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The Unfeasibility of Wittgenstein's Transgressus Logico-Philosophicus

A Banksy Reading

Abstract: Two recent publications take opposed views of the scope of Tractarian logic. According to Mauro Luiz Engelmann it is empty of any content, only containing what we already know *a priori*. Jaap van der Does and Martin Stokhof, on the other hand, want to establish its status as *applied logic*, intrinsically intertwined with reality. This point of contention between the authors revolves around the coherence of the entire system of the book. “Application of logic” is easy to say, but indicates the highly complex issue of the interface between logic as self-contained, systematic *prerequisite of* vis-à-vis creative *intervention into* the world. At this point, several central theoretical assumptions of the TLP must be coordinated with one another. Logic provides the framework for every meaningful linguistic utterance once and for all – namely for propositions whose content it cannot anticipate. The guiding formula TLP 6 claims to provide a bridge between the unforeseeable factual forms of elementary propositions and their unalterable general predetermination. The article argues that this solution cannot succeed according to Wittgenstein's own premises. This unsuccessful bridge-building marks the systematic denouement of the TLP as far as arguments are concerned. The subsequent speculations about meaning and silence are an aftertaste.

1 Agenda

It has often been pointed out that “logic” plays two different roles in Wittgenstein's *Tractatus*.¹ On the one hand, it forms the *precondition* of scientifically founded knowledge, on the other hand it functions as an *analytical tool* to clarify linguistic confusions. These quasi-transcendental and instrumental perspectives inevitably differ on the question of logic's application. Two recent publications take opposed views. According to Mauro Luiz Engelmann: “The generality of

1 Trans. David F. Pears und Brian F. McGuinness (London 1972).

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the logic of language and world is schematic, and by means of free variables and rules it expresses only what is strictly formal, empty of any content.” (Engelmann 2021: 41) “The connection of logic and world is that we are saying something *about something* no matter what is the case.” (Engelmann 2021: 33) Logic, in its formal closure, contains “what we already know *a priori*” (Engelmann 2021: 42). Contrast this with the declared intention of Jaap van der Does and Martin Stokhof: “the main thrust of our study is to establish that the logic of the *Tractatus* is applied logic” (van der Does & Stokhof 2020: 771). In this view, the names contained in elementary propositions refer to material objects, not to model-theoretical constructions. In direct contrast to Engelmann’s interpretation, they claim that: “language and reality are intrinsically intertwined” (van der Does & Stokhof 2020: 781) in Wittgenstein’s TLP.

What does Logic², which must take care of itself (cf. TLP 5.473), have to do with the world? How can it establish criteria of meaning “from a distance” for propositions whose content it does not foresee? These questions relate to a central problem of the TLP. The gap between definitive structure and unpredictability of circumstances marks the fault line of the treatise. “What belongs to its application, logic cannot anticipate.” (TLP 5.557) The point of contention between Engelmann and van der Does & Stokhof revolves around the coherence of the entire system presented by Wittgenstein. ‘Application of logic’ is easy to say, but indicates a highly complex issue. Its TLP-premises have to be uncovered step by step before the validity of the interpretations mentioned can be assessed.

The rest of this paper is divided into five parts, the first two leading up to its core concern. Section (2) starts with a circumspect look at Wittgenstein’s reference to Newtonian mechanics (cf. TLP 6.341), arguing that his Logic – despite certain affinities – differs from Newton’s paradigm in crucial respects. Section (3) highlights three maxims which make the difference. Next comes (4) a reconstruction of the decisive fault line. It aims to show that bridging the hiatus between the book’s logico-syntactic *a priori* and its intended semantics – the *transgressus* envisioned in TLP 6 – cannot be achieved. The application problem remains unresolved. Can Logic be conceived as a framework for empirical research while adhering to the maxims specified in section (3)? Mauro Engelmann’s response is incompatible with Jaap van der Does and Martin Stokhof’s views about this prospect. (5) The fifth section sums up their conflicting statements and discusses them in the light of the preceding sections. The upshot (section 6) will be that both contributions focus on necessary but insufficiently comprehensive aspects of the

2 “Logic” labeled with capital letters in the following refers to Wittgenstein’s tractarian two-faced notion of logic.

problem. A general remark about its self-destructing punch line is offered in the concluding section (6).

2 Mechanical Scanning versus Representation

According to TLP 6.3, logic covers “*everything that is subject to law*”. It provides “*a priori* insights about the forms in which the propositions of science can be cast” (TLP 6.34). A cross-reference to Newtonian mechanics serves as illustration. Wittgenstein likens it to the description of irregular black spots dotting a white surface. Its faithful reproduction may use various descriptive frames. “The different nets correspond to different systems for describing the world.” (6.341) Newton’s axiomatic mechanics “thus supplies the bricks for building the edifice of science” (*ibid.*), thus providing a theory by which the world is viewed given experiential data. Logic similarly proceeds by supplying a framework registering given circumstances. The fact that certain phenomena may be *optimally* described in one particular way indicates a satisfactory fit with the world’s texture. Its composition is rendered by a logical apparatus corresponding to its material correlates. (Only a five-fingered glove sits easily on an ordinary human hand.)

Wittgenstein’s comparison, however, conceals a glaring difference. Newtonian mechanics (in his portrayal) attempts to reproduce (spot by spot) a monochrome pattern (cf. TLP 6.341). Such blobs do not represent a world, but mere spatial occurrences, reproduced with pinpoint accuracy by a scanning procedure. Irregular black spots do not group *themselves* into structures. There is no mention of *empirical objects* in this account, still less of their *properties*. A mathematical system coordinating single spots does not distinguish epistemological meaning. Logic, on the other hand, pertains to *a priori* forms of *the world’s constituents*. Mathematical functions need to be *interpreted* to prove their cognitive value. (Scanned fingerprints are not *per se* knowledge about fingers.) Wittgenstein, in a comparable context, addressed this very issue: “we can indicate a point on the paper even if we do not know what black and white are” (TLP 4.063).

According to the TLP’s picture theory, capturing the world’s reproducible patterns is done by way of isomorphisms. But isomorphic ornaments or wallpapers do not amount to *representation*. Capturing similarity by suitable construction rules is a formal procedure. Changing the parameters of a matrix preserves isomorphy even though its models may not be recognizable as pictures. Logic, beyond that, predetermines and mediates knowledge by verifiable propositional structures. Wittgenstein’s cross-reference to Newton turns out to be somewhat misleading. Scanning *copies* existing forms, it does not *recognize* them. Representation submits them to the test of truth. (Wallpapers tell us nothing about the

world.) The TLP application problem is more intricate than that of Newtonian mechanics. A brief look at the precursors of the Newton segment (TLP 6.34 ff) shows Wittgenstein's awareness of the tension between physics and Logic.

According to the first version of Wittgenstein's reflections on Newton, "[m]echanics is *one* attempt to construct all the propositions that we need for the description of the world according to a *single* plan" (Ms 102: 53r; NB 1969: 6.12.1914). Alternatives are thus considered. The TLP adds a crucial clause: "Mechanics is an attempt to construct according to a single plan all the *true* propositions that we need for the description of the world." (TLP 6.343) The emphasis is shifted from "*one* attempt" to "*true* propositions". Logic is explicitly given its due. Physical theories provide (possibly alternative) approximations to a subject area, whereas *truth* is what counts in Wittgenstein's amendment. Physics, unlike logic, can be methodically separated into theoretical and applied research. Wittgenstein's attempt to determine the "general propositional form" (TLP 6), on the other hand, aims at integrating both branches: hence the more comprehensive problem of application.

The manuscript draft, furthermore, suggests an ad hoc attitude to the assembly of spots. Its outlines "can be described by means of a particular net of a *particular* degree of fineness" (Ms 102: 52r; NB 1969: 6.12.1914). The TLP adds "completely": "that it can be described *completely* by a particular net with a *particular* size of mesh" (TLP 6.342). Truth-functionality and completeness are logical concerns without comparable theoretical significance in physics. Wittgenstein's amendment pushes the issue towards universal closure. "Hence there can *never* be surprises in logic." (TLP 6.1251) (Tell this to a working physicist.) Engelmann's and van der Does and Stokhof's conflicting approaches introduced at the beginning of this paper are geared to the seclusion and utilization of Logic respectively. The issue calls for closer examination. It is concerned with Logic's *transgressus* from formalism to applicability.

3 Maxims

The relationship of Logic to the world that will be discussed in the following pages is determined by three crucial starting conditions:

- The description of the world requires *simple basic elements*.
- The *totality of all elements* relevant to this description has to be given.
- Elementary propositions instantiate prototypes (*Urbilder*).

The application problem revolves around these three requirements. Is Logic's overarching structure given once and for all or does it depend on individual cases,

confirming knowledge claims as states of affairs are verified? The present section offers a sketch of the methodological bridge entailed by the suggested conditions. It covers (3.1) basics of TLP ontology, (3.2) its heterodox handling of quantification and (3.3) prototypes as a key prerequisite of the general propositional form. Taken together, these assumptions determine Wittgenstein's unique view on the "worldliness" of logic and therefore its applicability to states of affairs.

3.1 Simple Basic Elements

Some crucial TLP-concepts seem innocuous, whereas some of Wittgenstein's definitions turn out to be more taxing. "Things", "facts" or "circumstances" are easily taken for granted, while the description of "substance" as form and content (TLP 2.025) seems opaque. (How does the conjunction between a structural trait and some material given actually work?) The background to this particular terse claim is provided by Frege's context principle. Wittgenstein puts it like this: "Only propositions have sense; only in the nexus of a proposition does a name have meaning." (TLP 3.3) This subsection will argue that the *transgressus* mentioned above hinges on this presupposition. (For a masterful account of the early Wittgenstein's treatment of the context principle see Kremer 2019: 87 ff.) Consider the crucial distinction between lists versus names joined together in propositions. A name, on the one hand, means ("bedeutet", TLP 3.203) an object, but cannot, on the other hand, signify *per se*: "Only facts can express a sense, a set of names cannot." (TLP 3.142) Combining both specifications one gets: "The simple signs employed in propositions are called names." (TLP 3.202) This sounds straightforward enough, but raises a crucial question. Are elementary *names available* in order to be used in propositions or do they have to be *embedded in propositions* in order to be considered *as names* (rather than syntactic marks)? To put it in terms of TLP semantics: if listed "names" lack sense, how is it that propositions compounded by the very same expressions succeed in conveying meaningful messages? Something devoid of meaning is concurrently conceived *as presenting* a particular object as the carrier of properties. This is no problem for ordinary use. An existing list of names might be employed to identify things or call up people. The expression is used according to a conventional custom. But a *strictly* meaningless list entry (Wittgenstein's "simple sign", TLP 3.202) seems incapable of fulfilling its assigned task, which is to stand in for the substance of the world. Note that this term is defined as "form and content" *independently of states of affairs* (cf. TLP 2.021, 3.221), regardless of whatever is the case (cf. TLP 2.204 f).

Names devoid of context might be regarded as a unique logical *form*, but what about their *content*? It cannot be a matter of contingent givens. The content Wittgenstein refers to is “internal properties”. “If I aim to know an object, though I need not know its external properties, I must know all its internal properties.” (TLP 2.01231) These must be characteristics of things irrespective of their empirical appearance; features an object *has to* exhibit. (For a comprehensive account of TLP’s internal relations see Mácha 2015.) Marie McGinn sums it up: “there is no more to the meaning of a primitive sign than its being used in propositions that can be compared to reality for truth or falsity” (McGinn 2007: 212). A state of affairs implements a particular configuration of objects pre-empted by an antecedent formal pattern. The problem is to explain how the required “internal properties” straddle the hiatus between ontological simplicity and empirical confirmation. Where do mere names-in-waiting get their pre-propositional content from? How is this *transgressus* even conceivable?

One has to look at the context principle to find the answer. “Objects make up the substance of the world. That is why they cannot be composite.” (TLP 2.021) Objects (designated by names) are said to precede facts just as names precede elementary propositions. And, at the same time, these substantial givens exhibit in-context characteristics. As Wittgenstein (boldly) states: the appearance of objects in states of affairs “must be part of the nature of the object” (TLP 2.0123). This *nature*, unlike accidental qualities, has to somehow *inhere* in objects, yet “[o]bjects are simple” (TLP 2.02). How can simple objects, taken by themselves, *be* substances (“muß in der Natur des Gegenstands liegen”, TLP 2.0123)? They are supposed to possess pre-propositional *content* that *also* figures in states of affairs. A priori forms have to be co-determined by parameters imposed upon them by given circumstances. “If things can occur in state of affairs, this possibility must be in them from the beginning.” (TLP 2.0121) The context principle seems to work as a *syntactico-semantic switchboard* turning a linguistic token (a list item) into a prospective symbol (proposition component) into an actual reference. But this violates Wittgenstein’s explicit provision “It is impossible for words to appear in two different roles: by themselves, and in propositions.” (TLP 2.0122) Wittgenstein ignores his own instruction here. He uses “name” as a decontextualized indicator *and* a bearer of substance. We will discuss the issue after having introduced the two remaining guiding principles.³

³ Wittgenstein is not simply contradicting himself. His solution to the conundrum can be found by looking at the problem from a higher perspective. This stance, however, is only available by discarding the current methodological approach. Cf. Subsection 3.2 of this contribution.

3.2 Quantification

Predicate logic offers a truth-functional procedure for dealing with syntax and semantics of general terms. They refer to general properties, subsets of a universe of discourse. Wittgenstein, on the contrary, is dismissive towards this approach from early on. In “Notes on Logic” (NL) he repeatedly opposes the view that the apparent “sign” of a two-digit relation designates something called “relation”. “Symbols are not what they seem to be. In ‘*aRb*’, ‘*R*’ looks like a substantive, but is not one.” (NL 2009: C9) The sign “ $(x)R(y)$ ” is not a relation’s *name*. It represents a constellation between two substantive correlates (cf. TLP 3.1432). A corollary of Wittgenstein’s non-standard view has (surprisingly) not received its deserved attention: “I dissociate the concept *all* from truth-functions.” (TLP 5.521) Generality is usually modelled as a “bag” of items, defined by a set applying to all envisaged objects. Wittgenstein’s view is markedly different. His designation of generality “indicates a logical prototype [...] and gives prominence to constants” (TLP 5.522). More on this in a moment, but note the interim result that the TLP’s simple objects *cannot be addressed* by picking items from a list. Their substance can only appear as their names are run through the ontological switchboard of the context principle, providing them with worldly properties they cannot fail to have. The world *in toto*, not arbitrary segments of a universe of discourse, has to be considered to deal with substances, because it is only at this point that the essence of things may definitively be recognized. “The world is determined by the facts, and by their being *all* the facts.” (TLP 1.11) McGinn has convincingly outlined the consequence. “For expressions that give spatiotemporal coordinates, or the distribution of material points: it is the system of representation that gives these elements of representation their meaning.” (McGinn 2007: 214) Given the determination of all elementary propositions, the complete synopsis of verified “things-in-combinations” is all there is, presupposing neither (names of) accidental nor essential properties.

3.3 Prototypes

This brings us to the issue of prototypes (*Urbilder*), an often-overlooked feature of the TLP’s design (cf. TLP 3.333, 5.522, 5.5351). Preparatory manuscripts provide more detailed information. In the early diaries there is talk of a putative prototype (“Urbild”), occurring within an image (cf. Ms 102: 30r; NB 1969: 12.11.1914). Wittgenstein asks a remarkable question: “Then is the picture perhaps not the simple proposition, but rather its prototypes which must occur in it?” (Ibid.) (The later Wittgenstein’s paradigms are here foreshadowed.) The isomorphisms inherent in TLP’s picture theory are supplemented by the account of prototypes. States

of affairs are objects in-formed, i.e. held together as an evaluable structure by logical patterns operative in any given state, irrespective of empirical data. Such forms determine the content shown in a proposition, i.e. the general features affirmed by the respective judgments, namely the substance realized. They vouch for a picture's epistemic relevance and this is why "the notation for generality contains a prototype" (TLP 3.24). An isolated snapshot cannot capture a logical structure. Its propositional status (if any) accrues from determinants shared with kindred propositions: isomorphic implementations of names and properties, their "Urbild".

The concept of an *Urbild* runs counter to the methodological division between formal construction and application suggested by model theory. The variables of quantifier logic lack affinity to the peculiarities of the objects they are (according to an interpretation) meant to refer to. "[I]t comes to seem as if logic dealt with things which have been deprived of all properties except thing-hood, and with propositions deprived of all properties except complexity." (NL 2009: B71) One must not strip away and subsequently restore substance to objects. The functional switch provided by the context principle has to be taken into account. Valid empirical statements, one may paraphrase Wittgenstein's suggestion, should not methodologically abstract from "substance" only to replace it by set-theoretical equivalents. The following considerations will demonstrate that the issue of applied Logic hangs on prototypes (miraculously, as it were) fitting their real-life instantiations.

4 Transgressus?

McGinn's general assessment quoted above can now be supplemented. Her "system of representation" is to include prototypes. They inform a proposition's claim about the indispensable ("internal") features of states of affairs represented and can be regarded as ontological "meta-images" anchored in syntax. "Propositional variables" are their formal cornerstones. A prototype is "expressed in the proposition representing it (i.e. the prototype; H.H.) by an internal property of the proposition" (TLP 4.124). Such internal properties (obligatory common features of a specified set of propositions) are represented by variables capturing those propositions: "To stipulate values for a propositional variable is to *give the propositions* whose common characteristic the variable is." (TLP 3.317) Note that expressing structural features of propositions does *not in itself* determine their sense. The *variable*, strictly speaking, is but a syntactical ploy in need of appropriate semantics. It takes more to make a *symbol*. "I call any part of a proposition that characterizes its sense an expression (or a symbol)." (TLP 3.31) Very well, and how

does proper sense enter the picture? Wittgenstein's surprising answer is: "An expression *presupposes* the forms of all the propositions in which it can occur" (TLP 3.311; emphasis H.H.) Prototypes as syntactic features qualify a structure as a bearer of sense, *preempting* the logical structure of its prospective interpretations! Remember that actual elementary propositions *have to be given* for their senses to qualify as values of the respective propositional variables (cf. TLP 3.313). This reverse anticipation, it is worth pointing out, is adroitly formalized in formal model theory where elements of syntax are interpreted as "meaningful" by recourse to a supply of members of a universe of discourse and suitable definitions of logical operations (connectives and quantifiers). But Wittgenstein, as noted above, does not take this route. The point of his propositional variables is precisely to avoid model theoretical accounts of generality.

Model theory works by aggregating featureless entities into sets constituting their properties, which are then predicated of bearers of names. "Substance" is tackled by modal logic, which is out of reach for Tractarian syntax. Wittgenstein, for his part, draws on the context principle to morph names into bound variables. "An expression has meaning only in a proposition. All variables can be construed as propositional variables. (Even variable names.)" (TLP 3.314) Understanding names as propositional variables amounts to taking them as a particular kind of proposition component, i.e. that of ensuring the identification of a certain object. Such "names" are sets of propositions determining the internal relations of their designation, i.e. all structural conjunctions without which something cannot be conceptualized. The context principle synthesizes meaningless names and their propositional forms by passing them through an "ontological switchboard". It might be said to modulate inexpressible substances into sets of contexts constituting their internal properties. *We have finally reached the core of the application problem.*

The issue is as follows: Propositional variables constitute propositions containing symbols whose meaning is derived from factual application. But Wittgenstein also regards those variables (names among them) as entirely arbitrary. "What values a propositional variable may take is something that is stipulated. [...] And the *only* thing essential to the stipulation is *that it is merely a description of symbols and states nothing about what is signified.*" (TLP 3.316 f) Introducing an expression as symbol-to-be is a syntactical convention. So how could it be *stipulated* to precisely match "the forms of all the [empirical; H.H.] propositions in which it can occur" (TLP 3.311)? One is supposed to design a syntax capable of expressing every feature of a world it is, by definition, methodically separated from.

TLP-Logic, according to this assessment, is two-faced. It prescribes general rules of meaningful language *while also* incorporating (via propositional variables) the logical form of the *results* of its (scientific) practice. The first line of ar-

gument is manifest in TLP 3.33: “In logical syntax the meaning of a sign should never play a role. It must be possible to establish logical syntax without mentioning the *meaning* of a sign: *only* the description of expressions may be presupposed.” But check this against the following statement: “A sign does not determine a logical form unless it is taken together with its logico-syntactical *employment*.” (TLP 3.327; emphasis H.H.) One might think of this employment as a general prerequisite. The given context, however, is quite specific. It points to *singular semantic instances* in determinate circumstances: “In order to recognize a symbol by its sign we must observe how it is used with a sense.” (TLP 3.326) This can by no means be the job of an *a priori* logic. Wittgenstein addresses the crucial issue in TLP 5.55–5.5571. “We now have to answer *a priori* the question about all the possible forms of elementary propositions.” (TLP 5.55) The problem facing him is that positing a general *ab initio* logical framework *combined with* research-based empirical adequacy seems to be impossible. The TLP (albeit briefly) considers several approaches to resolve the dilemma.

4.1 What and How

One approach connects directly to the context principle. Elementary propositions consist of in-formed names. The obligatory survey of their possible forms requires acquaintance with the inventory of all names needed for the purpose of describing existing (and therefore possible) states of affairs. Now all variables, “even variable names” (TLP 3.314) can be regarded as propositional variables. Let me explain the situation in simplified terms using the example of a “world” whose simple names refer to ancient military commanders. The symbol “Caesar” (taken in its intended meaning) stands proxy for the occupant of the subject position in certain claims, namely those that turn out to be true of Caesar. This ingenious move allows Wittgenstein to put the context principle into practice. There are no meaningless terms “waiting” to be used to refer to something. Names are propositional variables by design. Their logical form is determined by their semantic function. Given the matrix of forms characterizing a particular proposition the propositional variable singling out names is to refer to the “bearer” of the internal properties ascribed to them. Notice that names, being propositional variables, have to exhibit the essential complexity of the entities referred to.

Assume for illustrative purposes that Caesar’s essential properties (as far as history books are concerned) are (1) his date of birth, (2) his crossing the Rubicon and (3) his being assassinated by Brutus. His name’s logical form, given these assumptions, would have to be a 3-term relation. Wittgenstein’s construction manages to integrate predication and truth-functional logic without recourse to quan-

tification. But there is a problem. Could Logic have foretold Caesar's particular arity relation? And, considering the world of particle physics, what can logic tell us about the permissible forms of sentences in quantum physics?

Syntax needs to mirror the composition of an intended referent to deliver operational symbols. Wittgenstein introduced prototypes to address this concern. The set of propositions comprising all "essentially" true utterances about Caesar is an extension standing in for this entity. It has to be arrived at by discriminating acts of judgments, guided by conceptual patterns a.k.a. prototypes. The TLP is obviously not concerned with single instances of propositions, but it has nevertheless to account for the general form *every* named entity has to exhibit and this is where it comes to a halt: "Elementary propositions consist of names. Since, however, we are unable to give the number of names with different meanings, we are also unable to give the composition of elementary propositions." (TLP 5.55)

The proper form of a name is its indicated contribution to a proposition's truth conditions. Since Wittgenstein's names are propositional variables their contributions have to be aggregated and checked against the entire web of cross-proposition dependencies linking states of affairs. The context principle is held to be all pervasive; its *modus operandi*, however remains inscrutable. Wittgenstein takes refuge in a time-honored distinction. "Logic is *prior* to every experience – that something *is so*. It is prior to the question 'How?', not prior to the question 'What?'" (TLP 5.552) This suggests a meta-empirical merger between names outside and inside of propositions. The mere existence of an object is thereby assumed to be a fixed point onto which properties may be attached. This works for accidental properties but cannot hold for Wittgenstein's elementary objects-as-substance which are independent of whatever is the case (cf. TLP 2.2024). *What* are they supposed to be without any *How*? Pre-propositional expressions concerning a substantial "What" are supposed to mesh with "Hows", some of them instantiating the "nature of the object" (TLP 2.0123) by means of "the nature of the natural and inevitable signs" (TLP 6.124).

4.2 Tangential Stasis

Wittgenstein addresses the dilemma in aphoristic remarks briefly to be sketched here.

(1) If the world had to do entirely without logic, it would disintegrate into happenstance. The whole counterfactual is a dead end. We have to start with basic identifiable givens (simple things, cf. TLP 2.02), unless we want to slide back to all-encompassing indeterminacy. It follows that the propositions of Logic *have* to be taken into account if we want to be able to talk about states of affairs.

Logic cannot be envisioned in splendid isolation. “They [the propositions of logic; H.H.] presuppose that names have meaning and elementary propositions sense; and that is their connection with the world.” (TLP 6.124) In other words, logical forms *require* empirical judgments just as empirical judgments exhibit logical forms. The question is: How can Logic pick up substantive features of a name’s bearer? – How can there be substantive features without logic?

(2) The coda of Wittgenstein’s attempt to outline Logic’s application problem is to be found in TLP 5.557 f where the demand to state all forms of elementary propositions *a priori* is raised and declared to be unfulfillable. “The *application* of logic decides what elementary propositions there are. What belongs to its application, logic cannot anticipate.” (TLP 5.557) Neither the tautologies of propositional logic, nor propositional variables regarded as syntactic tokens (cf. TLP 3.317) reach out to the world. Wittgenstein seems to squarely contradict his postulate of Logic’s *a priori* epistemological adequacy here. It cannot deal with content to which it lacks access.

(3) Wittgenstein maintains that Logic may neither dispense nor collide with its application, so a third option is considered. “[L]ogic has to be in contact with its application” (TLP 5.557) and he concludes: “If I cannot say *a priori* what elementary propositions there are, then the attempt to do so must lead to obvious nonsense.” (TLP 5.5571, cf. TLP 5.55 f)

The targeted transgressus is hereby cancelled. “Does it make sense to ask what there must *be* in order that something can be the case?” (TLP 5.5542) The question squarely hits the entanglement established by the context principle. “What there must *be*”, its pure substance, is posited vis-à-vis its *somehow* being the case. Tractarian names present “things-qua-substances” as “things-within-states-of affairs”, as hybrids between givens that may be named but cannot *be said* to possess substantial properties, because relations must not be named. The procedural black box of the context principle may at this point be reconceptualized as Logic and world being in unison; an unachievable result, nonetheless showing itself. Wittgenstein leaves the reader with the riddle of how Logic might be *applied* if it merely *touches*⁴ its counterpart. To merely border on something is not to be involved in it.

4 “berühren” in “Logik muß sich mit ihrer Anwendung berühren” (TLP 5.557) has surprisingly been rendered as “have contact” (Ogden) or “being in contact” (Pears/McGuinness).

5 On two Sides of the Quandary

Triggered by opposing interpretations by Mauro Engelmann and Jaap van der Does & Martin Stokhof, Wittgenstein's positions on the status of Logic were examined in details. Neither of the contributions is entirely satisfactory. Both present accurate arguments while ignoring essential aspects of the problem. The present section will discuss the merits of both papers' contributions in the light of the preceding close reading of Wittgenstein's impasse.

5.1 Mauro Engelmann

Engelmann's emphasis is on self-sufficient logic. This feature is amply in evidence in TLP but cannot be sustained unconditionally. *How exactly* must there be Logic, since there obviously is a world (cf. TLP 5.5521)? Engelmann recalls Wittgenstein's aim of presenting the unity of language in a "general form of the proposition" (TLP 6) and notes that it contains no categorical differentiations. "The very symbolism of the *Tractatus* has nothing in it to express *kinds* of things." (Engelmann 2021: 36) It seems that Logic is unequipped to relate to experiential realities differentiated in extension, weight, color and tone, but Engelmann presents an account of how TLP expressions can nevertheless be *applied* (i.e. figure as symbols). Prototypes, as he rightly points out, play a key role. They provide projection patterns for establishing picturing relations: "Thus a logical pattern, a stereotype, determines projections by means of structuring the rules in a picturing relation." (Engelmann 2021: 44) Such a rule "gives it [the propositions; H.H.] structuring rules in context" (ibid.). Engelmann's idea of a prototype's projective function is correct, yet seriously incomplete.

Are there as many prototypes as there are kinds of things? "A prototype" as "implicit determinant of the structuring traits of propositions" (ibid.) indexes "the structuring possibilities that determine a projection in language" (ibid.; emphasis H.H.) The singular suggests that we are dealing with specific, not formally predetermined rules. But where do the rules get their content from? "Applications" cannot create them out of the blue. There seems to be a gap between the TLP system lacking the means to express kinds and the manifold to be depicted. Engelmann's reference to prototypes points the way, but he fails to mention that the "projection" is encoded by propositional variables. Engelmann's strong thesis cited at the beginning of this paper states that logic expresses the contentless fundamental structure of the world through its free variables. TLP epistemology, however, abolishes free variables. "All variables can be construed as propositional variables. (Even variable names.)" (TLP 3.314) They mark specific contributions

to the meaning of propositions which in turn is constituted by true/false judgments pertaining to their entire structure.⁵ Engelmann seems to conceive prototypes as empty propositional patterns without “grounding”. “[A] prototype like $\varphi(x)$ is just an empty schematic form that is expressed by real variables” (Engelmann 2021: 49). Which “real variables”? Propositional variables are “real” insofar as they cover the entire scope of a particular “kind”, but they cannot be derived from “empty schematic forms”. According to Engelmann, the “minimal symbolism” of the TLP allows, by means of its variables, the capture of “any form known *a priori* for *whatever* facts” (Engelmann 2021: 36) This programmatic assertion seems untenable in view of the points made in the previous section.

To briefly recapitulate: A variable name, conceived as propositional variable, is the marker of all propositions in which a particular given name contributes to a true/false assessment. It stands for a thing along with all the properties that must be found expressed in the propositions making use of the symbol in question. It is, in particular, associated with the properties the thing referred to *must possess* for the respective proposition to make sense. Such names are the “embodiment” of the context principle’s functional superimposition. TLP syntax’ application turns expressions into symbols of meaningful parts of propositions (cf. TLP 3.31), with propositional variables capturing their logical form (cf. TLP 3.317). And yet TLP syntax is said to be completely detached from the signified. “In logical syntax the meaning of a sign should never play a role.” (TLP 3.33)

As far as this detachment is concerned, Engelmann’s point of view is well-founded. Wittgenstein’s pure syntax merely exhibits the internal composition of a system of expression. “What makes the symbolism self-standing is the fact that it does not say anything, but only shows the formal unity of language.” (Engelmann 2021: 49) The trouble is that Wittgenstein has two contradictory trains of thought running in parallel. The application part of his concerns is missing. Engelmann considers the meaning of variables as the logical form of an object par excellence (cf. Engelmann 2021: 33) but neglects that every name-as-propositional-variable *per constructionem* imparts the pattern of all essential occurrences of the thing named. He is aware of the strange epistemological situation: “We do not know *a priori* which *specific* forms will be found in analysis, but we do know the *possible* forms, since we know how to operate with the prototypes (TLP 5.555).” (Engelmann 2021: 47) In order to “operate with prototypes”, we must pick *which one* is to represent the structure of any given elementary propo-

⁵ Leo K.C. Cheung’s carefully argued paper interpreting propositional variables and variable names (Cheung 2005) is questionable because of his extensive hermeneutical use of first order quantification.

sition. It is in propositional variables that “*specific forms*” *show up* – Logic cannot invent them.

Wittgenstein made this point in a terse and elegant *bon mot*. “It is supposed to be possible to answer *a priori* the question whether I can get into a position in which I need the sign for a 27-termed relation in order to signify something.” (TLP 5.5541) This amounts to admitting defeat in an unexpected place. To answer the said question would amount to Logic –, which only deals with the “What” – predetermining the nature of every available object by simply naming it. It could anticipate an elementary 27-fold entity uniquely characterized by a referring propositional variable (name). To repeat a previous quote: “Elementary propositions consist of names. Since, however, we are unable to give the number of names with different meanings, we are also unable to give the composition of elementary propositions.” (TLP 5.55)

5.2 Jaap van der Does and Martin Stokhof

Jaap van der Does and Martin Stokhof, Engelmann’s hermeneutical opponents, argue “that the logic in the *Tractatus* is an applied logic” (van der Does & Stokhof 2020: 771). A section of their study is devoted to Wittgenstein’s cross-reference to mechanics (van der Does & Stokhof 2020: 786 f), which has been commented upon in the first section of this paper. Just as Newton’s mathematics provides a framework for empirical science, Wittgenstein’s Logic claims to provide a number of logical principles operating as forms of rational discourse. In both cases, the question is how to conceptualize the interplay of poles initially conceived as separate domains. Does & Stokhof grant that Wittgenstein’s logic seems to be unique and uncorrectable. “[I]t does not allow for alternatives and hence lacks the kind of arbitrariness that is inherent in a framework of physics” (van der Does & Stokhof 2020: 787). Logic does not need empirical data to confirm or reject its logical foundations. Yet, the authors emphasize the counter-tendency: *application* of signs (as symbols, cf. TLP 3.262, 3.326, 3.311) is mandatory. Even though, according to Does & Stokhof, the truth-functional calculus does not allow for alternative worlds, this does not force us to conclude that *the relationship* between the *a priori* and its opposite must be unalterably fixed.

The starting points of TLP, according to the authors, are not individual elementary propositions. “What counts is their being elementary, i. e. having a *specific form* and also the way in which they can be combined into truth-functional complexes.” (van der Does & Stokhof 2020: 787; italics H.H.) The key phrase in this (correct) remark is “specific form”. The authors distinguish between propositional logic and the internal structure of elementary propositions. According to

them the former is the paradigm of logical autonomy whereas the latter is a matter of application. The *use* of the syntactic system establishes links to the factual world: “examples of names and objects are never given, and it suffices to assume that there are such, and up to a certain point we are free to choose what we will regard as such.” (Ibid.) This sounds like a hedged version of Engelmann’s free-variable approach and requires the same response: The informing role of propositional variables is missing. We are *not* free to choose the objects of reference at testing to the truth of the propositions. Propositional variables oblige us to check a set of pertinent propositions for their correctness. Wittgenstein’s Newton reference envisages the application of alternative frameworks, but this is precisely what Logic’s universal closure supercedes. The logico-philosophical system undeniably depends on its application. But its archetypes are definitely not adjustable test moulds.

Does & Stokhof’s “up to a certain point” suggests a flexible empiricism. This attitude, certainly widespread today, is not in line with Wittgenstein’s unfaltering adherence to Logic’s timeless, all-encompassing position vis-à-vis the world. His general form of proposition, building on the occurrence of definite, albeit unspecified, elementary propositions aims at limiting meaningful discourse once and for all. It is meant to capture, by its inclusion of propositional variables, the overall structure of *the* world. This feat is achieved by the following inconspicuous, bracketed expression: “(An elementary proposition is a truth-function of itself.)” (TLP 5) *However* elementary propositions happen to describe states of affairs, they thereby enter the realm of logical form. This move amounts to inserting the entire unpredictable content represented by propositional variables into the recursive mechanism of TLP 6 with the stroke of a pen.

Does & Stokhof attempt to attenuate the TLP’s dogmatism. Wittgenstein’s brick-building metaphor (cf. TLP 6.341) serves the authors to illustrate its distinction between the logical framework (prefabricated bricks) and its application (building activity). “The actual bricks need to come from elsewhere, but any building needs to be constructed from bricks, i. e. it needs to use building materials in *specified* ways.” (van der Does & Stokhof 2020: 787; emphasis H.H.) The catch with this comparison is that even though the supply of material bricks on the one hand and building activities on the other are distinct contributions to the overall goal, they do not exemplify the relationship required in the Wittgensteinian context. Its “specified ways” (prototypes) are *quasi a priori* determined by *an architect*, not to be ad-libbed by construction workers. A building’s *design* (the matrix of the coordinate system) rather than “building activities” determines its characteristics. (Conventional bricks do not allow for a Gaudi church. Or take a look at Kundmanngasse 19 in Vienna’s third district.)

The authors *do* explore the options of coexistence between antecedent design and actual implementation. Their talk of “entanglement” (van der Does & Stokhof 2020: 781) is explained by reference to transcendental arguments. “The main contribution of this study is the view that the logic introduced in the *Tractatus* is transcendental while still essentially applied.” (van der Does & Stokhof 2020: 777) In their view logic, albeit applied, remains non-empirical: “it is much rather an independent prerequisite for all empirical description.” (Ibid.) The present paper attempts to show that the idea of Logic’s non-empirical application (formerly known as synthetic *a priori*) is not available in a TLP-framework. Its transcendental ambitions (if there are any) are stalled with the two realms ending up side by side. “Transcendental” readings of the TLP are not uncommon and in their case, as the authors assure us, to be taken lightly. Yet, their use of the phrase remains confusing. A toolbox (cf. van der Does & Stokhof 2020: 793) provides “prerequisites” for certain endeavors, but its instruments are not “entangled” with the workpieces it operates upon. Logic’s “tools” are emphatically *not* manufactured to fulfill a specific purpose. But could they not be regarded as “conditions of possibilities” (van der Does & Stokhof 2020: 786) of states of affairs, which would be a kind of entanglement? The previous section has shown that Wittgenstein’s “logic and its application must not overlap” (TLP 5.557) and that non-transgressive vicinity does not enable anything. The “contextualized holism” (van der Does & Stokhof 2020: 794) presented by the authors aims at a balance between absolutist and contextualized approaches. It is an adaptation of Wittgensteinian motifs to contemporary sensibilities which, commendably, draws attention to the role of application within the TLP itself. But the suggestion that regarding names and objects “up to a certain point we are free to choose what we will regard as such” (van der Does & Stokhof 2020: 787) comes at the price of sidestepping a centerpiece of Wittgenstein’s high-risk wager: *A priori* Logic is supposed to proceed in lockstep with a stipulated *entirety* of ascertainable states of affairs.

6 A Banksy Reading

Does & Stokhof’s conciliatory approach goes well with a deflationary sentiment: Why spend much effort on a project described as being untenable by the author himself? Have resolute readers not proposed to avoid the exertions of the ladder? And why not, in a similar mood, regard Wittgenstein as a logical empiricist with a penchant for exaggerated claims? In closing a different perspective seems more appropriate. To begin with a matter of philosophical style: Even though the TLP appears to be a tightly argued, internally coherent text, it has become obvious that considerable tensions are hidden behind this facade. Countervailing tenden-

cies apparent in earlier sources are not entirely synchronized into a coherent whole. The book is at the intersection of roads leading in different directions. A bundle of thoughts, temporarily coalescing, threatens to fall apart on closer inspection.

But given that the TLP is Wittgenstein's one definitive publication and going by its self-assured posture, what to make of its final impasse? It has been suggested that the method of TLP is a *reductio ad absurdum* (see Nordmann 2005: 64 ff and Hrachovec 2025: 112 ff for this line of thought). Some of its basic claims cannot simultaneously be true. The maxims put forward in section 2 of the present paper have to be regarded as simultaneously untenable. Taking together the requirements of logically simple things, the context principle, propositional variables and prototypes one can neither satisfy the claims of Logic nor arrive at a viable account of empirical knowledge. This is where Wittgenstein switches gears: "But of course that cannot be said: it makes itself manifest." (TLP 6.36) The provenance of this announcement has been traced by the present close reading. The message is, to put it in a nutshell: Logic and world obviously just happen to touch each other. This might be considered as a degree zero variant of Leibniz' pre-established harmony. Philosophy "will signify what cannot be said by presenting clearly what can be said" (TLP 4.115). The scope of meaningful expressions is promised to be self-evident, once the basic constituents of the universe are sorted out.

Logic, the main instrument to achieve this vision, would have to be both intangible and malleable to experience. The persistent excitement about the TLP's concluding statements should be regarded as a reverberation of this unworkable prospect articulated in TLP 7. In this author's view, it stems from the provocative conclusion that a bundle of perennial philosophical issues, forced together by brilliant logical impatience, will self-destruct. Call it a Banksy moment. Said artist conceived of a plot to momentarily upend the art-market: A canvas shredding itself immediately after being auctioned off (cf. Anonymous, n.d.). Once such deconstructions are carried out, less spectacular approaches suggest themselves, as Wittgenstein came to realize. The TLP, nevertheless, deserves better than to be sliced up into expendable stuff and therapeutic goodwill. It is both the invocation of a philosopher's dream and its dismantling. The present contribution has been an attempt to rediscover the source of this audacious double entendre. Be aware: "In philosophizing, one must descend into the old chaos, & feel comfortable there." (Ms 136: 51a; transl. H.H.) There is no straight answer to questions about the following mutual dependency:

The great problem round which everything that I write turns is: Is there an order in the world *a priori*, and if so what does it consist in? (Ms 102: 17r; NB 1969: 1.6.1915)

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