute practical learning. Thus we reach the first premise of the argument: it is not possible to negate the infinitival of practical learning ascriptions. The second premise is that negation is a propositional operator. The conclusion I draw in section 6 is that the semantic value of the embedded infinitival in a practical learning ascription is not propositional. In section 7 I examine how this conclusion bears on the current state of the debate on the nature of practical knowledge. Here I appeal to the fact that most points made here concerning ‘learning to’ equally apply to languages which use bare infinitives to ascribe practical knowledge, such as French, as well as languages which exhibit finite complementation, such as modern Greek.

[2] **Deontic, capacity and practical learning readings**

The paradigm case of a practical learning ascription informs us about the agent’s skills. It usually conveys that the agent is capable of doing the thing in question, and hence it involves abilitative modality:

[2] Hannah has learned to drive.

By contrast, suppose that Hannah is about to compete in a driving race, and the speaker wants to convey that Hannah has acquired knowledge of the tactics or specific ways of driving that are conducive to her winning the race. In other words, she knows in which
way she ought to drive in order to win—say aggressively. In such a case a speaker may utter [1] meaning to engender the deontic reading, and an associated proposition answers the embedded question:

[1] Hannah has learned how to drive.

Generally, the deontic reading conveys that the agent knows in which specific way she/one ought to do something so as to endow it with a certain property, such as to make it a suitable means for something else or prevent it from having certain side effects.

Now it might well be the case that Hannah has acquired all the usual driving skills, but lacks any knowledge of the tactics conducting to her winning the race. Conversely, Hannah may know all about tactics, but has never developed driving skills. (Although in this case it would be conversationally pointless to utter [1] if the speaker intends the first-personal reading). In these cases, [1] might be true while [2] false, and conversely. Thus, a practical learning ascription does not entail its corresponding deontic ascription, or conversely. Although there are pragmatic links between the deontic and practical learning readings, these are semantically distinct.

In a different context, ascriptions such as [1] engender the embedded question capacity reading. And here it might be less obvious how [1] differs from [2]. So let us consider a capacity reading of [1] on which it is still semantically distinct from [2]. Ascription [1] may be read as conveying that Hannah has propositional knowledge consisting in detailed discursive descriptions of a way of driving; she can do this by turning the wheel, changing gears etc. (Other examples might be better here: having learned how to tie one’s shoelaces might more plausibly consist in having discursive descriptions of the component movements). But on such a reading [1] would still not be semantically equivalent to [2]. There are several reasons for this:

(i) On the reading of [1] under consideration there is nothing in what Hannah has learned which is specifically about the way herself can drive or tie her shoelaces, as opposed to other people. The generic interpretation may be preferable. But as we shall see in section 3, ‘learning to’ ascriptions such as [2] make only the first-personal interpretation available. So [2] might not be semantically equivalent to [1] because the subject of the embedded verb phrase is not the same.
(ii) However, [1] and [2] are not semantically equivalent even if we fix on the first-personal reading of [1]. On the embedded question capacity reading of [1] under consideration, [1] is equivalent to [3], where the way \( w \) is discursively described:

[1] Hannah has learned how to drive.

[3] (For some way \( w \)) Hannahi has learned that \( w \) is a way in which shei can drive.

An anti-intellectualist who takes practical learning ascriptions to entail corresponding capacity ascriptions such as [4] (e.g. Glick 2012) would not accept that [1] is equivalent to [2] on the grounds that [2] entails [4], but neither of them is entailed by [3] or [1].

[2] Hannah has learned to drive.

[4] Hannah has become capable to drive.

As Stanley explains, however, [1] and [2] can be semantically distinct even on the intellectualist semantics of [2]. The main difference between [1] and [2] is the occurrence of the question word. Stanley proposes three accounts of the difference the question word makes in French infinitival knowledge ascriptions (see [5] and [6] below), which are all compatible with intellectualism. And his explanation naturally applies to the difference between [1] and [2]. On the first account, the difference between [1] and [2] is merely pragmatic. On the second account the difference is semantic: the occurrence of ‘how’ in [1] restricts its truth to those worlds where Hannah has discursive descriptions of the ways in which she can do the thing in question. But this is precisely the kind of case we have imagined which gives to [1] the embedded question reading under consideration. So the second account explains why [1] on this reading is not semantically equivalent to [2], in which there is no similar restriction (see Stanley 2011b, 139-141).

The third account is available to both sides of the debate. Roughly speaking, the idea is that the difference with respect to the occurrence of the question word between [1] and [2] affects their covert modal content, bringing [2] modally ‘closer’ to explicit capacity ascriptions such as [4], without however making [2] and [4] semantically equivalent (see Stanley 2011b, ch.5 for details). Thus, intellectualists and anti-intellectualists can agree that the failures of entailment between [2] and [1] on the reading under consideration can be accounted for in terms of the subtle semantic variability of modal constructions.

It is not hard to see why ‘learning to’ ascriptions might not entail corresponding ‘learning how to’ ascriptions on the reading under consideration, or conversely. As a
matter of fact, having learned—say—to tie one’s shoelaces does not require that the agent can discursively describe the way she does this. But this is precisely what the reading of ‘learning how to’ ascriptions under consideration requires. So [2] may well be true while [1], on this reading, would be false. Conversely, Hannah might be able to discursively describe the movements made in tying her shoelaces, without even having tried to do it herself.6

I have argued that paradigm cases of practical learning ascriptions, such as ‘Hannah is learning to play the lyre’ or [2], are semantically distinct from ascriptions which are rather evidently embedded question configurations, and in which the question word occurs. But nothing I have said so far rules out the intellectualist analysis (or at least its latest version in Stanley 2011b). It is well known that in various languages the question word tends to be dropped in practical knowledge and learning ascriptions. The disagreement is about the implications of this fact. We saw that Stanley proposes two alternative accounts on which the difference between [1] and [2] is semantic, but on which the absence of ‘how’ in [2] does not affect its status as an embedded question configuration. By contrast, an anti-intellectualist might think that the non-occurrence of ‘how’ suggests that [2] is not an embedded question construction at all. The same issue

6 There is a different embedded question capacity reading available for [1] (‘Hannah has learned how to drive’). To engender this reading we have to imagine a rather special context. Suppose Hannah’s boss does not want her to drive. But she has figured out how to make her boss change his mind—threatening to resign, say. Then [1] has a reading that conveys that Hannah knows what to do in order to get herself to drive. Here ‘how’ ranges over properties of act-processes which are distinct from the processes in which the practical knowledge ascribed by [2] is exercised: Hannah’s threatening to resign is in no way involved in the activity of driving, in the way—say— that ‘pull this loop’ is (at least part of) ‘tying these shoelaces’ (a different description of the same act-process, or of a part of it). Hence the knowledge ascribed to Hannah by [1] in such a context can hardly be the practical knowledge—or skill—exercised in the activity of driving, which is ascribed by [2]. Therefore when [1] receives this embedded question capacity reading, it would still not entail [2], or conversely. This reading is hard to hear in [1] because the embedded verb is lexically specified as an activity—as in paradigm ascriptions of practical learning in the literature (swim, ride a bike, etc.). With non-agentive achievements this reading is the preferred one: ‘Hannah has learned how to obtain the president’s approval’ would convey that Hannah knows what to do in order to get the president to agree. Here ‘knows/has learned how to a’ is understood as knowing what to do in order to get oneself or manage to a.
arises with respect to the French learning and knowledge ascriptions below (Rumfitt 2003, Wiggins 2012), as well as with languages as diverse as modern Greek (Douskos 2013) and Hebrew (Ginzburg 2011):

‘Pierre knows how to swim’.

‘Pierre knows (how) to swim’.

[7] Pierre a appris comment faire des croissants.⁷
‘Pierre has learned how to make croissants’.

‘Pierre has learned to make croissants’.

We should distinguish two different anti-intellectualist claims with regard to this issue. An anti-intellectualist might only claim that if the question word does not occur, it can be shown on linguistic grounds that the ascription does not attribute knowledge of the answer to an embedded question. But the anti-intellectualist may also make a stronger claim: only if the question word does not occur, the ascription does not attribute knowledge of the answer to an embedded question. This implies the converse claim that whenever the question word does occur, the ascription attributes propositional knowledge. In other words, the stronger claim is that a linguistic distinction, presence or absence of the question word, aligns with the distinction between the kinds of learning ascribed. However, the—weaker—negative claim is sufficient to undermine the linguistic argument for intellectualism: ‘learning to’ ascriptions are not amenable to the intellectualist analysis. But this claim is silent on whether there are ‘learning how to’ ascriptions which also attribute practical knowledge, in which case the weaker negative

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⁷ I have changed the example because there is a possible complication regarding the French ‘apprendre’ (‘learn’). The English ‘Hannah knows how to swim’ may be translated as [5]. But it is questionable whether corresponding learning ascriptions where the infinitival consists merely of an activity verb phrase are acceptable (e.g. ? ‘Hannah a appris comment conduire’). However, many similar constructions are surely well-formed; for instance ‘Hannah a appris comment jouer / se comporter’ (‘Hannah has learned how to play / comport herself’). Thus, French is different from English—if at all—from respect to the possibility of engendering the deontic reading in ascriptions such as [1], which can always be translated to French by means of an explicit modal expression.
claim might be true while the positive one false. I shall refer to these as the *Negative* and *Positive Claim* respectively. In this paper I shall concentrate on the *Negative Claim*, since it suffices to undermine the intellectualist analysis. The *Positive Claim* would provide linguistic evidence for anti-intellectualism, and I shall provide qualified support for it as well.

Both claims face apparent problems. The first problem concerns the *Negative Claim*. It is agreed on all sides that the deontic reading ascribes propositional knowledge. But the deontic reading can be engendered in the absence of ‘how’. So long as the embedded verb is ‘behave’, ‘comport’, ‘treat’ (a person), or ‘deal with’ (a person), then a deontic reading is the natural one:

> [9] Hannah has learned to behave herself.

Since I am going to argue that ‘learning to’ ascriptions do not attribute propositional knowledge, such deontic ‘learning to’ ascriptions threaten the *Negative Claim*, which is central to my argument.

The second problem concerns the *Positive Claim*. The presence of ‘how’ does not always rule out a capacity reading on which practical knowledge seems to be ascribed.

> [10] Hannah has learned how to cook healthy food.

In many contexts [10] and [11] might convey that Hannah has cultivated a capacity to figure out how to resist peer pressure, or how to make healthy meals, in various circumstances. In such cases [10] and [11] would seem to ascribe genuine practical knowledge.

In section 4 I shall suggest a response to these two apparent problems. But before doing this, I shall show in the next section that the (non) occurrence of ‘how’ is related to important syntactic and semantic properties of the kinds of ascription under consideration.

### [3] First-personal readings and control

Let us consider the second point of general agreement mentioned in section 1. The

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8 Bhatt (2006, 122) and Stanley (2011b, 114) make a related point for ‘know’. 
reading of [12] on which practical knowledge is ascribed is a first-personal reading: the knowledge ascribed concerns how Hannah herself engages in the activity (Stanley and Williamson 2001, 436; Stanley 2011b, 77, 79; Roberts 2009).

[12] Hannah knows how \text{PRO}_{arb} to drive.

The first-personal interpretation arises when the implicit subject of the embedded infinitival verb, represented as PRO in the syntactic structure, is understood to co-refer with the explicit subject of the main verb (Hannah). However, English ‘knowing-how-to’ ascriptions make also a different reading available. On that reading the implicit subject of the embedded clause does not co-refer with that of the main clause, but is roughly equivalent to the generic ‘one’ (represented as \text{PRO}_{arb}). Linguists call contexts of obligatory (subject) control the sentences in which the subject of the main clause can only be understood as co-refering with the implicit subject of the embedded clause. By contrast, sentences in which the implicit subject of the embedded clause may not co-refer with the subject of the main clause are called contexts of non-obligatory control.

Obligatory (subject) control configurations necessitate a first-personal semantic interpretation, whereas non-obligatory control configurations make available both first-personal and generic interpretations.

Now as Stanley and Williamson (2001, 423) observe and Stanley (2011b, 74) reiterates, in linguistic theory it is widely assumed that embedded infinitival question configurations are contexts of non-obligatory control.\textsuperscript{9} This is to say that infinitival embedded question ascriptions can give rise to both first-personal and generic semantic interpretations. This is why ‘Hannah knows how to drive’ is open to both interpretations: it is syntactically an embedded question configuration. But what about [2] (‘Hannah has learned to drive’) and its translational equivalents, where the question word does not

\textsuperscript{9} The consensus on this point is not unanimous. Landau (2000) argues that the implicit subject in embedded infinitival questions is not \text{PRO}_{arb}, since these are in fact Partial Control configurations: the reference of PRO includes, but need not be identical with, the subject of the main verb (typically, PRO would refer to a group of which the subject of the main verb is a member). But this disagreement does not affect the present argument. Syntactically, the presence of ‘how’ will correlate with Landau’s distinction between Partial and Exhaustive Control (i.e. where PRO co-refers with the subject of the main verb). And as Stanley points out (2011b, 75 fn.6), this distinction would still correlate with the semantic distinction between first-personal and generic readings.
occur? If it can be shown that only a first-personal reading is available for them, this would suggest that they are not embedded question configurations. Thus, I shall consider three languages, modern Greek, French and English, and ask whether the occurrence of the question word affects the available interpretations of the embedded subject.

In languages where the embedded clause in practical knowledge and learning ascriptions is finite, it is relatively straightforward to show that the absence of the question word has the effect of making only the first-personal interpretation available. In modern Greek a typical practical knowledge or learning ascription takes the form of a verb of knowledge or learning embedding a subjunctive clause (a finite clause which, in the constructions under consideration, is the translational equivalent of the English infinitive clause). Since the verbs of both the main and embedded clause are fully inflectional, the question of whether a sentence is an obligatory control configuration can be settled straightforwardly: in obligatory control configurations, lack of agreement in inflection (for person/number) between the main and embedded verbs results in ungrammaticality; in non-obligatory control configurations it does not. Now [13], where the question word does not occur, is not grammatical when the verb inflections indicate that the subject of the main and the embedded clause is not the same. By contrast, when the question word is present, as in [14], the ascription remains grammatical when the verb inflections signal that the subjects of the main and the embedded verb are different. Therefore [13] is an obligatory control configuration, by contrast to [14]. An exactly analogous point holds for verbs of knowledge. (Greek examples are transcribed):

The Hannah know.3sg subj. drive.3sg / * drive.1sg / * drive.2pl
‘Hannah has learned to drive / *(I) drive / *(they) drive’.

Notice that the fact that the embedded clause is finite by no means supports the view that it stands for a proposition. Subjunctive clauses are not independently truth-evaluable, since both the tense of the embedded verb and its subject depend on the main clause.

The Hannah know.3sg subj. drive.3sg / drive.1sg / drive.2pl
Hannah has learned how to drive / (I) drive / (they) drive’.

In French the embedded clause is infinitival. But Stanley (2011a, 229; 2011b, 138) is right to assume that only a first-personal reading is available for the French [6]. This assumption is evident in his syntactic representation of [6], where the implicit subject is co-indexed with the matrix subject. What Stanley does not take into account is that, by contrast to [6], [5] does make a PROarb reading available, in a way which is analogous to English ‘knowing-how-to’ ascriptions:

[6’] Pierre, sait PROi nager.
‘Pierre knows (how) to swim’.
[5’] Pierre, sait comment PROi/arb nager.
‘Pierre knows how to swim’.

The English [2] is likewise obligatorily first-personal, for it does not make room for a reading on which the main verb and the embedded verb have different subjects. By contrast, a PROarb reading is available in [1], in a way which is analogous to the corresponding ‘knowing-how-to’ ascriptions:

[2’] Hannah, a has learned PROi to swim.
[1’] Hannah, a has learned how PROi/arb to swim.

It is safe to conclude then that ascriptions in which ‘how’ or its translational equivalents do not occur necessarily give rise to first-personal readings, since they are obligatory control configurations. This is significant because, on the standard assumption that embedded infinitival questions are not contexts of obligatory control, it suffices to show that practical knowledge and learning ascriptions such as [2], [6] and [13] are not embedded question configurations. Hence the intellectualist analysis fails to apply to these.

However, the import of this point might be contested by appeal to Stanley’s (2011a; 2011b, ch.6) strategy in dealing with the French [6]. Stanley acknowledges that this ascription is not syntactically an embedded question configuration. But he insists that it is semantically an embedded question nonetheless, since one can compositionally derive an embedded question semantics for [6] without making use of the question word or its trace in syntactic structure. And as far as I can see, the same response is open to Stanley
in the other cases we have examined. In other words, the intellectualist may retort that he
does not have to assume that [2] and [1] (or the French [6] and [5], or the Greek [14] and
[13]) have the same syntax in order to support the claim that they both have an
embedded question semantics. He only claims that the semantic value of the embedded
clause of [2], [6] or [13] is the same (or similar) to that of an embedded interrogative.

This intellectualist response faces problems that minimise its dialectical force. In a
nutshell, these are the following. First, the obvious explanation of what in the first place
makes room for a generic interpretation in [1] appeals to the fact that the semantic value
of the embedded clause is propositional, and propositions always have a subject. So there
are two places for a subject in [1], one for the main verb and one for the embedded verb,
and the question can arise of whether these have the same referent. (In this respect,
embedded question configurations side with typical propositional attitude ascriptions that
figure overt pronouns in the embedded clause, such as ‘John knows that he is guilty’. In
both cases the subject of the main clause might either co-refer with that of the embedded
proposition or not). By contrast, the most natural explanation of the fact that [2] has only
a first-personal reading is simply that the semantic value of the complement is not
propositional. For in this case the first-personal reading would be enforced simply
because there can be no distinct embedded subject, and hence no question can arise as to
whether it co-refers with the subject of the main clause.12 Thus the most natural
explanation of the fact that [2] and its kin have only a first-personal reading is simply
that these do not ascribe learning of a proposition: they are not semantically embedded
question configurations. Whether an ascription makes the generic interpretation available
or necessitates a first personal interpretation is surely a semantic property of that
ascription. What the intellectualist has to explain is why, in contrast to ascriptions that
are (by all accounts) embedded question configurations, only the first-personal

12 Abbott (2011) argues that the phenomenon of obligatory first-personal reading suggests that the
complements of knowing-how ascriptions denote properties rather than propositions. Notice that Abbott
denies the existence of an empty pronominal element in syntactic structure, so she would not agree with
the (rather standard) way I have represented [2] as [2']. It is quite plausible to think that a thorough anti-
intellectualist treatment of [2] would have to question the usefulness of postulating a pronominal element
in ascriptions such as [2], but here I shall not explicitly address this rather complex issue.
interpretation is available for ‘learning to’ ascriptions and their kin. This question is all
the more pressing given the availability of an alternative explanation: ‘learning to’ and
their kin make only the first-personal interpretation available because they are contexts
of obligatory control. But these are not embedded question configurations. 13

Second, we should keep in mind that the dispute is about the meaning of ascriptions
such as [12] and [2] to start with, and that both sides have compositional semantic
accounts at their disposal (see Roberts 2009 for a semantics which is friendly to anti-
intellectualism). In this dialectical situation, the surface structure and syntactic properties
of [2], [6] and [13], including the absence of traces of wh-movement, become quite
important in adjudicating between the competing views. Here it should not go unnoticed
that, given the existence of differences in constituent structure between [5] and [6],
Stanley has to make certain exceptional assumptions about the syntactic representation of
[6] in order to provide for the compositional derivation of an embedded question
semantics. But as he seems to acknowledge, these assumptions lack any independent
motivation. 14

Now making exceptional assumptions about the syntax of a sentence, such

13 Notice also that Stanley’s response is plausible only if one assumes that control is to be accounted for at
the level of syntax. But this assumption has been increasingly disputed in recent research. And if
obligatory control is primarily a semantic feature of ascriptions such as [2], it is hard to see how Stanley
can insist that [2] is semantically an embedded question configuration despite its syntactic form. The
background issue here is the respective weight of syntactic and semantic factors in an account of control.
In view of the problems encountered by older syntactic theories of control, most recent accounts
increasingly appeal to semantic factors (see Culicover and Jackendoff 2005, ch.12). Roberts (2009) argues
that the syntactic theory of control adopted by Stanley and Williamson is defective and that whether an
ascription is first-personal or not depends on semantic and even pragmatic factors.
14 Stanley obtains a compositional derivation of an embedded question semantics for [6] by supposing that
“the verb ‘nager’ is associated with a free variable” (2011b, 138). Hence his proposed syntax of [6] is:
[6’ ] Pierre, sait PRO,nager x
Stanley then says:
“I remain neutral of which element of “PRO, nager x”, if any, contributes the property of being a
way to the semantic content of the whole construction. Those who do not have a phobia of
construction-specific composition rules may take it to be the result of a composition rule. Those
who do can trace it either to the verb or to the variable” (229 fn.).
Now if in order to compositionally derive an intellectualist semantics for [6] one has to appeal to a
‘construction-specific’ rule, the anti-intellectualist will simply reply that this is question begging. If the
as stipulating the existence of unarticulated constituents in view of providing for
compositional derivation, might not be illegitimate in theoretical contexts where the
meaning of a sentence is more or less agreed on (e.g. in the case of concealed question
constructions). But in the present dialectical context it is precisely the meaning of
ascriptions such as [2] which is under dispute. So in the absence of any independent
motivation for making exceptional assumptions about the syntax of [2], and given that
these are necessary to compositionally derive an intellectualist semantics, Stanley’s
response simply begs the question.

Taken together, these two points show that Stanley’s response does not only make
stipulations which have no independent basis on the constituent structure of [2], [6] or
[13], but also that in making them he predicts that these ascriptions should have a
(generic) reading which they do not in fact have. In other words, intellectualism makes
arbitrary assumptions only to reach an implausible conclusion. By contrast, anti-
intellectualism is both truer to constituent structure and makes the right predictions about
the meaning of the relevant ascriptions.

[4] The habitual reading

I have suggested that since ‘learning to’ ascriptions are contexts of obligatory control,
they are not embedded question configurations. But it is not the case that all ‘learning to’
ascriptions attribute practical learning. ‘Learning to’ ascriptions have a reading on which
what one has acquired in virtue of having learned to do something is a behavioural
disposition, a habit of some value or a character trait.

Consider the following examples:

property of being a way is traced to the verb, does that mean that in ‘J’ adore nager’ (‘I love swimming’) the verb ‘nager’ also contributes the property of being a way, and so on for all other verbs that might figure in French practical knowledge ascriptions? Finally, if it is traced to the variable, the question is: is there any independent motivation for positing its existence in the syntactic representation? Notice that in his earlier treatment Stanley openly acknowledges that the existence of this variable is stipulated: “I will suppose that [[6]] contains a free manner variable as well” (2011a, 229). It is telling that no similar issue arises in Stanley’s derivation of its English equivalent where ‘how’ occurs (2001b, 212-122). I argue in detail against Stanley’s treatment of this issue in Douskos 2013.
[15] John has learned not to speak to strangers.
[16] At last, little John has learned to be quiet in the classroom!
These are not embedded question ascriptions. But nor are they practical learning
ascriptions (if you think the latter are not a case of the former). John already had
whatever knowledge it takes to avoid strangers or not to make noise. Ascriptions [15]
and [16] convey something altogether different: that John has got himself to behave in a
certain way.

Consider now this ascription, where an ambiguity (polysemy) is exhibited. Little John
has grown up, and we can truly say:
[17] Little John has learned to get dressed by himself.
Is [17] true because John was previously too young to know how to do it himself, or is it
ture because although John already had the capacity to get dressed, he had previously
required prompting by an adult, or sought adult help or attention? Did he lack the
capacity to get dressed or the motivation to do it? Although [17] is apposite in both
cases, knowing how to do something and having the behavioural disposition to do it in
certain circumstances are recognizably different. In connection with the latter reading, all
of the following five points are important.

(a) With certain provisos relating to tense, on this reading perfective sentences entail, or
pragmatically imply, an associated habitual sentence (or generic sentence, in other sorts
of examples). Thus, from [16], and [17] on this reading, we might infer:
[18] Little John is quiet in the classroom (nowadays).
[19] Little John gets dressed by himself (nowadays).

Notice a contrast here with ascriptions of practical knowledge, skill or capacity. It makes
perfect sense to say that someone is capable of doing or knows how to do something that
he hardly ever does. But if John has really learned to be quiet in the classroom, or to get
dressed by himself, he must (by now) be regularly manifesting that disposition in the
relevant circumstances. This is why I call this reading the habitual reading of ‘learning-to’ ascriptions.15

15 David Wiggins claims that in English ‘knows to a’ is well-formed, and characterises its import in a way
that is similar to the habitual sense of ‘learn to’ distinguished here: ‘One who knows at t to V at t is one
(b) The habitual reading has a clear deontic flavour. But it is not equivalent to any explicitly deontic ascription. For we cannot infer [16] from [20]:

[20] Little John has learned that he ought to be quiet in the classroom.

[16] (At last), little John has learned to be quiet in the classroom!

On the habitual reading, it is not enough that one should have come to see that one ought to do something in certain circumstances. Regular manifestation of the disposition is also required. Little John might know full well by now that he ought be quiet in the classroom but, being the kind of boy he is, this makes no difference to his behaviour; indeed, it might make matters worse.\(^\text{16}\)

What about the converse inference, from [16] to [20]? The habitual reading seems to require that the speaker sees some value in the acquired disposition or character trait, otherwise she would not use ‘learn’. For example, we would not say that a teacher has learned to beat those pupils who fail the exams. This suggests that there is a way to infer (presumably by pragmatic reasoning) explicit deontic ascriptions, such as [20], from associated ascriptions on the habitual reading, such as [16]. There are issues regarding this suggestion, which are not relevant to my present concerns.\(^\text{17}\)

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\(^\text{16}\) Hence I disagree with Michaelis (2012, 278) who states that ascriptions such as [16] have the same meaning as their associated explicit modal ascriptions, such as [20]. Glick (2012, 124) says that the reading in question is ‘a slightly unusual deontic reading’, but in discussion he also seems to assimilate it with a reading on which [15] and [16] merely ascribe knowledge of a proposition with explicitly deontic content. These views cannot account for the distinctive features of the habitual reading outlined here.

\(^\text{17}\) The suggestion is at its strongest when the disposition ascribed has a clear moral value. One is not properly described as having learned to respect his friends, or to be kind, unless one has come to see the value of acting in this way, in which case she would assent to an associated explicit deontic proposition. Hence in such cases the inference from a suitably phrased habitual ascription to a suitably phrased explicit
first, that there is a clear contrast with practical knowledge or capacity ascriptions: in saying that Hannah has learned to drive or to operate a machine gun, or that she is able to do these things, a speaker in no way suggests, hints, or communicates that she ought to do this in certain circumstances. But most importantly, there is a clear contrast between the habitual and the deontic embedded question reading. On the habitual reading of ‘S has learned to a’, the deontic flavour arises out of the implication that S ought to a in certain circumstances. By contrast, on the embedded question deontic reading of ‘S has learned how to a’, S knows of some way that it is a/the way in which she ought to a, so as to make a-ing a suitable means for b-ing (see section 2). There is no implication here that S ought to a at all, generally or in certain circumstances. This suggests that the deontic flavour of the habitual reading has a quite different source from that of the deontic embedded question ascriptions. This is important for point (e) below.

(c) The habitual reading is signalled by two features. First, an adverbial phrase that specifies the circumstances in which the disposition or habit is manifested:
[21] Hannah has learned to drive slowly in bad weather conditions.
Second, the habitual reading is signalled by negation.18
[22] Little John has learned not to cry when his mother is away.
[23] Little John has learned not to cross the main road.
Indeed, consideration of similar examples shows that negation of the infinitival clause in a ‘learning to’ ascription rules out the practical learning reading. This will be crucial in what follows. But for now let us note that ‘learning not to a’ ascriptions signal some kind of reliable propensity to refrain or prevent oneself from a-ing in circumstances where one might be tempted, induced, or otherwise likely to a.

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18 Glick (2012, 124) observes: “The deontic reading is easier to hear under negation”. By ‘deontic’, Glick means here something on the lines of what I call the habitual reading, though he does not properly distinguish it from the embedded question deontic reading.
(d) The habitual reading is also available in other languages, with both verbs of learning and knowing. Here are two French and modern Greek examples:

[24] Pierre a appris à s’habiller tout seul.

‘Pierre has learned to get dressed by himself’.

[26] Pierre sait aider ses amis.
[27] O Petros kserei na voitha tous filous tou.

‘Pierre knows to help his friends’.

Although there are subtle variations, most of the points made in this section seem to hold for verbs of learning and knowing in languages in which the question does not occur in practical knowledge and/or practical learning ascriptions.

(e) It is impossible to obtain the habitual reading when ‘how’ or its equivalents in other languages occur in the ascription. The significance of this is that it might allow us to explain away the two problems identified in section 2, regarding the Positive and the Negative Claim respectively.

The Positive Claim is the claim that whenever the question word figures in an infinitival learning ascription, the ascription attributes knowledge of the answer to an embedded question. The problem for this claim was that ‘how’ sometimes does occur in ascriptions that seem to attribute practical learning. Now the fact that ‘how’ serves to disambiguate ‘learning to’ ascriptions against the habitual reading might explain why there might be a point in using it even when the speaker does not mean to attribute knowledge of the answer to an embedded question.\(^\text{19}\) Indeed, ascriptions which both attribute genuine practical learning and in which ‘how’ most naturally occurs seem to be precisely those in which this disambiguating function is required: [12’] would rather engender the habitual reading in the absence of ‘how’, and [11’] could be read either way:

[11’] Hannah has learned (how) to cook healthy food.

\(^{19}\) Glick (2012) makes a related point regarding the use of ‘how’ in English knowing-how ascriptions. However, I think that this suggestion is quite weak with respect to ‘knowing how to’ ascriptions, since the ‘knowing to’ construction is quite rare, even if we allow that it is good English.
Hannah has learned (how) to resist peer pressure. By contrast, in an ascription such as [2] (‘Hannah has learned to drive’) the deontic reading is not forthcoming (at least in usual contexts), and hence the present suggestion explains why the question word would not occur when the speaker intends the practical learning reading. However, this is not to say that it will always be clear whether the use of ‘how’ has this disambiguating function. Due to the interaction of the various factors involved, speaker’s choices regarding the use of ‘how’ might be to some extend unpredictable.

Let us turn now to the problem for the Negative Claim, the claim that whenever the question word does not occur in an ascription this ascription does not attribute propositional knowledge. The problem was this: it is agreed on all sides that deontic infinitival ascriptions are embedded question configurations. But [14] is a deontic ascription where ‘how’ does not occur.[9] Hannah has learned to behave herself. However, now we can see that the deontic import of [9] is that associated with the habitual reading. It is not the deontic reading associated with infinitival embedded questions. This is shown by the fact that [9] follows the inferential patterns we have identified in relation to the habitual reading above. [9] would not be true in cases where all Hannah has learned is how she ought to comport herself in various situations (or generally), but her actual behaviour across a range of relevant occasions has shown no significant improvement. In such a case, the speaker would express herself in such a way as to withhold commitment to the reliable manifestation of the associated dispositions or character traits. One way to do this would be to utter [28], where Hannah’s actually behaving properly is at best an implicature:

[28] Hannah has learned how to behave herself.

Conversely, if the deontic import of [9] were the one associated with embedded questions, [9] would be rendered as [29]:

[29] For some w, Hannah has learned that w is a way in which she ought to behave herself. However, [29] is (at best) the correct rendering of [28], and surely not of [9].
The upshot is that the deontic embedded question reading is not available for ‘learning to’ ascriptions: these either ascribe practical learning or have the habitual reading.

[5] **Negation in practical learning ascriptions**

In this section I argue that the infinitival clause in practical learning ascriptions cannot be negated: negation engenders either the embedded question deontic reading (if not already engendered) or the habitual reading (if not already engendered).

In his comprehensive treatment of modality in embedded infinitival contexts, Bhatt shows that ‘the presence of negation in the embedded infinitival clause brings out the *should* reading’ (2006, 145, italics in the original). In other words, when negation scopes over the infinitival it is not possible to obtain the capacity reading. Thus we should expect that the infinitival clause can be negated in ascriptions which feature question words that make only the deontic reading available, such as ‘which’, ‘why’ or ‘who’. (Bhatt himself considers only knowledge ascriptions):

[34] Hannah knows which screwdriver not to use (when fixing this machine).
[35] Hannah knows whom not to invite to the party.

Now Bhatt’s point is that even in ascriptions that would otherwise engender the capacity reading, negation has the effect of switching the modality involved to deontic. Consider the following ascriptions:

[12’] Hannah knows how to drive.

The ability reading comes more naturally in [12’]. Bhatt’s point is that it is not available at all in [32], which only allows the deontic reading. The import of [32] is that Hannah knows that she/one should not drive in certain ways, as opposed to others—say she ought not to drive carelessly.\(^{20}\)

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\(^{20}\) There is a complication regarding Bhatt’s generalization. In a rather special context, ascriptions such as [32] can engender an ability reading which is the negated equivalent of the second embedded question capacity reading distinguished in section 2 fn6. Let us modify the context we imagined there: suppose now that [32] is uttered on some occasion where Hannah is under pressure to drive from her boss, and she has
Let us turn now to learning ascriptions. A learning ascription where the infinitival consists merely of an activity verb phrase would usually suggest the practical learning reading when ‘how’ does not occur, though in certain contexts the habitual reading might also be forthcoming.

[2] Hannah has learned to drive.

[33] Hannah has learned to cook pasta.

By contrast, when ‘how’ occurs, the ascription will usually engender the deontic reading, as in [1] (‘Hannah has learned how to drive’).

Let us now consider what happens when the infinitival phrase is negated. In ascriptions where ‘how’ is used, the import of negation is analogous to that in knowing-how ascriptions, except for the fact that in this case the deontic reading will usually be already engendered by the use of ‘how’:

[34] Hannah has learned how not to drive.

figured out that she can avoid doing this by, say, protesting loudly. In such cases, the unembedded counterpart of ‘Hannah knows how not to a’ is ‘Hannah knows that she/one can avoid a-ing by b-ing’. In the case of learning ascriptions this reading is only available when ‘how’ figures in the ascription. Therefore, this reading by no means threatens the point made in this and the next section regarding negation, which concerns only obligatorily first-personal ascriptions. But in fact this reading does not even threaten the conclusion that the embedded clause of ‘knowing how to’ and ‘learning how to’ ascriptions which attribute practical learning, cannot be negated. For it is straightforward to show that this negated capacity reading is an embedded question one, on the basis of the considerations adduced in section 2: on this reading ‘how’ in [32] ranges over properties of act-processes which are distinct from those in which the practical knowledge ascribed by [12] (‘Hannah knows how to drive’) is exercised. On occasions where the knowledge ascribed by [32] is successfully exercised, there will be an action describable as a loud protest by Hannah, but none describable as driving. Hence the knowledge ascribed by [32] cannot concern the activity of driving. In order to accommodate this reading, we could amend Bhatt’s generalization as follows: negation of the infinitival clause engenders either the deontic reading, or this preventive reading. This does not pose any problem since it is straightforward to distinguish the preventive from the practical knowledge reading on semantic grounds: ‘S knows/has learned how not to a’ on the preventive reading entails, and is entailed by, ‘S knows/has learned, of some way w, that w is a way for her/one to avoid (refrain from, resist etc.) a-ing’. I will simplify things by ignoring this complication in what follows.

Below I contrast the obligatorily first-personal ascriptions [36], [37], [38], [39], [40] and [41] with their embedded question deontic counterparts, but the contrast with the preventive reading would not be less stark.
Hannah has learned how not to cook pasta. But what is crucial for the argument of this paper is what happens when ‘how’ does not occur, that is, in obligatorily first-personal ascriptions. Here the presence of negation makes the habitual reading the only one available. This is even clearer in the presence of the second feature that signals this reading, an adverbial phrase specifying circumstances:

Hannah has learned not to drive (when the visibility is poor).
Hannah has learned not to cook pasta.

By contrast to the deontic, [36] does not ascribe knowledge to Hannah of which ways are not appropriate for her to engage in the activity of driving. It conveys that Hannah does not engage in that activity at all, or under those specified by the adverbial phrase. Similarly, [37] does not mean that Hannah has learned which ways are not appropriate for cooking pasta. It conveys that Hannah has changed her cooking habits for the better. Perhaps she has finally got herself to abide by her doctor’s advice.

Negation has the exactly the same effect in obligatorily first-personal learning and knowledge ascriptions in French and modern Greek.

Pierre a appris à ne pas conduire.
O Pierre ehi mathi na min odhiji.
‘Pierre has learned not to drive’.

Pierre sait ne pas révéler ses secrets.
O Pierre kseri na min apokalipti ta mystika tou.
‘Pierre knows not to reveal his secrets’.

[38] and [39] say that Pierre has learned to abstain from driving generally (as above, by adding an adverbial phrase we may restrict this to certain circumstances); they do not ascribe to Pierre knowledge of which ways are not appropriate for him to drive. Similarly, [40] and [41] register an acquired disposition to refrain from revealing secrets.

Consideration of similar examples shows that negation of the infinitival clause in ‘learning to’ ascriptions, as well as in their equivalent learning and knowledge ascriptions in French and Greek, engenders the habitual reading (if not already

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21 [36] is not falsified by the fact that Hannah did drive in some emergency situation. This seems related to the fact that the truth of habituals tolerates exceptions.
engendered). Since, as we saw in section 4, ‘learning to’ ascriptions can only have either the habitual or the practical learning reading, this shows that ‘learning not to’ ascriptions cannot have the practical learning reading. Thus, practical learning ascriptions do not allow for negation to scope over the embedded infinitival. In this respect, they contrast with both their deontic counterparts and with all other kinds of learning $wh$-ascriptions. In the next section I shall argue that this difference can only be explained by supposing that the semantic value of the embedded infinitival in practical learning ascriptions is not propositional.

[6] Implications for intellectualism

It is generally agreed that the dispute between intellectualists and anti-intellectualists can be characterised as follows. The intellectualist takes a knowing-how-to ascription to mark a relation between a person and a proposition. By contrast, the anti-intellectualist takes the second term of the relation to stand for a simpler kind of object, an activity or type of action. A salient difference is that expressions standing for activities do not have the internal predicate-argument structure of propositions. Hence the dispute concerns the basic logical form of practical learning ascriptions:

[Intellectualism] $\text{LEARN} < S_i > < \text{for some way } w, S_i \text{ could } a \text{ in } w >$

[Anti-intellectualism] $\text{LEARN} < S > < a-\text{ing} >$

However, both sides agree that deontic embedded question ascriptions are analysed as propositional attitudes:

[Deontic] $\text{LEARN} < S_i > < \text{for some way } w, S_i \text{ ought to } a \text{ in } w >$

Thus, according to the intellectualist, deontic and practical learning ascriptions have the same logical form; the anti-intellectualist denies this. So the question for the intellectualist is why, as we saw in the previous section, the presence of negation affects ‘learning to’ (practical learning) ascriptions and deontic (embedded question) ascriptions in a completely different way. To make progress with this question we have to take into account the scope of negation. Consider again [34]:

[34] Hannah has learned how not to drive.
Suppose that the (only) contextually salient answer to the embedded question is ‘with one hand’. There are two possible non-embedded counterparts in this case, the wide scope reading and the narrow scope reading of negation with respect to the embedded clause, given by [42] and [43] respectively:

[42] Hannah has learned that it is not the case that she/one ought to drive with one hand.
[43] Hannah has learned that she/one ought not to drive with one hand.

I think it will be agreed that the narrow scope reading is the correct reading of deontic embedded question ascriptions such as [34]. But to fend off possible objections, I will first consider the wide scope reading. In this case negation of the embedded clause operates on the proposition(s) that is the semantic value of that clause. What [Intellectualism] cannot explain is why it is not possible to obtain a corresponding wide scope ability reading for a ‘learning not to’ ascription. For as we saw, [36] only has the habitual reading, and hence could by no means be equivalent to [44], as predicted by [Intellectualism]:

[36] Hannah has learned not to drive.
[44] Hannah has learned that it is not the case that she could drive with one hand.

Let us now turn to the narrow scope reading. On this reading, negation affects only the predicate of the proposition that answers the embedded question: the deontic [34] (‘Hannah has learned how not to drive’) is read as [43] (‘Hannah has learned that she/one ought not to drive with one hand). What [Intellectualism] cannot explain is why it is not possible to obtain an ability reading analogous to the deontic [43] when negation figures in a ‘learning to’ ascription, as in [36]. For [36] has only the habitual reading, and could by no means be equivalent to the abilitative [45], as predicted by [Intellectualism]:

[36] Hannah has learned not to drive.
[45] Hannah has learned that she could not drive with one hand.

Here’s another way to make the same point: according to [Intellectualism], the second term of the propositional attitude relation in a practical learning ascription is <for some

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22 I set aside certain difficult issues here, for it seems that there are subtle differences as to how the scope of negation interacts with the scope of deontic and ability modals respectively. But these complications do not matter here. The point is that however one construes a non-embedded abilitative, such as [45], it will not be equivalent to the habitual [36].
way \( w \), \( S \) could \( a \) in \( w \). This evidently allows negating the predicate, in the same way as its deontic counterpart [43]. But this operation of negation in a practical learning ascription such as [2] (‘Hannah has learned to drive’) engenders the habitual reading, as in [36]. It can never ensue in an infinitival ascription semantically equivalent to [45], as predicted by [Intellectualism]. Given that there is no other relevant difference between embedded deontic and practical learning ascriptions, the only way to explain the linguistic data involves the denial of [Intellectualism].

At this point one could ask how [Anti-intellectualism] can explain the point about negation. Here I can only make some suggestive points, which by no means amount to a comprehensive explanation of the relevant data. According to the anti-intellectualist, the basic form of ascriptions such as [7] is such that the infinitival clause stands for a simple kind of object, an activity or type of action.

[Anti-intellectualism] LEARN\(<\text{Hannah}\> <\text{driving}\>

Here the infinitival phrase does not consist in a further (embedded) predicate denoting a relation between the agent, a type of action and a way. Therefore, according to [Anti-intellectualism] the reason why it is not possible to negate the infinitival phrase of a practical learning ascription so as to obtain the equivalent of the deontic narrow scope reading is that the second term of the LEARN relation is \(<a\text{-ing}\>\), and this does not have the internal predicate-argument structure of a proposition for negation to operate on. Thus [Anti-intellectualism] correctly predicts that the operation of negation in [2] (‘Hannah has learned to drive’) does not ensue in an infinitival ascription semantically equivalent to the abilitative [45]. In fact, since [Anti-intellectualism] denies that the embedded infinitival is semantically a proposition, it would only be possible that negation operates on the second term of the LEARN relation, \(<a\text{-ing}\>\), as a whole. But what could one hope to convey by the resulting reading? On that reading, the logical form of the second term of the relation denoted by LEARN would be \(<\text{NOT } a\text{-ing}\>\). But it does not make sense to say that one is learning \(<\text{NOT } \text{driving}\>\). Activities do not have negative counterparts. Or at least, these cannot be unfailingly obtained simply by the operation of negation, as in the case of propositions. One can be learning, practicing or improving at the activity of playing the lyre, driving or swimming, but not at non-swimming or non-driving, or non-playing the lyre. Talk of negative activities that are the
objects of practical knowledge is unintelligible. The above suggests that [Anti-intellectualism] has a natural explanation of the fact that it is not possible to negate the infinitival in a practical learning ascription. However, much more should be said in order to substantiate an anti-intellectualist analysis of the ascriptions under consideration, and the points above are meant to leave open the available options for the anti-intellectualist.23

Now we saw that the points made above with respect to the distinction between practical learning and habitual reading in English learning ascriptions, as well as with respect to the effect of negation in engendering either the deontic or the habitual reading, equally hold for both learning and knowledge ascriptions in French and modern Greek. The arguments in this section apply to learning and knowledge ascriptions in these languages as well. We also saw that in all these languages, the equivalents of ‘learning to’ and ‘knowing (how) to’ ascriptions are often ambiguous between the practical learning and the habitual reading. But the habitual reading is unfailingly engendered when negation scopes over the infinitival phrase. This cross-linguistic pattern suggests that the corresponding practical knowledge or learning reading is unavailable for conceptual reasons. And the best explanation seems to be that the knowledge or learning ascribed does not have a propositional object.

[7] Practical knowledge

23 I mentioned that Abbott (2011) argues that the phenomenon of obligatory first-personal reading suggests that the complements of knowing-how ascriptions denote properties rather than propositions. However, an anti-intellectualist may take a different line. Hornsby (2016) also argues that the infinitival complements under consideration cannot stand for propositions, but she denies that they stand for properties. [Anti-intellectualism] can be developed in either way. Notice, however, that on either approach one could question whether we should postulate an empty pronominal subject in ‘learning to’ ascriptions (Hornsby 2016, Abbott 2011, as well as Roberts 2009 agree on this point). In this paper I do not do this, but notice that as I have represented the basic logical form of [Anti-intellectualism], the second term of the LEARN relation does not have a place for a subject.
I have given two different arguments to the effect that the anti-intellectualist is in a better position to account for certain features of practical learning and knowledge ascriptions in various languages. We saw that [Intellectualism] cannot explain why the type of ascriptions under consideration cannot have a generic reading; and it cannot explain why negation cannot scope over the embedded infinitival. According to [Intellectualism], both should be possible, since it claims that the ascriptions under consideration are embedded question configurations. By contrast, these two points seem to be naturally explained by [Anti-intellectualism]. For if the second term of the relation denoted by the ascriptions under consideration is not propositional, then first, a first-personal reading would be enforced because this second term does not have a place for a subject, and hence it is not possible that the subject of the matrix verb and the embedded verb phrase are different. Second, negation cannot scope over this second term because its semantic value does not have the predicate-argument structure for negation to operate on, as in the case of propositions. Thus, the points about negation and the obligatoriness of a first-personal reading when taken in combination constitute significant evidence against [Intellectualism] and in favour of some anti-intellectualist alternative. Hence the evidence adduced above suggests that [Anti-intellectualism] is better placed to provide a uniform cross-linguistic account of practical knowledge and learning ascriptions, as well as to make sense of the intuitive idea that in learning to do something one is acquiring practical knowledge.

The weight of these arguments depends on the extent to which they apply to the different ascriptions that are relevant to this debate. I have taken into account ‘learning’ to ascriptions, as well as ascriptions of practical knowledge and learning in French and modern Greek. I have also provided some evidence against taking English practical knowledge ascriptions to be (semantically) embedded questions: the embedded infinitival of a ‘knowing how to’ ascription cannot be negated while maintaining its practical knowledge reading: a ‘knowing how not to a’ ascription is deontic.24 Given that the non-occurrence of the question word is a common feature of several other languages, it is reasonable to presume that the two arguments above will apply there as well, but more cross-linguistic research is needed. Moreover, the project of supporting anti-

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24 Or else it has the preventive reading outlined above.
intellectualism on linguistic grounds depends on the extent to which a comprehensive cross-linguistic anti-intellectualist account of the two points above can be given, as well as on the extent to which the linguistic marks of the distinction are distributed in roughly similar fashion in different languages. It is risky to make any prediction here (even if we set ‘knowing-how’ aside), given the complex interaction of the various factors involved. But here we should keep in mind that anti-intellectualism was never primarily motivated by linguistic considerations. The points above against the central argument for intellectualism will be relevant even if it turns out that it is not possible to articulate a satisfactory (cross-) linguistic argument for anti-intellectualism. For in such a case these arguments would suggest that linguistic considerations do not lend decisive support to either side, and hence that the question of the nature of practical knowledge should be decided on different grounds.

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