**Practical knowledge and linguistic competence[[1]](#footnote-1)**

Annalisa Coliva

University of California Irvine

Department of Philosophy

1. **Introduction**

Eva Picardi has introduced hundreds of Italian students to analytic philosophy, the discipline she has eminently represented at the University of Bologna for several decades. I had the fortune to be among them and to be supervised by her for my MA dissertation and for my doctoral thesis for the PhD in Philosophy of language I received from the University of Vercelli. Over the years, she has been an unfailing support and source of encouragement and a close and dear friend. It is therefore an honor for me to contribute to her *Festschrift*.

One of Eva’s classes I took in the Department of Philosophy of the *Alma Mater* was on the topic of rule following. In those very years, the late Roberto Dionigi was teaching on Ludwig Wittgenstein. Eva and Roberto were united by deep friendship and great professional respect, as well as by the propensity to take Wittgenstein, in particular the “later” Wittgenstein, very seriously. Those classes influenced me deeply. Afterwards, my studies led me partly in a different direction, as I became more and more interested in epistemology. Yet, even there, Wittgenstein’s influence was palpable. For I ended up developing a form of “hinge epistemology” and was inspired by Wittgenstein’s remarks on our knowledge of our own mental states in my development of a pluralistic account of self-knowledge.

The present paper attempts a synthesis between those apparently distant areas of philosophy—epistemology and the philosophy of language—in a broadly Wittgensteinian perspective. I will focus on the topic of our knowledge especially of the syntactic rules of a language and I will address this problem by considering Noam Chomsky’s position, according to which, such knowledge is propositional and innate—or, to use Michael Dummett’s terminology, “unconscious”.[[2]](#footnote-2) Eva herself has addressed Chomsky’s views on language in her paper “Is language a natural object?”,[[3]](#footnote-3) where she has developed an interesting comparison between Chomsky, Davidson and Dummett, favoring Dummett’s position with respect to language. By contrast, I will focus mostly on Chomsky’s view that linguistic knowledge is propositional. This conception is explicitly opposed to the one, developed by Gilbert Ryle and Ludwig Wittgenstein, according to which, at bottom, the rules that govern our linguistic behavior are acquired through learning and their knowledge constitutes an example of practical knowledge, or *know how*.[[4]](#footnote-4) It is important to stress that even though for Wittgenstein and Ryle these rules can be made explicit, at least in some cases, what counts in order to be a competent speaker is not so much to know them propositionally, as to know them practically. That is to say, what counts is to be able to do what these rules prescribe. I can know that, in Italian, in front of feminine plural nouns one needs to use the article “le”; I can even repeat that rule to myself or produce it if requested by others, still it remains that in order to count as a competent speaker, I need to be able to do what it prescribes. That is to say, I must be able to use that article and not a different one when I speak or write Italian, while I am making use of a feminine plural noun. Furthermore, I would count as a competent speaker of Italian if I so used that article, even if I were unable to make that rule explicit or even though I explicitly denied that rule.

If we look at the Wittgenstein-Ryle view in this way, it echoes one of the themes raised in Lewis Carroll’s celebrated paper “What the tortoise said to Achilles”.[[5]](#footnote-5) The tortoise accepts “P” and “If P, then Q”, but she does not do what the acceptance of those premises seems to force her to do—that is, inferring that Q—even if she is disposed to assent to the general rule “Given P and given if P then Q, Q”. Hence, even if she propositionally knows the rule, she does not know how to infer according to *modus ponens*. Similarly, I think, the Wittgenstein-Ryle view highlights the fact that to speak a language consists in knowing how to do something—it consists in a practical kind of knowledge. More specifically, it consists in doing what the rule *makes explicit*, not in having the rule in mind and in actually being guided by it as one speaks. Nor does it consist in having it stored somewhere in one’s mind or in having it codified somewhere in some part or the other of one’s brain. This kind of know how, then, pre-exists, and is largely independent of, the ability to formulate the rule. But if the rule does not guide us explicitly, nor is it somehow unconsciously guiding us, the very idea that it has to be there—in our minds, or even in our brains, either at the personal or at the subpersonal level—evaporates. I believe that at bottom the Wittgenstein-Ryle view calls for the demise of the idea that linguistic competence is actually *guided* by those rules. Still, speaking a language is a rule-governed practice in the following sense. Our linguistic practice is regular. That is to say, it is not random, it is socially shared and it is repeated over time. Hence, we can elicit a rule from it. The eventual formulation of the rule allows us to best explain and make sense of what is going on in our practice. Indeed, an explicit formulation of the rule can be used, at times, to have the rule “enforced”, when someone breaks it, as it were. Yet, the rule does not pre-exist the linguistic practice and it is not what actually guides speakers when they behave in conformity with the rest of their linguistic community. Indeed rules can change if the practice changes. Again, it is only if several people, over a certain amount of time, linguistically behave a certain way that a new linguistic rule is initiated. Still, in such a perspective it makes little sense to think that linguistic competence consists in having knowledge—let it be innate, implicit or unconscious knowledge—of a rule.

Now, the general epistemological issue of the nature of practical knowledge and know how has recently come to the fore thanks to the work of Jason Stanley and Timothy Williamson.[[6]](#footnote-6) As is well-known, Stanley and Williamson have maintained that practical and propositional knowledge are not categorially distinct and that in fact the former is a subspecies of the latter. The debate initiated by Stanley and Williamson’s provocative paper has sometimes veered into elusiveness and it has suggested several compatibilist positions. In the rest of this paper, I would like to side with Wittgenstein and Ryle and, above all, to insist that, if we take the idea of practical knowledge seriously, we have to acknowledge that it is irreducible to propositional knowledge,[[7]](#footnote-7) both in the case of linguistic competence and in general.

The structure of the paper is as follows. I begin by introducing the distinction between practical and propositional (or theoretical) knowledge. Then I consider some objections to it, with special attention to the ones put forward by Stanley and Williamson. Afterwards, I briefly summarize Chomsky’s position on linguistic competence—a position that, as mentioned, is based on the idea that linguistic competence eventually consists in propositional knowledge. Finally, I criticize both the theoretical and the empirical arguments Chomsky puts forward in favor of his view and present some observations in favor of the idea that linguistic competence is ultimately practical.

1. **Practical and propositional knowledge**

The distinction between practical and propositional knowledge is often illustrated by means of examples such as “John knows that Paris is the capital of France” and “John knows how to ride a bike”. In the former case, we can say that John knows that Paris is the capital of France because, roughly, (i) he believes the proposition that Paris is the capital of France, (ii) that proposition is true and (iii) he has a justification (usually of a testimonial nature) to believe that Paris is the capital of France. In the latter case, in contrast, the fact that John knows how to ride a bike does not depend on his believing certain propositions (those which jointly describe everything which is necessary and sufficient to do in order to ride a bike) and on his having a justification for each of them. Rather, it depends on his being able to do what one is required to do in order to ride a bike: he can get on a bike and balance, he can steer the handlebars, use the breaks, etc.

To know how to ride a bike, therefore, consists in having a series of abilities—that is, those which allow us actually to ride a bike. Sometimes, however, these abilities cannot be manifested for a variety of reasons. Yet, they would still exist. For example, John can break his leg and be no longer able to ride a bike. This does not necessarily mean that he has lost the ability (or the capacity) to do so. It simply means that for contingent reasons he cannot manifest his ability. However, it is important to stress that as long as those impeding factors can be removed and that, once removed, John can still ride a bike (perhaps after a little bit of exercise and rehabilitation), he still counts as having the ability.

An account of practical knowledge in terms of abilities (or capacities) is sometimes enriched by the observation that we manifest the ability to do *x* not just by doing *x* but also by doing things which are connected to it. In particular, being able to explain how to do *x* is taken to be sufficient for having the ability.[[8]](#footnote-8)

Such a dispositional analysis of practical knowledge is sometimes considered superior to that in terms of abilities because it would allow us to say that we have actually lost the ability when we are not in a position to manifest it, without entailing that we no longer know how to do that thing. For example, John would still count as someone who knows how to ride a bike, even though, given his broken leg, he has no longer the ability to ride the bike, for he would still be able to explain how to do it.

This argument, however, is weak. If John does not have the ability to ride a bike because of his broken leg, it is not clear why we should say that he still knows how to ride a bike. If we still want to say so, I surmise, it is rather because we think that he retains the ability and that, once recovered from his injury, he will be able to manifest it again. Hence, rather than preferring the dispositional analysis of practical knowledge to the one in terms of abilities, it seems better to keep the latter and say that if John has a broken leg, he still has the ability to ride a bike—he still knows how to do it—provided the impeding factors are passing ones and that, once gone, he can still ride the bike.

That the mere disposition to explain how to do something is not sufficient (and, to my mind, not even necessary) in order to know how to do that thing is clear if we think of those experts in sports or music, who know everything, *theoretically*, about how to smash, in tennis, say, or about how to play an instrument, but who cannot actually do any of these things. The kind of know how we are really after is not theoretical knowledge of how to do something. Rather, it is that kind of knowledge one possesses just in case one is practically able to do that thing, even if one were momentarily prevented from doing it, due to contingent impeding factors.[[9]](#footnote-9) If, in contrast, those inhibiting factors persisted, they would actually annihilate our practical knowledge, or know how, while they could leave our theoretical knowledge of how to do that given thing intact. A former tennis player can be no longer able to play tennis due to age limitations, which prevent her from doing the movements playing tennis requires. Yet, she can still possess theoretical knowledge of how to do or not to do certain movements, or of how to tactically play a match, etc. and she may pass on this knowledge to other players. Even so, none of this turns her knowledge into a practical kind of knowledge. Rather, it remains a case of theoretical knowledge, acquired by reflection on a practice, of how to do all those things.

Another way to grasp the distinction between practically knowing how to do something and having theoretical knowledge of how to do it is to think of how the relevant practical abilities are normally acquired. Very often, we need to teach the body, or a part of it, how to make certain movements. This training usually consists of preparatory and intermediate exercises, which eventually put us in a position to do what we are supposed to do. They also very often involve endless repetitions, so that the movements becomes “automatic”.[[10]](#footnote-10) The training may be accompanied by some explanation of how to do certain things, but it need not and clearly it does not consist in acquiring an explanatory ability.

Hence, I submit that overlooking the distinction between practical and theoretical knowledge of how to do something has led several theorists to think that practical knowledge could consist in knowledge of a series of propositions. Ryle considers this a form of “intellectualism”. In its simplest form, intellectualism has it that knowing how to ride a bike, how to speak a language or how to play tennis consist in knowing a series of propositions (perhaps in some particular way). For instance, to know how to ride a bike would be equivalent to knowing the propositions that describe correctly and completely whatever is required for one to be able to ride a bike; whereas to exercise one’s practical knowledge of each of these activities would consist in executing the relevant actions.

If practical knowledge is equivalent to knowing a series of propositions, it might seem that subjects should be able to produce or assent to them. So, once again, if knowing how to ride a bike is equivalent to knowing propositions such as “I have to get on the bike”, “I have to balance myself”, “I have to steer the handlebars” and “I have to use the breaks to stop”, etc., a way of testing this thesis would be to check whether the people who can actually ride a bike would be able to produce such a list of propositions, or at least assent to them. That does not seem to be the case, though. People who can ride a bike may not be able to produce (or just assent to) this list of propositions. Besides, they might be able to ride a bike long before having the conceptual sophistication needed even to grasp these propositions. Children may be able to ride a bike at age three and yet have none or very few of the concepts they would need to grasp those propositions. Conversely, many people who do not know how to ride a bike would be able to produce the above-mentioned list of propositions. What people who know how to ride a bike can do and those who do not know how to do it cannot do is actually to perform the actions described in that list. Moreover, people tend to give the wrong answer to questions regarding how they do things they are actually perfectly able to do.[[11]](#footnote-11)

A natural way for intellectualism to resist this argument is to reject the premise that any propositional knowledge is either explicit or such that one could make it explicit if there need be. According to Jerry Fodor, who supports this strategy, “certain of the anti-intellectualist arguments fail to go through because they confuse knowing that with being able to explain how” (1968, p. 634, quoted in Fantl 2012). Hence, according to him, practical knowledge could well be an instance of *tacit* propositional knowledge, which could not be made explicit.[[12]](#footnote-12)

In response to Fodor, one may notice that the data in cognitive psychology at our disposal do not simply show that when people know how to do something, like riding a bike, they are unable to explain how they do it. Rather, they actually *deny* that they do those things in the way our best explanations tell us they actually do them.[[13]](#footnote-13) This seems *prima facie* decisive evidence against intellectualism. However, one might want to insist—and Fodor and Chomsky, as we shall see, seem to agree with that—that tacit or “unconscious” knowledge—to use Dummett’s terminology—is compatible with the fact that those who possess it deny its content.

The issue is clearly elusive. For intellectualists will insist that a subject possesses tacit knowledge of a proposition even when she is disposed to denying its content. Anti-intellectualists, in contrast, will insist that it looks like a leap of faith to hold that a subject knows that P, however tacit her knowledge might be, if she denies that P. They will maintain, instead, that that subject knows practically how to do something, while not knowing the proposition that P.

The most powerful argument put forward in favor of intellectualism is due to Stanley and Williamson (2001). What attracts their attention is the symmetry between practical knowledge ascriptions and attributions of other kinds of knowledge regarding subjects, places, times, reasons, etc. That is, the kind of knowledge-ascriptions that concern *wh-questions*. For instance, just as we say

1. John knows how to ride a bike

we do say

1. John knows where the bike is;
2. John knows who was the last person to ride the bike;
3. John knows why they stole the bike, etc.

An approach to relative clauses, which treats all of them on a par, has a pleasing theoretical simplicity. Furthermore, the relevant literature in linguistics seems to converge on the idea that these constructions should be treated in terms of propositional knowledge. Stanley and Williamson maintain that these sentences should be interpreted as follows.

(2\*) John knows, of a place *l*, that *l* is the place where the bike is;

(3\*) John knows, of a person *s*, that *s* is the person who was the last one to ride the bike;

(4\*) John knows, of a reason *r*, that *r* is the reason why the bike was stolen, etc.

It thus seems natural to hold that we should account for ascriptions of practical knowledge in a similar way. Hence,

(1\*) John knows, of a way *w*, that *w* is a way of riding a bike.

There are several problems with this strategy. For one thing, one might want to notice that what epistemologists are really interested in is knowledge, let it be propositional or practical, not knowledge *ascriptions*. That may well be a very interesting topic in the philosophy of language, but it does not necessarily show anything relevant to epistemological concerns regarding allegedly different kinds of knowledge. After all, it is not surprising that if we *call* both propositional and practical knowledge “knowledge” the relevant ascriptions could be reconstructed as having the same logical form—in particular, it is not surprising that the verb “to know” (and its cognates) will govern the same kind of grammatical constructions. That, however, does not show that the *properties*, picked out or ascribed by “knowledge” (and its cognates) in the two locutions and ascribed in knowledge ascriptions, are identical. Nor does it show that the very *concept* expressed in the two cases is the same. It might, but, surely, that cannot be argued for just by noticing a linguistic analogy. No more than noticing a linguistic analogy could be used to claim that the bank of the river and the Royal Bank of Scotland, say, are the same thing (or different species of the same kind). Indeed, on some contextualist positions, and on several pluralist positions the very same linguistic forms often conceal crucial conceptual and metaphysical differences.[[14]](#footnote-14)

More importantly, however, one can know a way *w*, which is a way of riding a bike, or of playing Bach’s *Well Tempered Clavier*, without thereby being able to ride a bike or to play Bach’s *Well Tempered Clavier*. Saying, as Stanley and Williamson do, that *w* is a “practical” way of doing *x* does not really solve the problem. For either we are presupposing that those who know *w* have practical knowledge, in which case we are not reducing practical knowledge to propositional knowledge, but we are simply re-describing it, by saying that it consists in *practically knowing* a way *w*, which is a way to ride a bike.[[15]](#footnote-15) Or else, we are saying that those who know this practical way *w*, know it propositionally. As we saw, however, this does not suffice to put one in a position actually to ride a bike. To repeat, you may know theoretically the practical way in which, say, Glenn Gould plays Bach’s *Well Tempered Clavier*, without thereby being able to play the *Well Tempered Clavier*, let alone play it the way Gould does. Similarly, you can know how a tennis player smashes, without thereby being able to smash, let alone in that particular way.

It follows, then, that practical knowledge is not reducible to propositional knowledge and that the former consists in having certain abilities, which are either manifest or such that one can exhibit them once the contingent factors that might have inhibited their manifestation are removed.

1. **Chomsky: Plato’s problem and linguistic competence as propositional knowledge**

According to Chomsky, language is an exclusive prerogative of the human species, which seems to be part of our biological endowment and which presents only minimal variations among human beings, except for some severe pathologies. According to Chomsky, a person who speaks a language has developed a system of knowledge, associated to certain mental representations, and ultimately physically realized in the brain. The relevant questions, which should guide a scientific study of language therefore are:

1. What’s this system of knowledge? What is there in the mind/brain of a speaker of English (or of any other language)?
2. In which way does this system of knowledge arise in the speaker’s mind/brain?
3. How do we use this system of knowledge when we speak (or write)?
4. What are the physical mechanisms which serve as the material bases for this system of knowledge and its deployment?

Question (2)—in which way does this system of knowledge arise in the speaker’s mind/brain?—is a special instance of what Chomsky calls “Plato’s problem”: how come that human beings, whose contact with the world is limited and personal can have the wide knowledge they have?

In the *Meno*, Socrates probes a slave, who eventually is able to discover Pythagoras’ theorem. Plato (alias Socrates) thinks he has thereby proved that the slave knew the principles of geometry already. According to Chomsky, this problem hasn’t been solved yet: how did the slave manage to discover a geometrical truth without any instruction or information? Plato answers that question by positing the theory of reminiscence and suggests that that knowledge is recalled from a previous existence and is reawakened in the slave’s mind thanks to Socrates’ questions. The contemporary variant of this proposal, Chomsky agrees with, is that some aspects of our knowledge and of our understanding are innate. That is, they are part of our biological endowment and are genetically determined, like those aspects of our human nature that determine the fact that we have arms and legs but no wings. Hence, according to Chomsky, the solution to Plato’s problem must be based on the ascription of fixed principles, characteristic of the language faculty, to the human organism, as part of its biological endowment. These principles reflect the way in which the human mind functions with respect to the language faculty.

Question (3)—how do we use this system of knowledge when we speak (or write)?—in contrast, is a particular case of what Chomsky calls “Descartes’ problem”, which concerns the creative aspects of language: our use of language is subject to continuous innovations, it is unbounded and independent of external stimuli and inner states, it is coherent and adequate to the various situations, and evokes in those who listen to us thoughts which could be verbally expressed in a similar way. When we speak, we do not simply repeat what we have heard in the past, but actually produce new linguistic forms.

Finally, question (4)—what are the physical mechanisms which serve as the material bases for this system of knowledge and its deployment?—is relatively new and, according to Chomsky, we are still far away from being able to answer it.

Questions (1)-(3) pertain to that kind of linguistics that Chomsky himself has inaugurated—generative linguistics—that can be considered a branch of cognitive psychology. The answers to questions (1)-(3) guide, according to him, empirical research into question (4), which, as such, indicates no research direction and would thus be “blind” if it were not conducted in the light of questions (1)-(3).

However, according to Chomsky, questions (1)-(3) have been conflated with one another and this has given rise to serious mistakes. In particular, it has given rise to the idea that to speak and understand a language is a practical kind of knowledge, similar to riding a bike, or playing chess. Furthermore, in this perspective the creative aspects of language are explained in terms of analogies between sentences previously heard and those which are produced *ex novo*. According to Chomsky, this approach is motivated by anti-mentalistic worries, which depend on an erroneous conception of mentalism and on the mistaken conception that knowledge, in this area, is a kind of competence, ability or skill.

The most important argument put forward by Chomsky concerns the fact that our linguistic abilities may be damaged, for instance after an accident, while our linguistic knowledge remains intact. This is shown, according to Chomsky, by the fact that after recovery we speak the same language we spoke before and not a different one. According to him, this shows, further, that we have a series of rules (or principles and parameters) registered at the sub-personal level, which are still there even if we cannot use them and that the acquisition—as opposed to the learning through stimuli and responses—of a language consists in knowing these rules. It consists, for example, in knowing that each well-formed sentence has the subject-verb form and that at least in some languages, such as Italian, the subject’s place can be occupied by a “null subject”—that is, a parameter that belongs to deep syntax of the language but which is not realized in the superficial form of the language (at least not as a separate phonetic entity, since it is usually manifested in the morphology of the verb).

To such an argument we can reply by noticing, once more, that we should distinguish between having an ability and manifesting it. A person could still have an ability, but be unable to manifest it for various reasons, as we saw. It is clear, in the case presented by Chomsky, that once the inhibiting factor is removed—e.g. the hematoma that pressed a part of the brain is absorbed—the subject can manifest her ability to speak her language again, just like a cyclist, who has broken her leg, is able to ride a bike once she recovers from her injury (probably after a bit of rehab and training).

Chomsky somehow anticipates this reply when he observes that, according to common sense, we do not have two concepts of ability, but only one, connected to the fact that the ability is manifested. This is far from obvious, however. For it is not clear at all that, according to common sense, an ability is present just in case it is manifested or can be manifested right upon request. As we saw, it seems legitimate to say that we have retained an ability even when it cannot be manifested, particularly in cases such as the one considered by Chomsky in which the impediment to the manifestation of the ability is temporary and is actually removed after a while. Confronted with permanent impairments, however, our intuitions regarding *both* abilities *and* knowledge of rules seem to change but still to go hand in hand. That is to say, if the impediment were permanent, we would say neither that the subject has retained the ability to speak nor that she has retained knowledge of the rules of grammar.

Another possible reply to Chomsky may consist in saying that even if common sense sided with him in holding that the concept of ability entails the idea that an ability should be manifested at least upon request, it is not obvious that common sense should rule in this area. Just like other sciences, which are full of notions that are not in keeping with common sense (e.g. the concept of simultaneity in relativity theory is very different from its commonsensical counterpart), so linguistics too could work with a suitably refined concept of ability. Indeed, Chomsky himself has always insisted that linguistics does not concern itself with language the way common sense, and even philosophy, do. The commonsensical/philosophical notion has it that language is a social, culturally determined object, whose meanings depend on externalist relations—let them be social or causal. By contrast, linguistics, as Chomsky conceives of it, is not concerned with language understood that way (he actually calls it E-language). Rather, it is concerned with I-language. That is to say, an individualistic and internal series of rules[[16]](#footnote-16) that allow us to form and recognize well-formed sentences, together with a series of innate concepts, which allow us to categorize the world as we do.

Either way, we can safely hold that we are not obliged to conclude that the case of the aphasic subject brings grist to the propositionalist’s cause.

**4. Language, rules and knowledge of rules**

Let us delve deeper into the issue of our alleged knowledge of the rules of universal grammar (whatever they actually turn out to be). First, it is useful to remind ourselves of a typically philosophical distinction. If, as Chomsky has it, these are rules (or principles) that dictate how to form well-formed sentences, or that guide our recognition of such sentences, they are not propositions—that is, contents that can be true or false. Our linguistic knowledge would thus differ from knowing that Rome is the capital of Italy, say. As we have already seen several times, however, theoretical knowledge of the rules is certainly not sufficient (nor necessary) to enable us to do what the rule requires. By contrast, even though there is a huge debate over the nature of propositional knowledge, nobody would dispute that if a subject is able to assert that content, in suitably specified conditions, she would count as knowing that proposition.

Secondly, let us focus on the fact that, according to Chomsky, our linguistic competence is guided by knowledge of the rule that, to be correct, a sentence must have a subject (let it be a null one or otherwise). Clearly, this cannot amount to having explicit knowledge of that rule (or principle), or to being able to make it explicit upon request. As we saw, in this connection we should talk of tacit, or of “unconscious” knowledge. The rules (or principles), which supposedly guide us in building and recognizing well-formed sentences, would be written or encoded somewhere, in a place inaccessible to consciousness. As we saw, moreover, an intellectualist will hold that they are operative even if a speaker ignored them, or actually denied them.

Yet, in order to even start making sense of this idea one should already buy into the typically cognitivist analogy between minds and computers, where all these rules (or principles) would have to be included in a program we should be born with. However, while with computers we know the program and know how it gets into the machine, when it comes to us we know very little both about the program’s structure and about its actual provenance. Take the “principles and parameters” version of universal grammar. Only a subpart of it would be innate. For the exposure to one’s own language would be necessary in order to activate the relevant parameters whenever appropriate. For instance, a speaker of Italian would have to be exposed to that language in order to activate the parameter of the null subject, while a speaker of English or French, by being exposed to her language, would never activate it. Notice, however, that once you start admitting that the formation and the recognition of grammatically correct sentences are possible only once exposure to one’s language has taken place, it really becomes dubious that no actual learning is involved.[[17]](#footnote-17) Chomsky would have us believe that the exposure to one’s language would just trigger a parameter, like exposure to a given kind of food, liquid or air composition might trigger this or that chemical reaction in our metabolism. Yet, this analogy seems to be motivated by an anti-“behaviorist” prejudice in its turn. It is as if Chomsky could not accept the idea that what happens is that we expose and train children for a considerable amount of time, until they are actually able to form well-formed sentences, by the lights’ of their own respective languages. Maybe this anti-behaviorist prejudice would be motivated if we thought of training and learning as a kind of Pavlovian conditioning, but that’s not what happens in reality. We do not habituate children with punishments and rewards to always react a certain way, or simply to repeat sentences uttered by the adults. We shall presently come back to a more credible description of what happens at those stages of our early lives.[[18]](#footnote-18)

What is more, while the analogy between minds and computers might seem convincing insofar as minds would be the equivalent of programs, as soon as we go one level down, we are only left with brains and neuron firings. The idea that, at that level, there should be rules guiding our behavior is problematical. It seems rather that there are neural circuits that somehow follow certain patterns once so habituated, thanks not just to exposure to one’s language but to actual training. Moreover, as is well known, once a brain damage has occurred, certain cognitive tasks might be taken over by different sets of neurons. True, one might say that the physical realization of that piece of program would have changed, while the program would still be the same. Yet, clearly, this is just conflating the fact that we can describe the task in similar or identical ways, at a suitably abstract level, with saying that the same piece of program—that is, that very rule—is actually operative somewhere in our brains.

Yet, if we renounce the idea that the relevant rules are encoded in our brains and actually guide our linguistic performance, in favor of the idea that they are merely individuated *ex post*, to describe and make sense of an ability underwritten by a given neurological structure and functional activity, the very idea that linguistic competence is a case of propositional knowledge of rules evaporates. For, then, that knowledge is neither explicit nor tacit and the very rules, which should be its contents and that each of us should have stored in her own mind, are simply the rules that linguists come up with to make sense of our linguistic abilities, at an extremely high level of generality and abstractness, in the light of the data acquired by investigating of the enormous variety of human languages.[[19]](#footnote-19)

**5. Innateness and empirical data**

Let us now turn to Chomsky’s empirical arguments in favor of innatism and of the idea that linguistic competence consists in propositional knowledge of a series of syntactical rules (or principles), of a set of innate concepts and of a series of phonological rules. He thinks that crucial empirical data could not be explained unless we supposed all that. However, like any other inference to the best explanation, even Chomsky’s does not lead to sure-fired conclusions and actually some of the data are not, to my mind, as solid as Chomsky holds.

The first and most important empirical evidence is the fact that children quickly acquire language and are able to form and recognize well-formed sentences, despite the “poverty of the stimulus”. That is to say, children are exposed only to a limited number of sentences.[[20]](#footnote-20) Nonetheless, they quickly become able to form new sentences they never heard before. Moreover, according to Chomsky, children do not make certain syntactic mistakes, even if the correct constructions are more complex than the wrong ones and they do so without being given explicit instructions.

According to Chomsky, another indicative factor that the language faculty, which is the program that universal grammar describes, is innate and common to the human species as a whole is that even subjects affected by serious syndromes, like Down syndrome, acquire language and so do children who are blind from birth.

In addition, according to Chomsky, the speed of acquisition of vocabulary in children does not allow for alternatives to the idea that they possess a range of innate concepts and that all they need is to learn how to label them in their respective languages. Conceptual innateness, moreover, explains the fact that definitions can be useful, despite their being imprecise, according to him. Furthermore, Chomsky maintains that these basic concepts (such as physical object, human intention, will, cause, ends, etc.) form a hierarchy and are compositional.

It should be noted, however, that all these data are not incompatible with anti-innatism and with the idea that to speak a language is a practical kind of knowledge.

Regarding the speed of acquisition of language and the poverty of stimulus, I think it is obvious to anyone who has ever actually interacted with children that the time of acquisition of language, from a phonological, syntactical and semantic point of view is quite long. Only around age 3 do children start forming simple well-formed sentences. The same goes for mastery of the phonological aspects of their language, as well as for mastery of a reasonably wide vocabulary. Chomsky often compares language acquisition with number acquisition but, in the latter case, things are worse still. At age 3, counting is out of the question and while children seem to grasp the meaning of ‘one’ and possibly ‘two’, they seem to lump everything together as “many” or “more” from ‘three’ onwards. What they can do, like several other animals, is rather to discern ratios between aggregates. Moreover, if they utter further number words, perhaps because they have heard them from parents and older siblings, they clearly have no grasp of what they mean. That is decisive evidence of the fact that these words are not labels for already possessed concepts. Rather, they are merely linguistic place holders for concepts, which are acquired much later. Nor is it credible to suppose that we should have only a very limited amount of innate number concepts, while the rest of them would be acquired later.

Concerning the idea that certain fundamental concepts are innate and that what is learnt are merely labels to name them, a proper treatment of the issue would deserve a separate paper. I will simply mention Tyler Burge’s important contributions regarding perception, subitizing and aggregates’ ratio discrimination.[[21]](#footnote-21) They all go in the direction of showing that we need not ascribe any concept such as the previously listed ones, or indeed numerical concepts, to account for subitizing and other similar abilities even animals seem to have, in order to describe those capacities. Rather than attribute them concepts, which should rather be identified and attributed on the basis of quite complex inferential abilities, we can explain their purposive behavior by positing perceptual attributives—that is, roughly, purely perceptual representations, with a compositional structure. Hence, there is actually no need to embrace conceptual innatism.

Again, the fact that language is acquired also by subjects affected by Down syndrome or blindness since birth clearly shows that human beings have a biologically determined neurological structure that enables them to acquire language. It shows, furthermore, that that is the case also for subjects affected by serious syndromes or impairments. Yet, this falls short of proving that we also have an innate set of rules (or principles) somehow encoded in our brains.

Moreover, not all pathologies are compatible with language acquisition. Deaf-muteness requires a special training concerning the use of sign language. Hence, this pathology, while not incompatible with language acquisition as such, is incompatible with the standard way in which human beings normally acquire language. This shows, once more, how the acquisition of language is possible only if, on top of having certain neurological functions, one is actually exposed to and trained to the use of the relevant symbolic system. A given neurological structure is thus necessary but not sufficient to acquire language. And it may well be that that neurological structure can perform a certain function only if the relevant training takes place within a certain age. Yet, just like the fact that it becomes extremely difficult to acquire certain skills, particularly in sports, after a certain age, this is entirely compatible with the fact that speaking a language is, at bottom, a practical kind of knowledge.

To repeat, the human brain is tailored made for the acquisition of language and only very severe syndromes can inhibit it. This, however, is far from proving that we possess an innate system of rules (or principles). It merely shows that the human brain, when it works normally, enables us to acquire language. Moreover, the case of deaf-mute subjects, whose neurological functions are otherwise normal, shows that language is developed only when subjects are exposed to, and trained to use a symbolic system. Nothing prevents us from thinking that that exposure and that training allow us actually to *learn* a language—rather than merely develop some aspects of a “language faculty”. Furthermore, nothing prevents us from thinking that rather than be born with a given set of linguistic rules (or principles), that exposure and that training are actually necessary in order to enable our brains to work in the way required to master a language.

Let me close with some positive suggestions regarding language learning and the idea that speaking a language consists in a rule-governed practice. I think we can find inspiration on these fronts once again in the Wittgenstein-Ryle view. Of course, central to that conception is the idea of language as a social phenomenon, whose rules are determined by shared and repeated patterns of use among members of the linguistic community. We have already seen why Chomsky’s innatism is far from obvious and so, in these concluding remarks, let me simply put it on a side, at least for the sake of argument. When we say that speaking a language is a rule-governed practice, however, we have to be clear about the nature of these rules and how they can be said to govern our practice. For we do not want paradoxically to end up defending the propositional account of knowledge of rules Chomsky put forward, which is detachable from his endorsement of innatism.

As we anticipated,[[22]](#footnote-22) linguistic rules are established by use, in the Wittgenstein-Ryle picture, and key to that conception of language learning is the idea that rules are acquired purely practically. Surely, once one possesses a language, one can reflect on the practice and formulate the rule, or understand its formulation by other members of one’s linguistic community. Indeed, there can be intermediate phases, in which subjects have some grasp of certain linguistic rules and they themselves correct supposedly wrong applications of those rules, or test them by applying the rules to new cases to which the latter may or may not apply. However, all this requires mastery of substantial chunks of language already. Hence, the idea of an explicit (or semi-explicit) learning of rules cannot be used to explain the initial phases of language acquisition. At those stages, children try, stumble, fall and sometimes succeed and, little by little, they acquiesce in a practice. Even the correction by an adult need not be understood as passing a rule on to them. That is, at those stages, an instinctive behavior, like saying ‘goed’ or ‘taked’ is replaced by a culturally determined one that prompts them to say ‘gone’ or ‘taken’. What is considered to be the correct practice—that is, the one in keeping with the rest of one’s linguistic community—is inculcated, not really taught as an explicit rule.[[23]](#footnote-23) Nor is it necessary that at later stages there actually be anything like an explicit formulation of linguistic rules, made by the subject herself or by other members of her community, in order for her to be able to participate in the relevant linguistic practice. By being exposed to that practice subjects learn how to take part in it, little by little and through a complex training which mainly consists in talking to children in a variety of contextual situations, which are neither fixed nor predetermined, even though they are very often recurrent. Children pick up some basic words and use them to participate in the relevant activities, calling for their primary care-givers, or for expressing their basic needs, or for taking part in socially determined practices such as greeting, playing simple games, etc. They then become able to form sentences and, after a while, they start doing so in a creative way, which manifests the fact that they have practically grasped the fact that language is often (not always!) compositional. Yet again, this does not mean that they have propositional knowledge of a rule, however tacit that knowledge might be, let alone that the rule is encoded in their minds/brains. Rather, they have learnt to behave in ways that tally with the rest of the relevant community’s usage and that, by being accepted, are certified as correct by some of its members. Hence, linguistic competence is primarily a practical kind of knowledge—it is a know-how, rather than a know-that—which consists in being able to behave in conformity with the rest of our linguistic community’s practice.[[24]](#footnote-24) Such a practice is shared and constant in time, though it may be subject to changes. Due to its regularity, and to the fact that deviant behavior tends to be corrected, that practice can be seen as governed by rules. Once one has acquired a language, one can actually reflect on the linguistic practice itself and arrive at an explicit formulation of at least some of its rules. Yet, as we saw, theoretical knowledge of how we do certain things is neither necessary nor sufficient for being able to do them. It is this ability we are trying to characterize when we inquire into the nature of practical knowledge in general, and of linguistic knowledge in particular.

The interesting and promising aspect of current psychological research in this area is—perhaps not surprisingly—that it is going past the Chomskyan model and is vindicating the core aspects of the picture of language, language acquisition and linguistic knowledge actually put forward by Wittgenstein and Ryle long ago.

For instance, statistical learning accounts show that children systematize the language they are exposed to based on the frequency of forms, rather than on the basis of any previous knowledge of syntax or of innate concepts. As Moyal-Sharrock aptly summarizes these findings: “they generalize from cues, not from rules”.[[25]](#footnote-25) This explains easily why they tend to add the suffix ‘-ed’ to irregular verbs, but also why, as Melodie Dye puts it, “they end up homing in on and reproducing only the most frequent patterns in what they hear. In doing so they fail to learn many of the (…) idiosyncrasies present in adult speech”.[[26]](#footnote-26)

Moreover, the “usage-based linguistics”, proposed by Michael Tomasello and others, is collecting numerous empirical data that go in the direction of denying the innateness of language, and the existence of a dedicated language faculty, with very abstract algebraic rules, that would constitute (one version or the other) of Chomsky’s universal grammar. Rather, these studies support the hypothesis that grammar is the product of history, which has evolved in numerous different ways. They also support the idea that language is learnt by being immersed in a practice and that such learning draws on several cognitive faculties, which have specifically nothing to do with language, such as categorization, mind-reading and analogy making. In particular, according to Tomasello, grammar is something children discern in the various actual sentences they are exposed to. In keeping with the “statistical learning” approach, Tomasello holds that, given the potentially infinite number of meaningful yet ungrammatical generalizations children could make, they appear to home in the correct ones because “they are sensitive to the fact that the language community to which they belong conforms to one [specific] norm and communicates an idea in just ‘this way’”. (Tomasello and Ibbotson 2016, p. 17).

In a more Wittgensteinian and Rylean spirit, we may say that children learn linguistically to behave as the rest of their community does. This allows us to describe them as followers of the very rules that, in its turn, their linguistic community can be said to share, in virtue of behaving the way it does, and in virtue of keeping the practice stable by correcting subjects who deviate from it, so as to enforce the rule.

Of course, when philosophical pictures are passed on to science they become subject to empirical (dis)confirmation. Yet, after years of oblivion, the Wittgenstein-Ryle picture is now considered a serious contender in the scientific arena. Let time decide which ones of these two rival paradigms will prevail.

**6. Conclusions**

In this paper, we have seen how, contrary to what Stanley and Williamson hold, practical knowledge is not reducible to propositional knowledge, nor is it to be considered a species of it. We have also seen how Chomsky’s theory, according to which linguistic competence consists in propositional knowledge, whose content is a set of rules (or principles), is quite objectionable, both for theoretical reasons, and for considerations of empirical adequacy. In particular, Chomsky’s arguments are dubious and the data that he thinks can only be explained by accepting innatism and the idea that we would propositionally know a system of rules (or principles) are not always solid. Finally, when they are, they can perfectly well be explained by renouncing both innatism and the idea that we have propositional knowledge of the rules (or principles) of universal grammar.

**Bibliographical references**

Bermúdez, J. 1998 *The Paradox of Self-Consciousness*, Cambridge (Mass.), MIT Press.

Burge, T. 2010 *Origins of Objectivity*, Oxford, Oxford University Press.

Carroll, L. 1895 “What the tortoise said to Achilles”, *Mind* 14, pp. 278-280.

Chomsky, N. 1987 *Language and Problems of Knowledge*, Cambridge (Mass), the MIT Press.

Coliva, A. 2012 “Critical notice of Tyler Burge’s *Origins of Objectivity*”, *Disputatio* 4/33, pp. 515-530.

Dummett, M. 1981 “Objections to Chomsky”, *London Review of Books* 3/16, pp. 5-6.

Dye, M. 2010 “The advantages of being helpless: human brains are slow to develop—a secret, perhaps, of our success”, *Scientific American*, February. https://www.scientificamerican.com/article/advantages-of-helpless/

Fantl, J. 2012 “Knowledge how”, *Stanford Encyclopedia of Philosophy*. <http://plato.stanford.edu/entries/knowledge-how/>

Fodor, J. 1968 “The appeal to tacit knowledge in psychological explanation”, *The Journal of Philosophy* 65/20, pp. 627-640.

Moyal-Sharrock, D. 2016 “Universal grammar: Wittgenstein versus Chomsky”, in M. A. Peters and J. Stickney (eds.) *A Companion to Wittgenstein on Education: Pedagogical Investigations*, Dordrecht-Kluwer, Springer, pp. 1-33.

Picardi, E. 1997 “Is language a natural object?”, in M. Sainsbury (ed.) *Thought and Ontology*, Milano, Franco Angeli, pp. 107-123.

Ryle, G. 1949 *The Concept of Mind*, Chicago, The University of Chicago Press.

Ryle, g. 1971 “Knowing how and knowing that”, in *collected Papers* vol. 2, New York, Barnes and Nobles, pp. 212-225.

Stanley, J. and Williamson, T. 2001 “Knowing how,” The Journal of Philosophy 98/8, pp. 411–44.

Tomasello, M. and Ibbotson, P. 2016 “Evidence rebuts Chomsky’s theory of language learning”, *Scientific American*, September 7 2016 <http://www.scientificamerican.com/article/evidence-rebuts-chomsky-s-theory-of-language-learning/>

Wallis, C. 2008 “Consciousness, context, and know-how,” *Synthese* 160, pp. 123–53.

Wittgenstein, L. 1953 *Philosophical Investigations*, Oxford, Blackwell.

Wittgenstein, L. 1969 *On Certainty*, Oxford, Blackwell.

Wittgenstein, L. 1993 *Philosophical Occasions: 1912-1951*, Indianapolis, Hackett Publishing*.*

1. I would like to thank Danièle Moyal-Sharrock and Aaron James for comments and criticisms on the penultimate draft of this paper. The first version of the paper was originally presented in French at Collège de France. My thanks to Claudine Tiercelin for inviting me to deliver a talk in the context of her seminar. Thanks are also due to Andrea Sereni and to people in attendance at a talk delivered at Istituto Universitario di Studi Superiori in Pavia. [↑](#footnote-ref-1)
2. See Dummett (1981). [↑](#footnote-ref-2)
3. See Picardi (1997). As is well known, Eva read her DPhil under Dummett’s supervision in Oxford. [↑](#footnote-ref-3)
4. Cf. Wittgenstein (1953) and (1969) and Ryle (1949) and (1971). [↑](#footnote-ref-4)
5. See Carroll (1895). I believe one of Eva’s favorite books, which she often talked about during her classes, is Lewis Carroll’s *Alice through the Looking Glass*. [↑](#footnote-ref-5)
6. Cf. in particular Stanley and Williamson (2001). [↑](#footnote-ref-6)
7. As we shall see, we have to renounce also the idea that know how is a species of know that, as Stanley and Williamson claim. There will be more about this in the following (cf. fn. 11). [↑](#footnote-ref-7)
8. See Ryle 1949, pp. 46, 55. [↑](#footnote-ref-8)
9. I think missing this crucial distinction is what leads several scholars to denying that know how is an ability. See for instance Stanley and Williamson’s quick dismissal of that idea (2001, p. 416). [↑](#footnote-ref-9)
10. I think, although I will not argue for that here, that also a lot of cognitive abilities are acquired by means of a training which involves the appropriate use of one’s body. [↑](#footnote-ref-10)
11. See Wallis 2008, p. 140, quoted in Fantl 2012. [↑](#footnote-ref-11)
12. Just a terminological remark: I prefer to avoid calling “implicit” that kind of knowledge which could be made explicit, even if normally it isn’t. The real contrast is thus between explicit or explicit-able knowledge on the one hand, and tacit or unconscious knowledge on the other. [↑](#footnote-ref-12)
13. See Wallis 2008, p. 140. [↑](#footnote-ref-13)
14. Here I have in mind the kind pluralism about truth and about epistemic properties, like knowledge or justification, respectively put forward by Michael Lynch and Crispin Wright, and by Edward Craig and William Alston. Furthermore, I have in mind Wittgenstein’s strongly contextualist position (somehow echoed by Charles Travis) regarding meaning. [↑](#footnote-ref-14)
15. Stanley and Williamson actually deny that their aim is to reduce practical knowledge to propositional knowledge, but then one wonders what the interest of their proposal would be if it were just a mere re-description of practical knowledge, or a proposal regarding simply the logical form of practical knowledge ascriptions.(Cf. Stanley and Williamson 2001, pp. 433-434). Indeed, they say that their aim is to show that knowledge how is a “species” of knowledge that. Let us grant them that there is a significant difference between this claim and the thesis that know how reduces to know that. Still, for the reasons given in the main text, I do not think they have succeeded in showing that much either. [↑](#footnote-ref-15)
16. Or of principles and parameters, or of whatever the most recent development of generative grammar posits as characteristic of this internal program. [↑](#footnote-ref-16)
17. For a very useful survey of the empirical data in this connection, see Moyal-Sharrock (2016, p. 15, fn. 24 and pp. 21-23). [↑](#footnote-ref-17)
18. See the following section. [↑](#footnote-ref-18)
19. Indeed, the very idea of an innate structure that imposes universals has been rejected from a biological perspective. For a useful survey of the empirical work in this area, see Moyal-Sharrock (2016, pp. 14-16). [↑](#footnote-ref-19)
20. As Moyal-Sharrock (2016, p. 4, fn. 3) points out, Chomsky is no longer concerned by the degeneracy of the data. For empirical studies have shown that speech addressed to children is highly regular. Roughly, only 1 out of 1500 utterances addressed to children is ungrammatical. [↑](#footnote-ref-20)
21. See Burge (2010). Cf also Bermúdez (1998). I have discussed Burge’s position at length in Coliva (2012). [↑](#footnote-ref-21)
22. Cf. sect. 1. [↑](#footnote-ref-22)
23. Indeed, Wittgenstein talks of “drilling” and “training”, as opposed to explanation in this connection. Cf. Wittgenstein (1953, §5). [↑](#footnote-ref-23)
24. Of course, the linguistic competence and language learning for which this picture makes sense are the ones relative to one’s mother tongue(s). The acquisition of a second language involves many explicit formulations of syntactical and semantic rules (as well as of phonological ones). It also involves a lot of inference to the best explanation while being exposed to native speakers of that language. However, the acquisition of a second language is more like a translation of one language into another one than learning a language *tout court*. [↑](#footnote-ref-24)
25. Moyal-Sharrock (2016, pp. 8-10). [↑](#footnote-ref-25)
26. Dye (2010). [↑](#footnote-ref-26)