ABSTRACT. How is it, the paper asks, that on hearing the word sound of “intriguing” we cannot at the very same time entertain the concepts of “green” or “democracy”? I approach this question with the help of Wittgenstein’s concept of Abrichtung and the discussion of normativity as rule-following. Instead of truth-conditions, assertibility-conditions, justification-conditions, and correctness-conditions, the paper proposes imaginability conditions as foundational for linguistic meaning. Instead of Platonic, intensional, externalist, and neural accounts of meaning, the paper argues that meaning in both high-speed habitual and interpretively problematic contexts can be viewed as indirectly public association of the sounds of linguistic expressions with mental iconic schematisations. The paper concludes by recommending an intersubjective mentalism within which we can argue the notion of normativity as an automated rather than rule-guided form of Abrichtung. This allows for a general concept of meaning as defined as part of a semantics of imaginability, eschewing meaning ideality on the one hand and semantic externalism, on the other.

Keywords: Abrichtung; normativity; meaning blindness; imaginability conditions; habitual use; meaning as indirectly public

The more closely we examine actual language, the greater becomes the conflict between it and our requirement [that is] the crystalline purity of logic. (PI §10)

1. Introduction

Why is it that when we hear the word sound “pleasant” we are not able, in the split second event of comprehension, to entertain the meaning of “democracy”, “running”, “green”, or any other signified? How is it that during this minimal event, measured in neuroscience to typically less than 250ms, the native speaker is tied or, as Ludwig Wittgenstein would say, abgerichtet, to doing more or less the same as other native speakers. Let us call this tie
the comprehension compulsion. Throughout the Philosophical Investigations (PI), Wittgenstein refers to the source of this phenomenon of natural language as Abrichtung. While the term is rendered in English as “training”, there is a marked difference in the semantic scope of the two signifiers. “Training” is a broad notion in English, including as it can many forms of education, from sport to the fine arts. One cannot however be abgerichtet in the art of sculpture without turning into mere mimicry. Abrichtung is employed in the context of the strictest possible sort of training as in the military, on the parade ground, in the handling of weapons, and in the sense of breaking in horses or making circus lion jump through hoops on fire. Indeed, the word tells us, those that are so trained are aligned exactly in the same direction (Richtung; Ab-richtung). In its extreme form, Abrichtung results in “blind” obedience. (PI §129) Is this perhaps what happens in the high-speed event of meaning under the comprehension compulsion? And is this perhaps the most important part of the training of native speakers? And does the notion of ‘normativity’ capture this specific part of linguistic meaning?

There has been relatively little research on the problems of rendering Wittgenstein’s German manuscripts in English. What inquiry there is can be found neatly assembled in Dinda Gorlée’s recent Wittgenstein in Translation: Exploring Semiotic Signatures (2012). Comparing all the standard translations, and especially retranslations, of Wittgenstein’s writings published during his lifetime and since then, and drawing especially on his manuscripts and Nachlass in the Wittgenstein Archives in Bergen, Gorlée addresses the pitfalls facing his translators in English, as well as in other languages. This is an important contribution since Wittgenstein saw it as one of his key tasks to unravel the causes of our “bedazzlement” by language. (PI §109) Abrichtung, however, is not one of the terms Gorlée has singled out for critical scrutiny. I will briefly attempt such an investigation here, but not from the perspective primarily of translation and semiotics but rather in order to argue a fundamental characteristic of natural language, namely what makes language appear “natural”. (Tarski 1956, p. 267) In choosing this topic I want to go along as far as I can with Wittgenstein only to break away from his meaning scepticism at the point where he excludes imaginability, his Vorstellbarkeit, from meaning as use. (PI §395) Whereas Wittgenstein grants imaginability the role of incidental by-product of meaning, a mere playing on the Vorstellungsklavier, (PI §6) I want to show that it his very own notion of Abrichtung that permits us to reinstate imaginability as a constituent feature of linguistic meaning. In pursuing the implications of Abrichtung, I will however steer a middle course between meaning ideality on the one hand and merely externalist use, including Wittgenstein’s, on the other.
2. Abrichtung

To grasp the meaning of *Abrichtung* we follow Wittgenstein’s rule of looking at how he uses the term. Early in the *PI* he tells us that when we teach children their mother tongue this process is not an “explanation” but rather “*ein Abrichten*”, a strict form of training,(§5) consisting to an important extent in a combination of ostension, directing a child’s attention to what is being pointed out, while at the same time uttering a word. (§6) An example of *Abrichtung* is to teach the pupil the technique of reading charts, (§86) another, the teaching of algebra. (§§146; 151f.; 189; 320) Wittgenstein also invokes such imaginary scenarios as using “human beings, or creatures of some other kind” being “*abgerichtet*”, that is, automated into “reading machines”. (§157) A person so trained has not primarily changed his mental disposition, but his behaviour. (§158) Bringing into play the formula “*y = x²*”, Wittgenstein demonstrates that anyone trained in the correct application of the formula will come up with *identical* results, while comparing different kinds of formulae and uses will yield the result of “different kinds of *Abrichtung*”. Likewise, Wittgenstein suggests, the meaning of natural language terms, such as “determine”. (§189) What then is the relation, he asks, between the expression of a rule, a signpost as it were, and my actions? His answer is “*ich bin zu einem bestimmten Reagieren auf dieses Zeichen abgerichtet worden, und so reagiere ich nun*” (I have been trained to react in a specific way to this sign, and this is how I now react). After a while, once we have acquired the grammar of the expression “to follow a rule”, such reactions turn into “*Gepflogenheiten* (Gebräuche, Institutionen)”, that is, habits (customs, institutions). (§198; 380) How strictly Wittgenstein conceives of the phrase “to follow a rule” is made clear a little later in the *PI* when he compares it by analogy with “to obey an order”. We have no choice in the matter because we have been *abgerichtet* to react to it in a “*bestimmter Weise*”, a phrase usually rendered idiomatically as “in a particular way”. What gets lost in translation is that “*bestimmt*” also suggests the sense of “determined”, an emphasis that shores up Wittgenstein’s obvious intention to make the notion of rule-following more rigorous a requirement than the broader concept of “following” permits. (§206) The rhetorical question what would happen if someone were to respond one way, another person in a different way, is answered a few paragraphs later where he insists that the rule “always tells us the same, and we do what it says”. To a person that has been so *abgerichtet* we could say: “See, I always do the same thing”. (§223)

To be sure, Wittgenstein’s analogies between natural language and algebra are problematic. While the sense of determined *compulsion* applies to both, it does so in two radically different senses. In algebra, and certainly
in all formal systems, rule-following is bounded by syntax as univocally determining definitional sense. This is not the case in natural language the meanings of which can be refined by syntax but are primarily determined by nonverbal aboutness and modified by voice. This why Wittgenstein’s algebraic analogy, like that with chess, is misleading in that it conflates an intensional sign system with an extensional system, involving perceptual and quasi-perceptual aboutness as well as speech modalities. And yet, in habitual speech, semantic uptake is roughly as fast as that of algebraic grasp. To that extent, then, his analogy holds, though we are dealing with clearly different kinds of Abrichtung. Different Abrichtungen, says Wittgenstein, lead to different types of “techniques”, such as for “Wunschäusserungen” (expressions of wishes), (§441) or in the disciplines of sport and in chemistry. (§630) Lastly, in the “Philosophy of Psychology” Wittgenstein considers the case of someone abgerichtet in such a way that on seeing something red he would utter a certain sound and on seeing something yellow another one, and so on. Such training would however not amount to a description of objects by their colour, even if this could assist us in producing a description. What is missing is “a representation of a distribution in a space (for example, of time)”. (PI PPF 70) I am inclined here to add that usually there is neither a real space nor a real passing of time, nor a real distribution within such spaces. In typical linguistic situations we merely imagine such circumstances. And we do so at astonishingly high speeds. So successful is linguistic Abrichtung that we are able to comprehend small units of meaning in an incredibly short span of time. As Wittgenstein likes to refer to this phenomenon, we understand an expression “at a stroke” or “in a flash”. (PI §§139; 191; 318; 319; 339)

It does not require too far a stretch of the imagination to connect the recurring themes of Abrichtung and high-speed comprehension in the PI. There can be little doubt that Wittgenstein sees a causal nexus between the two. Only if we are abgerichtet are we able to “understand the meaning of a word when we hear it or say it “mit einem Schlag” (at a stroke; PI §191). But now Wittgenstein draws an important distinction between “what we grasp in this fashion” and “the “use” which is extended in time” (§138) and asks “how can what is present to us in an instant, what comes before our mind in an instant, fit a use?” (§139) In the subsequent paragraphs Wittgenstein further dissociates the two. We should ask, however, why it is not possible that nothing comes to the native speaker’s mind on the cue of a word sound. Wittgenstein does not address this crucial question. Yet, the idea of semantic uptake “at a stroke” in relation to his notion of “use” continues to dog his investigation.
Can’t the use – in a certain sense – be grasped at a stroke? And in what sense can’t it? – It is indeed as if we could “grasp it at a stroke” in a much more direct sense. (§191)

Unfortunately we lack a “Vorbild (example, model) for this übertässige Tatsache” (excessive fact). Because all we have is “the result of the crossing of images”, we are “seduced into using an Überausdruck (a meta-term; super-expression) … a philosophical superlative”. (§§191f.) It is telling, I think, that in spite of such difficulties, Wittgenstein refuses to let go of what he termed “this excessive fact”. A few paragraphs later he reiterates, “it’s as if we could grasp the whole use of a word at a stroke”, closing the paragraph with the question, “where is the connection effected between the sense of the words ‘Let’s play a game of chess’ and all the rules of the game?” His answer is the triptych: the index of rules; pedagogy; and day-to-day practice. (§197; my emphasis) These are the necessary ingredients of Abrichtung, serving the purpose of drawing our attention to the relentless character of the pedagogy by which the speech community enforces the rules that naturalize language as meaningful for native speakers. In turn, native speakers are abgerichtet to practice those rules without the autonomy of choice. I want to support Wittgenstein’s distinction of use as “rule” and “meaning as use” by regarding the latter as the instantiation of the former. From this perspective, I now ask whether the compulsory character of this relation has been convincingly addressed in the literature on normativity.

3. Normativity

In the wake of Kripke’s discussion of rule-following in the PI, an entire industry has sprung up exploring the concept of normativity. (Kripke 1982) Broadly, the debate makes two assumptions, one, that the concept of meaning remains unaffected across all kinds of language use, a problem I will postpone until later in the paper; and, two, that normativity likewise retains its conceptual identity in different linguistic contexts. What the literature however demonstrates is that there is by no means general agreement as to how precisely we should conceive of normativity.

In order to avoid the Humpty-Dumpty situation of meaning determination, Kripke argues against “dispositional” accounts. Instead, by following community rules governing the use of language-games we are confirming ME, that is, meaning engendered normativity. In defense of normativity in this sense, semantic performance is an obligation to obey “the dictates of meaning” itself. (McGinn 1984, p. 45; cf. also McDowell 1984; Whiting 2007) McGinn’s support of a strong normativity thesis rests on the condition that meaning must be trans-temporal. Linguistic correctness can be guaranteed
only if meaning remains constant across time and so across a diversity of applications. (McGinn 1984, p. 174) While making for a neat argument, this Fregean, formal conception of natural language semantics as being rooted in meaning identity falls foul of Wittgenstein’s criticism of being dazzled by the “crystalline purity of logic”. (PI §107) Likewise, the attempt by early Husserl to argue meaning as a Platonic ideality was bound to fail, as demonstrated by his retreat to its exemplification by formal examples. Wittgenstein’s meaning as use escapes both the formal fallacy of confusing linguistic meaning with fully defined intensional entities and rampant “dispositional” accounts by his constraint of radical *Abrichtung*. The main amendment I make to Wittgenstein’s rendition of use is that its externalism has to be amended by re-incorporating *Vorstellung*, taken as mental iconic schematisations, a point to be resumed below.

Another version of meaning engendered *normativity* is the argument from “correctness conditions” as presented for example by Paul Boghossian. Since the deontic rules for action include guidance as to how to employ language-games, the way we use language meaningfully is normatively constrained. Such rules provide the conditions for “correct” use. Without giving up on *normativity* and by shifting Kripke’s epistemic emphasis of a speaker’s meaning ascription to one that foregrounds the “possibility of meaning”, Boghossian argues from “correctness conditions” to meaning as constitutive, (1989, p. 515) a combination rejected for instance by Wikforss (2001). In a later paper Boghossian reduces his support for general normativity to *content*. (Boghossian 2003; cf. also Speaks 2009). It remains doubtful, though, whether Boghossian’s strategy can lead to a satisfactory answer to his crucial question, “How do public language symbols come to acquire meaning and what role does thought play in that process?” (Boghossian 1989, p. 549) I will attempt an answer to this question in the section on “Imaginability conditions” below by characterizing “thought” in comprehension as nonverbal and indirectly public. (Ruthrof 2011b, pp. 166; 172) Correctness conditions are shown by Boghossian and also Millar to rest on a Davidsonian picture of “belief”, taken as the ground for the very possibility of *normativity*. (Millar 2008; cf. also 2002)

A strong defense of *normativity* is mounted by Meredith Williams in the sense of Wittgenstein’s rules as engendered by the speech community. Because the community lays down what are correct and incorrect applications, the notion of rule-following acquires a high degree of “objectivity”. (Williams 2007, p. 61) Her arguments deviate from Kripke’s on the point that rule-following should not be regarded as the result of thinking but as a form of unified action. As such, rule-following cannot be an “interpretation”. (2007, p. 87) What Williams, like most of her colleagues, is addressing is *habitually automated speech*. Yet in a phrase like “nervous as a mother roo
in a room full of pickpockets” the event of meaning construction is extended in time and so “interpretation” re-enters the analysis. This exposes a serious weakness of global conceptions of normativity: the assumption that rule-following is the same sort of thing in all linguistic contexts. While the majority of arguments for normativity share the rejection of dispositional accounts of meaning, Ralph Wedgewood for one attempts to show a way of retaining both normativity and intentionality, (Wedgewood 2009) a theme taken on also by Bykvist and Hattiangadi (2007), though with opposite results. (2007) Two recent contributions in support of normativity are offered by Aude Bandini, who insists that in spite of meaning being constitutive there is nevertheless a normative dimension to semantics of linguistic expressions, (Bandini 2011; cf. Boghossian 2008) and by James Connelly who, by resuming Kripke’s rejection of intrinsic, intentional meaning, affirms the basic principles of meaning normativity as fundamentally “prescriptive”. (Connelly 2012)

In strong opposition to normativity Wikforss (2001) argued the concept to be obscure on the grounds that there are many different kinds of ought and prescription. Furthermore, we cannot use “truth” as a criterion since falsehoods need not be semantic mistakes, nor “correctness”, the opposite of which would simply be a violation of “use”. Likewise, Wikforss rejects Kripke’s link between intention and future action as normative on the grounds that if we violate the rules of adding up we simply are not doing algebra. In other words, she views rules as constitutive rather than normative. Wikforss further rejects the idea that constraints on rationality are grounded in normativity because they do not readily apply to creative language use. Next, she objects to meaning as normative by pointing to the fact that ought rules presuppose concept possession. The emphasis is applied also to arguments from communication in that the relation between use and meaning is constitutively rather than normatively constrained. Lastly, Wikforss maintains that if meaning were normative, then naturalism fails. In a joint paper with Glüer published in 2009, Wikforss resumes her opposition to linguistic normativity, sharpening the argument by focussing on “content normativity”. (Glüer and Wikforss 2009). The authors argue that neither CE, normativism as essential to certain contents, nor CD, normativism of determined content, go through because there simply is no essential connection between content and semantic correctness conditions and because CD either results in a regress of rules or in the conceptual vacuity of “rule-following”. So the authors are confident that normativity should be rejected as lacking in specificity and, as a further consequence, that naturalism should be abandoned in the description of meaning.

The position that semantic normativity cannot be coherently argued is held also by Anandi Hattiangadi, who objects to Kripke’s claim that dis-
positional meaning is irrelevant to meaning and undermines rule-following. Instead, Hattiangadi insists that what we mean by an expression cannot be eliminated from the debate and so normativity in the wake of Kripke’s reading of Wittgenstein is not sustainable. (Hattiangadi 2007)

From the position taken in this paper, there are several criticisms that can be made about the broad concept of normativity and also of some of the specific arguments. The global application of normativity fails because the linguistic expressions as meaning entities always supervene on specific combinations of aboutness and its modification by voice. In this sense, disposition enters the process of meaning of necessity. Furthermore, we need to distinguish carefully between habitual and interpretive comprehension. In response to a sentence such as “Time hath My Lord a knapsack on his back, wherein he puts alms for oblivion” we follow semantic rules in the construction of meaning. Yet can the same be said about the comprehension of the word sounds of “what a tall tree”, “stop running”, “green”, or “democracy”? If we are indeed following rules in both types of speech, “rule-following” must have two different meanings. When Dummett notes that “the sense of a command is determined by knowing what constitutes obedience and what disobedience” he is describing well what occurs in complex interpretive situations. (Dummett 1978, p. 8) However, this cannot account for what happens under the near instantaneous time frame of the comprehension compulsion in automated speech, where Abrichtung makes the option of disobedience unavailable.

Lastly, it is broadly assumed that disposition is subjective and therefore cannot be reconciled with rule-following as community constraint. This is a continuing Fregean prejudice. While it was an assumption made by Frege in ridding semantics of psychologism, there are good reasons to argue in favour of the Vorstellung he banished being treated as rule-governed, very much like language itself. Imaginability would then be intersubjectively systemic and qualify as non-dispositional component of linguistic meaning. (Ruthrof 2014) Such an approach finds some support in a broad range of cognitive literature (Fouconnier and Turner 2002; Hampe 2005; Itkonen 2008; 2005; 2003; Johnson 1987; Johnson and Lakoff 1999; Ziemke at al. 2007; Zlatev 2007; 1997; Zlatev et al. 2008; Zwaan and Madden 2005) As to Abrichtung, this would allow us to reintroduce Vorstellung into natural language semantics by replenishing Wittgenstein’s notion of meaning as use. (Ruthrof 2011a) Taking such a corporeal turn leads us to the consideration of imaginability conditions as foundational for linguistic meaning.
4. Imaginability Conditions

If we look at the series “verification (Frege; Schlick) – truth-conditions (Davidson) – “correctness conditions” (Boghossian) – “assertability conditions” (Dummett) – “justification conditions” (Kripke) we note an increasing sense of caution and a diminishing sense of certitude. In the face of the realities of natural languages the propositional starting point of truth as a criterion of meaning has had to give way to weaker and weaker theses. Has the philosophy of language perhaps started with the wrong Aristotelian keyword? It may be useful here to remind ourselves that in *De Interpretatione* the notion of proposition is not the first base for the description of language; what we find instead is a realist version of the Platonic *mimesis* in the guise of “resemblance relations”, Aristotle’s *homoiomata*. In comparison with propositions facilitating judgment of whether sentences are true or false, the base task of language of reflecting the world, our perceptions, as well as our variations of those perceptions, is a much broader function. One could call the purpose of propositions a second-order function, a language-game on top of primary semantic uptake, requiring meta-comprehension. This does not in itself disqualify attempts at using truth-conditions from being argued as a test of meaningful sentences, as long as we are aware that to form propositions is always already an application of *aboutness*, one of the two *sine qua non* of linguistic meaning, the other one being *voice*. What seems to have happened in the history of the philosophy of language is that a specialized language use, the formation of propositions, has claimed the whole turf, with elegant but not always satisfactory results.

If on the other hand resemblance relations were to be taken as the base line of natural language semantics, allowing for *mimesis* in a broad sense, including realist as well as fictional language-games, then we should look in the first place at the role of *imaginability conditions* in the process of comprehension and meaning. *Imaginability* is understood here as our ability to have and draw on mental iconic, multi-modal projections (olfactory, gustatory, auditory, tactile, thermal, emotional, kinetic, proximic, visual, etc.) stored in memory as nonverbal *schemata*. What has to be avoided in such a semantics is the category mistake of conflating the notion of *schema* with *image*. Doing so would be like confusing “currency” with “notes” or “coins”. While truth-conditions ask what would have to be the case for a sentence to be true and assertability conditions characterize the recognizable conditions “under which it may be correctly asserted”, or “under which an assertoric utterance … would be true”, *imaginability conditions* could be described as the *indirectly public* conditions under which we are able to imagine what a linguistic expression is about and how its specific utterance modifies its aboutness. Yet before what a sentence says can be traced to the
conditions that make it true and prior to its being judged according to warranted assertability, its content has to be imagined. And so does its purpose in terms of its speech act. Frege’s “force” or, more broadly, implicit deixis. (Ruthrof 2000, pp. 48–53; cf. also “modal opacity”, 1992, pp. 4f.) Leaving aside here the criticism made by Dummett who declares truth conditions as “generally unrecognizable”, (Dummett 1978, pp. xxii; xvi; cf. also Kripke 1982, pp. 73ff.; 86ff.) all those secondary “conditions” fundamentally supervene on imaginability conditions, defined here as the necessary conditions for the kinds of mental iconic projections without which we cannot be aware of linguistic aboutness and the purpose of the utterance of an expression. As such, they are iconic, quasi-perceptual schematisations of mental materials regulated by concepts according to directionality, quality, quantity, and degree of nonverbal abstraction, strictly trained and monitored by the speech community. (Ruthrof 2011b, p. 170) Imaginability conditions thus are the conditions under which native speakers have been abgerichtet to comprehend the meaning of linguistic expressions by imagining what they are about and for what purpose they are being uttered. Comprehension in this sense can be habitually automated or interpretively probing.

In pursuing this line of argument I draw on claims made by Hintikka and Hintikka concerning the mimetic function of Wittgenstein’s language-games. They ask “What is the mode of existence of the semantical relations between language and world?” (2007, p. 34) In answering the question they attack the received view that language-games are not so much about the link between word and world but rather about “language-acts” and their “interrelations”, “contexts”, and their nature”. This, the authors reject as an intralingual misreading. Instead, they argue that Wittgenstein’s earlier isomorphism between name and object has morphed in the PI into a more complex relation. Now language-games serve a range of different relations between language and world. Wittgenstein has progressed from “description” to a “multi-modal” account. Yet Hintikka and Hintikka insist that Wittgenstein retained the notion of “mirroring” in the sense of a syntactic reflection such that linguistic symbols are grammatically integrated in language-games constituting the “projective relations” between word and world. (2007, pp. 38–54) Yet, Wittgenstein’s concept of grammatical mimesis can be read at least in two ways. One is that grammar is an intralinguistic convention which we impose on the world, producing a conceptualized version of it; another is to say that resemblance between language and world should not be surprising since after all the former has inherited its basic structures from a pre-linguistic perceptual hominid protosyntax. The first explanatory avenue is supported by the view of syntax as the result of a catastrophic evolutionary event; (Cf. the early Bickerton 1981; 1987) the second is
shored up by arguments for iconicity in language. (Haiman 1985; 1980; Bouissac 1995; Landesberg 1992; Simone 1995) Whichever reading of Wittgenstein’s “pictorial representation of our grammar” we prefer, (*PI* §295) what is crucial is the question of what sort of *imaginability conditions* typically prevail in different kinds of language-games and how *Abrichtung* has automated our pragmatic/semantic uptake. Consider the following examples.

(1) When you get to the yard you will find a 600x50x6 [mm] 316 stainless steel flatbar. Cut into two 250 [mm] pieces, leaving one of 100 [mm] length. Continuous welding as per attached drawing.

(2) That was *such* a pleasant evening last night. Pity your husband couldn’t join us. I hope he will be better soon.

(3) Starve the lizards.

(4) I was murdered.

What sort of *imaginability conditions* must we stipulate for each of these sentences? It is only to be expected that such conditions should differ according to the more or less realistic and more or less complex human situations expressed in each case. But can we nevertheless speak of a common base condition? (1) Here we have a realist situation in which language functions as technical instruction for someone who knows what he or she is supposed to be doing. But far from the basic conditions of comprehension being restricted to action and immediate grasp of a portion of the world, even here complicated imaginative processes are called upon to facilitate the event of comprehension. To understand the instructions, the welder must mentally project the typical appearance of a flatbar, the properties of stainless steel grade 316, what “continuous welding” consists in, and a host of other mental operations. The public portion of this process is relatively small. Ditto Wittgenstein’s “slab”. (Cf. however Stainton 2009; Noë 2004)

(2) The three short sentences here are all about *absent* things. Comprehension involves mental time travel to the previous night, a scenario of the presence and absence of certain guests, and an implication, an additional mental reconstruction, of the reason for the husband’s absence. Here, the *imaginability conditions* include minimally our ability to project a skeletal mental, *nonverbal schema* to cash out the notion of a dinner or party. This can be done neither by way of sentences nor by propositions. The former would lead to an infinite regress of signifiers, the latter to the substitution for meaning of something that is already parasitic on the comprehension of sentences. High-speed nonverbal mental projections in suitably schematised form appear to offer themselves as a more likely solution. (3) In the case of metaphors, we can follow the traditional distinction between the comprehension of dormant or, perhaps better, habitual metaphors and novel meta-
phors. This is because in the former we are able to understand the expression “at a stroke”, while in the latter we find ourselves in an interpretively problematic context involving a noticeable span of time. In such opaque contexts, the linguistic linking compulsion often first produces an inappropriate sentence meaning. On the other hand, if we are familiar with the metaphor “Starve the lizards”, we have available the basic imaginability condition of a surprising situation and someone’s response to it. Here, Frege’s law of compositionality will not come to our aid. Abrichtung alone proves itself as a necessary condition. Accordingly, we have been conditioned what sort of situation we should imagine in response to the signifiers. (4) When the ghost appears on stage in Hamlet, telling that he has been murdered, the actor playing Hamlet, the character Hamlet, and the audience comprehend at high speed that what has occurred was a “murder most foul”. Meaning is near instantaneous and not in dispute, notwithstanding the time-consuming interpretive labour involved in any possible reconstruction of truth-conditions, correctness-conditions, or assertability-conditions. Hamlet’s doubts and subsequent procrastination have nothing to do with the shutter-speed comprehension of the sentence “I was murdered”. All that is required here is that the right imaginability-conditions are met. We must be able to imagine the paradoxical situation of a dead person being able to “appear to tell the tale”.

Without imaginability, then, no meaning. And so we cannot but wonder why the author of the PI declares that “what is hidden … is of no interest for us”. (PI §126) If so, why does Wittgenstein continuously call upon such propositional attitude terms as “consider”, “suppose”, “think of”, grasping and understanding “at a stroke” or “in a flash”, “lightening thought”, “sudden understanding”, and especially the ubiquitous “imagine”? One answer is that in spite of Wittgenstein’s penchant for “outward criteria” for “an inner process” (PI §580) in the bulk of language use, aboutness is indeed hidden. The slab is behind the house, not in front of us. It has to be imagined before it is seen. And even when something an expression talks about is in front of us our imagined schematization typically overrides its perception. The sceptic may say “When I comprehend a linguistic expression I don’t imagine anything; I just know what you are talking about”, which leaves us wondering what “knowing” amounts to. If it is simultaneous then we have collapsed the motivated signified (mental iconic materials plus their conceptual regulation) into the arbitrary signifier. The attraction of this economically elegant solution lies in its promise that “a whole cloud of philosophy” has suddenly condensed “into a drop of grammar”. (Wittgenstein, PI, PPF 315) Unfortunately, what has happened here, I think, is that we have conflated the speed with which signifiers are followed by signifieds in habitual speech with their quite unwarranted identification. Linguistic
signifiers are being confused with meaning. But signifiers only have signifieds if we know the language, which begs the question of the meaning in a big way. Even though Wittgenstein dismisses *Vorstellung* as incidental to meaning, he proceeds more cautiously. This is why he asks about the role of “*Vorstellbarkeit*” (imaginability) in securing “the sense of a sentence”. (§395) Beyond Wittgenstein’s meaning as use I want to ask how imaginability squares with normativity and the comprehension compulsion. I briefly turn to neuroscience for assistance.

## 5. What Can We Learn from Brain-language Research?

Even a cursory comparison will show that the complexities of existing theories of natural language will not be matched quickly by a similar level of sophistication on the side of neuroscience. Furthermore, it would seem that at least so far all the language features tested in neural research come from existing paradigms in the philosophy of language, semiotics, and linguistics. It will be a while yet before neuro-linguistics will be able to forge its own independent foundations and tell other language paradigms where they have gone wrong. Moreover, as Bennett and Hacker suggest, there will have to remain a division of labour between philosophical questions and empirical research, the former attending to conceptual clarification, the latter to the description of biochemical events. What these authors object to is that “the brain is conscious, feels sensations, perceives, thinks, knows, or wants anything”. After all, “these are attributes of animals, not their brains”. Above all, Bennett and Hacker want to expose the conceptual incoherence involved in statements like “the brain is ashamed”. (Bennett et al. 2007, p. 132)

Unlike some of the more vigorous critics of neural approaches to language like Maxwell Bennett, Peter Hackett, Roy Harris (2008), or Raymond Tallis (2011), I want to ask if, and if so what, an imaginability oriented semantics can learn from brain-language research. In so doing, I look critically at some recent claims that “the brain contains conceptual representations used to interpret image-like representations, thereby implementing powerful computational functions such as categorization, inference, propositions, and productivity”. (Barsalou 2012, p. 240) On this basis, Barsalou suggests that “the conceptualizations that underlie language production are similarly assumed to rely on systems of propositions”. (2012, p. 242; cf. 2003) But why, one may ask, should the generally assumed sequence from percept to concept and linguistic concept determining the meaning of linguistic expressions rely on “propositions”? Is there any evidence that propositions occur in the brain at the base level of neural functions? Is it not more likely that we import the notion of proposition as a Wittgensteinean
“requirement” into brain functions and so confuse our descriptive tools with what is? Is it not more likely, I ask, that it is not propositions but rather neurally coded resemblance relations, Aristotle’s *homoiomata*, that form the basis in the brain on which we have learnt to perform propositions for the purpose of considerations of the truth and falsity of sentences? Is there any neural evidence that suggests that we should reverse the Aristotelian sequence? What is striking too in Barsalou’s account is the resumption, though not acknowledged as such, of Kant’s productive *Vorstellung* under the simpler term “productivity” as a brain function generating “an infinite number of linguistic and conceptual structures that go far beyond those experienced”. (2012, p. 242) In this way, the bottom-up mechanisms” of “modality-specific” perception interact productively with the “top-down” mechanisms of conception. (Barsalou 2012, p. 250) As a result, however, modal specificities, such as iconicity, undergo “redescriptions” in an “amodal representation language”. (Barsalou 2012, p. 247) While the emphasis on multi-modality looks exciting, the invocation of yet another kind of language, I suggest, threatens a vicious regress of signifiers being explained forever by more signifiers, without ever producing meaning.

Neuroscience legitimately asks what must be going on in the brain for us to have concepts and linguistic meaning. As Pulvermüller puts it, “the aim of the neuroscience of language is to find the brain correlates of linguistic processes and representation”. (2010, p. 255) As such, neuroscience is aiming to provide empirical evidence from the parameters and hypotheses formulated in linguistics and the philosophy of language. The experiments of neuroscience are conducted accordingly. This being so, a serious worry is that if our dominant paradigms are flawed, neuroscience will import faulty assumptions into its experiments. To mind come assumptions about the role of propositions in natural language, public meaning, syntax driven semantics, Fregean compositionality, or the elimination of *Vorstellung* from meaning. If such worries are justified, as the example of Barsalou seems to suggest, then the propositional bias declares neurolinguistics hostile in principle to a description of natural language based on *imaginability*. The *semantics of imaginability* asks primarily what language must be like if we understand expressions only to the degree to which we are able to imagine what they are *about*. As such, the *semantics of imaginability* employs a transcendental speculative critical procedure in order to pinpoint the conditions without which we could not comprehend language the way we do. That such a research project is not entirely opposed to neuroscientific goals has recently been suggested by Fitch when he writes that “the ultimate goal will be to develop a theory of meaning incorporating non-linguistic conceptual representations”. (2009, p. 283) The kind of iconic mental schematisations at the heart of the *semantics of imaginability* would qualify, except that
mentalism is not part of Fitch’s research paradigm. There seems to me a conflict within Fitch’s project between the incorporation of non-linguistic conceptual representations and their quantifiability as “mathematical” entities, since the latter would result in a loss of the very iconicity characteristic of the nonverbal which he wishes to incorporate. (Fitch 2009, p. 307)

Given this qualification, what then are the insights in the brain-language camp that the semantics of imaginability could use to shore up its claims? One research result certainly qualifies as a candidate: the time span of semantic uptake in response to word sounds and simple phrases. As Pulvermüller et al. sum up, we can now measure brain responses “with millisecond temporal resolution”, with the typical result of <250ms for simple expressions. (Pulvermüller et al. 2009, p. 81) So fast can the event of linguistic comprehension be that even “incomplete word identity” permits “semantic integration”. (Van Petten et al. 1999, p. 394; cf. also Pulvermüller et al. 2006) This strongly suggests that “normativity” as rule-following is not a persuasive characterization of what is going on in habitual speech. If linguistic comprehension is automated to the extent that it occurs at such high speeds, the active notion of “following” is inappropriate and should be replaced by something like “being driven” or “compelled”. Hence, the vast bulk of semantic uptake seems better characterized by something like the comprehension compulsion.

A number of other neuroscientific observations, stripped of propositional and computational assumptions, could also be helpful. For example, the exploration of the multi-modal perceptual basis of linguistic meaning which we find in the emphasis on the brain producing an “attenuated copy” of perceptual reality could assist in shoring up the argument of imaginability as the semantic anchor of natural language, but only on condition that we view with scepticism the claim of an empirical priority of propositions (Barsalou 2012, p. 239) and such metaphors as “the computation of word meaning”. (Cree 2006) Sensorimotor brain activity as a source of abstraction has found increasing support in the literature since Maturana, Varela, and Lakoff argued notions of embodied meaning. (Maturana and Varela 1980; Varela et al. 1991; Lakoff 1987; Johnson 1987; Johnson and Lakoff 1999; Prinz and Barsalou 2000; Fauconnier and Turner 2002; Barsalou and Wiener-Hastings 2005; MacNorgan et al. 2011) Empirical evidence for “olfactory sensory-motor circuit” and “somato-sensory maps” interacting in a spontaneous “latching dynamics” as “the hopping of the network from one attractor state to another” up to “infinite latching” in the production of imagined scenarios strongly suggest that putting imaginability at the heart of natural language is not such an outlandish research hunch after all. (Russo and Treves 2011) Likewise, “mental simulations” as “central to linguistic processing” are attractive as long as the notion of simulation does
not lose its essential iconic character. (Barsalou 2012, p. 241; cf. also 2009) Lastly, resemblance relations could receive support from the literature on “mirror neurons”, once more on condition that their function is not reduced to computational and propositional explanations. (Rizzolatti and Craighero 2004; Kemmerer and Gonzales-Castillo 2010) I conclude from this brief excursion into neuroscience that, given my qualifications, the semantics of imaginability cannot be written off as mere folk psychology. After all, the event of meaning requires awareness of what is being talked about, which is a necessary imaginability condition.

6. The Comprehension Compulsion

Consider the way trapeze artists follow the rules of their training when they let go at a certain moment in order to grab in mid air another trapeze swinging across their trajectory. They have been abgerichtet in the sense of a strict training programme to follow the rules that guarantee their act is successful. One could say they enact a certain grammar of movement. But each time they do so they have the option of not to do so and as a consequence fall into the safety net or to their deaths. In the event of the native speaker’s moment of linguistic comprehension this option is not available. At the split second event of understanding what a word sound is about, its aboutness, we are not in a position to choose to obey or disobey. Although we are strictly trained, that is, abgerichtet in Wittgenstein’s sense, to comprehend the sounds of a standard expression, we do not follow a rule even if what we are doing reflects a rule. Our linguistic behaviour is automated well beyond habit, or Gepflogenheit. (PI §§198f.; 205; 337) Even Wittgenstein’s phrasing “Ich folge der Regel blind” (I follow the rule blindly; PI §219) seems to me to understate the degree of passivity involved in the event of meaning as comprehension compulsion. Ironically, this socially generated compulsion moves the process of verbal semantic uptake – however we wish to define it – closer than one might have expected to such biologically grounded processes as perception. Just as we do have much of a choice in what we hear, smell, taste, and see, so too is there no choice in understanding “delicious” on the verbal cue “delicious”. The comprehension compulsion appears to be inescapable, such that the “gap between an order and its execution” which must be “closed by the process of understanding” (PI §431) is so small that its escapes consciousness. The semantic externalist and internalist (intensionalist) are able to agree on the form of the comprehension compulsion as described. They can agree on the speed of semantic uptake measured by neuroscience at less than 250ms for words and simple phrases and even short sentences. They can further agree that both semantic and syntactic comprehension fall within this time span. Neuro-
linguists advise us that this is so because of the parallel processing they have been able to observe take place in the brain. (Barsalou 2012; Pulvermüller 2010) Externalist and intensionalist semanticists are likewise able to concur on the absence of choice in the matter. And lastly, both camps hold that in linguistic comprehension word sounds are linked with something besides the linguistic expressions themselves, either states of affairs or definitions.

Where externalists and intensionalists disagree with mentalists, and do so radically, is on the content of the comprehension compulsion, or on what precisely it is that is so compulsively linked. Intensionalism secures meaning definitionally. Externalism does so by linking word directly to world. (Stainton 2009) However, given that the bulk of natural language is about external states of affairs imagined in absentia, I suggest that we cannot do without a suitably abstracted mentalist component in the meaning process. This has been argued variously via Lockeian nonverbal generalisation, the Kantian “monogram” of the schematism chapter, a Peircean “hypoicon”, Husserlian appresentation, Wittgenstein’s “super-likeness”, Eleanor Rosch’s “prototype”, Fauconnier and Turner’s mental maps and “conceptual blending”, Ruthrof’s “mental iconic schematisations” and similar notions. Naturally, none of these are attractive to either externalists or intensionalists. While all three camps defend some version of “meaning”, externalism locates it outside the human mind, intensionalism in definitions, and the semantics of imaginability in the association of word sounds and mental iconic schematisations. This is incompatible with a number of intensionalist and externalist commitments: (1) formal sense, where aboutness and voice have been reduced to zero and absorbed by syntactic relations such as characterize $x = y^2$; (2) meaning as intensional procedure because of definitional regress unable to capture either aboutness or voice; (3) meaning as reference, which conflates aboutness with one of its applications, namely referring use; (4) verbal and sentential explications of meaning as we find them in dictionaries, which can be pursued only on pain of vicious regress; (5) the syntactic solution, which supervenes on aboutness; (6) neural meanings, which rely on causal relations in the brain while failing to account for the social dimension of meaning; (7) meaning as computational and propositional as brain functions, importing unwarranted theoretical assumptions; (8) meaning as use, which only caters for what is observable about language games and so cannot account for the contribution made to meaning by imaginability as regulated by the speech community.

The crucial question then is how to account for formal features, reference, verbal substitution, the role of syntax, neural causes, propositions, and what is public about language without failing to acknowledge meaning as a high speed mental and compulsion driven event. The summary answer I want to offer is by way of a semantics of imaginability. (Ruthrof 2014;
Such a theory finds qualified support in the middle path picture drawn by Grayling in *Truth, Meaning, and Realism.* (2007) “According to an influential view”, Grayling writes, “meanings are not in the head. I wish to argue that although this is correct, meanings are nevertheless in our heads. No paradox is here intended: the plural possessive hints at the direction of argument”. (Grayling 2007, p. 77) Grayling argues for both the role which speakers play in natural language and its public character and relative stability. Up to a point we can use Grayling’s double perspective to overcome Locke’s semantic privacy without giving up on intersubjective mentalism. I do so by arguing that we are not only strictly trained to play by the syntactic rules that prescribe idiomatic combinations of words in language-games and their application to relevant social situations; we are likewise abgerichtet to mentally project appropriate nonverbal aboutness.

7. Conclusion

Given that Abrichtung produces “meaning blindness” (Kripke 1982, p. 47) in automated speech under the gun of the comprehension compulsion, shutter-speed meaning should not be surprising. However, cortical conduction time, we are told by neuroscience, rules out instantaneity of meaning and the identity of signifier and signified. Neural research further suggests that even in high speed habitual speech, meaning remains a relation between signifiers and signifieds, involving motor, olfactory, gustatory, tactile and other modalities. At the same time, as argued, linguistic meaning defies formal, intensional, referential, verbal, sentential, syntactic, neural, computational, propositional, and observational, behavioural explications. I conclude, then, that shutter speed meaning is most likely achieved by repetitive, relentless, that is, automated Abrichtung of native speakers who cannot but perform meanings as community sanctioned associations of the sounds of linguistic expressions (words, phrases, sentences) with olfactory, gustatory, proximic, kinetic, visual, tactile, emotional, gravitational, thermal, and other nonverbal schemata. This is the result of the comprehension compulsion, which conceals the meaning process in its character of community regulated linkage of the arbitrariness of verbal signifiers and nonverbal iconicity. In this type of language use, normativity excludes non-sanctioned schemata. It follows that in its less exacting sense of “rule-following”, normativity fails to capture the quality of compulsion that seems to me at the heart of linguistic meaning as a mental and yet indirectly public event.

When Dummett writes, “in using words of a language, a speaker is responsible to the way that language is used now, to the presently agreed practices of the community”, he seems to me to understate the role of Abrichtung while overstating our capacity of decision making in the mean-
ing process of actual speech. (Dummett 1978, p. 430) For even in complex and opaque linguistic contexts, the construction of thoughtful, interpretive meaning rides on the shoulders of immediate uptake that occurs within the constraints of the comprehension compulsion. Only in the secondary sense of meaning performance can we speak of being “responsible”, an observation that draws our attention to two fundamentally different kinds of “use”, habitual use and its interpretive extension. But are we therefore also dealing with two different kinds of meaning? I do not think so. Meaning can still be globally defined as above, as long as we accept that the association of sounds and iconic mental schemata occurs at “shutter speed” outside the speaker’s control in habitual speech and at a slower pace at the other end of the interpretive spectrum, with infinite shades of meaning events in between.

REFERENCES


