

Wittgenstein in the Laboratory: Pre-Tractatus Seeds of Wittgenstein's Post-Tractatus Aesthetics

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Abstract

Wittgenstein's experiments on rhythm (1912-13) were based on Charles Myers's 1911 written protocols for laboratory exercises. The experiments provided an early onset for Wittgenstein's career-long exploration of the philosophically pervasive implications of aspects. Years before the *Tractatus*, Wittgenstein already got a glimpse of a philosophical angle, which was bound to become very important to him not only in aesthetics, but also for his overarching philosophical development. He became interested in the possibilities of aesthetic conversation, in what we actually do when we re-phrase, compare, come up with good similes in order to illuminate something definite within the space of possibility. These initial insights were bound to recede into the background for a while by the mounting demands of the *Tractatus* framework, only to fully bloom in Wittgenstein's later work.

One of the least understood and often overlooked episodes in Wittgenstein's early thought is his stint during the years 1912-1913 as a researcher at Charles S. Myer's laboratory for experimental psychology in Cambridge, where Wittgenstein eagerly conducted experiments on rhythm designed to "ascertain the extent and importance of rhythm in music" (Pinsent 1990: 3). This was his first (and only) attempt to do experimental aesthetics, and scholars usually refer to these experiments in relation to Wittgenstein's later explicit views (in his lectures in Cambridge in the 1930s) on the use and abuse of experimental psychology for aesthetics. In this paper I would like to consider these experiments in the context of Wittgenstein's later recounting of them in a 1933 lecture on aesthetics in Cambridge (Wittgenstein 2016: 9:40-42), thereby elaborating on my published findings on the subject (Guter 2020).

While neither the original notes and data from the experiments, nor the two resulting public presentations by Wittgenstein (given in 1912 to the British Psychological Society, and in 1913 upon the ceremonial opening of Myers's new laboratory in Cambridge) are to be found, the existing textual evidence is complete enough to allow for a solid understanding of their methodology and substance. Moreover, as I shall argue, the evocation of these experiments in the context of Wittgenstein's 1933 lecture on aesthetics affords a rare, indeed surprising glimpse into Wittgenstein's initial aesthetic dispositions as manifested in the context of his thinking about music at the time before the *Tractatus*. This rare glimpse, I submit, goes beyond the usual reference to these

early experiments as being merely just another example of the ridiculousness (in Wittgenstein's eyes) of the idea that aesthetics is a science that tells us what is beautiful.

Wittgenstein's experiments concerned a phenomenon then called "subjective rhythm", aiming to determine the conditions under which subjects heard or read into a sequence of beats a rhythm which, in a sense, was not there. By 1912 this phenomenon had already been well documented and studied. As early as the 1890s, published research demonstrated that beat trains appear to group into units of two, three, or four despite being isochronal and equitonal and hence devoid of cues relating to coherence or pattern. According to McGuinness (1988: 124), Myers's laboratory was equipped with the standard scientific equipment at the time for such experiments, e.g., using a metronome, which could also be placed in a box, so that raising the lid unobserved by the subject would produce an objectively stressed beat. According to Monk (1990: 49-50), Wittgenstein's research was helped by Myers, who took these experiments quite seriously.

There is a striking similarity between Wittgenstein's description of the experiments (in his 1933 lecture) and Myers's protocol for laboratory exercise number 144 from the second volume of Myers's *Text-Book of Experimental Psychology, with laboratory exercises* (Myers 2013. I should note that while this is a reprint of the third edition from 1925, which is based on the second edition from 1911, the protocols for the experiments and Myers's commentary are identical also to the first 1909 edition.). It stands to reason that Wittgenstein followed Myers's protocol closely under the latter's supervision.

Exp. 144 is entitled "subjective accentuation in rhythm". The protocol states as follows:

The metronome is a convenient instrument for observing the subjective accentuation of the simplest rhythm. But care must be taken that no objective accentuation of its beats exists. The experimenter should set the metronome at various rates of oscillation, so that the subject may appreciate the relation between rate of rhythm and ease of subjective accentuation. The subject should observe and record the varying affective values (pleasant, wearisome, etc.) of different rhythms and the associated

experiences which they may revive. The experimenter may notice unconscious movements on the part of the subject. (Myers 2013: 98-99)

Wittgenstein (2016: 9:41-42) reported that in his experiments he used a machine which did not stress any beat. His subjects tended to group the beat train into groups of three, and to hear an accent on the first beat in each group. They also tended not to hear two consecutive beats as accentuated. This is consistent with Myers's (2013: 301-302) commentary for Exp. 144 in the *Text-Book*. According to Myers, if a metronome is rapidly beating with regularity and uniformity, the listener who preserves a passive attitude will observe that the sounds arrange themselves in groups, usually of two or four sounds, although groups of three (as was indeed the case in Wittgenstein's experiments) and of six may also be realized. In all cases, the first member of each of which becomes strongly accented in the sense that the intervals between successive groups appear longer than those between the members of such groups. Wittgenstein commented that "you can find laws which regulate what stress you hear. e.g. you try to divide into bars." Again, this is consistent with Myers's (2013: 302) comment that "the effect of accentuation, whether subjective or objective, is always to divide a series of auditory stimuli into feet or bars."

Interestingly, Wittgenstein (2016: 9:42) also reported that "if you construct a rhythm in such a way that 2 tendencies conflict, a curious effect is produced – that of a constant stumbling." This means that the experiments included objective accentuation as well. According to Myers's *Text-Book* (2013: 302) this can be done in two ways: either the auditory stimuli are of like loudness, but of unlike duration, or else there is a change of loudness in an otherwise uniform group of stimuli. In the former case, the longest lasting member of each group appears to be the loudest; it receives the accent and is apprehended as the first of each group. In the latter case, the objectively accented beat appears not only to be louder, but to last longer and to be followed by a longer interval of time than the other members of the group. The latter is essentially the focus of Exp. 145 in Myers's *Text-Book* (2013: 99), in which the effects of varying the objective accentuation are studied by enclosing the metronome in a box, the lid of which may be silently opened and closed at any moment so as to allow any desired sound to be intensified and so to be accented.

Wittgenstein's description of this part of his experiments fits the protocol for Exp. 145. Myers comments that iambic and anapestic measures are not maintainable rhythms in this experiment. The iambic tends to pass over into the trochaic measure, while the anapestic passes over to the dactyl. "There is a general tendency," Myers (2013: 302) explains, "for the series to be grouped so that the accent is received by the first member of every group." So, in either of these two cases one would expect a conflict of tendencies and a resulting effect of constant stumbling. Thus, it is safe to conclude that Wittgenstein followed Myers's protocol for Exp. 144 with added elements from Exp. 145.

Furthermore, in line with Myers's protocol for Exp. 144, Wittgenstein also reported that he collected the input of the subjects concerning the affective value of the perceived rhythm and the associated experiences which it evoked. Wittgenstein (2016: 9:40) was actually quite dismayed by their responses: "To most people the rhythm meant nothing: one lady said: 'It makes me feel like a butterfly with a pin through me'". I shall argue next that, when read in the context of Wittgenstein's 1933 lecture, his frustration at the laboratory disclosed the philosophical significance of the experiments.

What we first need to observe, if we pull away from the scientific context of these experiments, is that Wittgenstein produced in them the onset of what he would later call "noticing an aspect." The experiments produced a sonic equivalent of an ambiguous figure, not unlike his famous example of the Necker Cube in the *Tractatus* (Wittgenstein 1995: 5.5423), as different 'hearings' (rhythms) manifest themselves according to different manners of projection. Wittgenstein's test subject could have heard the isochronal and equitonal pulse train either as duple (or, less likely, quadruple) meter or, as Wittgenstein reported, triple meter. That is, he could have heard the accent either every other beat or every two beats, and he could have flipped back and forth between the two rhythmic patterns at will. As Myers (2013: 302) noted in his *Text-Book*, "subjective accentuation of a simple rhythm may be changed at will." Wittgenstein's manipulation of the pulse train in order to induce constant stumbling in the 'hearings' of his subjects, in their manner of characterizing what they hear, underscored his particular attention to aspects in these experiments. This is by far the earliest evidence of Wittgenstein's

career-long exploration of the philosophically pervasive implications of noticing an aspect, predating even his first treatment of aspects in his early writings on logic and mathematics.

Yet even more strikingly, I maintain, in comparison to Wittgenstein's formal treatment in the *Tractatus* of aspects such as the Necker Cube, in the dynamic context of the experiments he sought after the ways of characterization in which noticing an aspect feeds back into the subjects' use of language, that is, after the communicability of aspects. Over and above the scientific desideratum of "find[ing] laws which regulate what stress you hear", which was at best "moderately interesting" for Wittgenstein, by his own admission, the experiments harbored for him an idea that he already then found crucially important—a philosophical idea:

I was looking forward to talking with my subjects about something which interested me. I was looking for utterances inside an aesthetic system. [...] When I made those experiments, what would have satisfied me was comparison, within a system. (Wittgenstein 2016: 9:40-41)

The context of Wittgenstein's 1933 lecture on aesthetics allows us to fully understand what he was looking for already in 1912. Wittgenstein conceived aesthetics as a mode of conversation, which concerns what he variously calls "aesthetic controversy", "aesthetic enquiry" or "aesthetic investigation", and "aesthetic puzzle" or "aesthetic puzzlement". "Aesthetic puzzlement" occurs always *in situ*: it concerns something concrete that needs to be resolved, worked out, corrected or agreed upon for a particular purpose – hence an aesthetic discussion is always particular, addressing a tension arising in the case at hand. Part of Wittgenstein's discussion concerns the difference between experimental psychology and aesthetics. This is where he brings up the case of his own experience in the laboratory. The uniqueness of aesthetics lies in the nature of the explanations (giving reasons as opposed to causes) that are offered and accepted in the attempt to address, and possibly remove, a given instance of aesthetic puzzlement. Contrasting the modes of explanation in psychology and aesthetics allows Wittgenstein to spell out the conversational, non-hypothetical and therein immanently human character of aesthetics.

An aesthetic enquiry is un-hypothetical in the sense of affording a mere picture as a useful device, which “enables [one] to overlook a system at a glance” (Wittgenstein 2016: 9:38). It inheres in the particular case by means of paraphrasing, giving good similes, which result in a collective arrangement of (often surprisingly) similar cases. “Criterion of correctness of aesthetic analysis must be agreement of person to whom I make it”, says Wittgenstein (2016: 9:46), “Aesthetics does not lie in finding a mechanism”. While causal explanations turn a blind eye to the manifold verifying phenomena in human interaction, aesthetic explanations preserve them in their fullness: “I say all Aesthetics is of nature of giving a paraphrase, even if same words also express a hypothesis. It is giving a good simile” (2016: 9:37).

“A reason,” says Wittgenstein (2016: 9:33), “consists in drawing your attention to something which removes an uneasiness”. But also, “you want to compare notes but not any notes; only those which are illuminating” (2016: 9:41). In this sense, a reason addresses what presents itself as a necessity, as an experience of meaning. Yet to fix the very possibility at stake in a conversation, one needs a proper characterization, not merely a form of words. One needs to draw a possibility in, make it alive. According to Wittgenstein, this is what illuminating comparisons amount to. They illuminate a field of possible projections of a concept and a potential development of the mode of characterization. Characterization involves presenting phenomena, laid out side by side, independently of the causally determined sequence of events, in a creative, fitting order, which enables one to see things with understanding. A comparison is an articulation of possibilities, which invites further comparisons and re-phrasings, serving and instancing possibilities for the characterization of what can be seen and said. The open-endedness of the conversation, its flow, is regulated by manifold, nuanced, patently incalculable “verifying phenomena” of the parties involved, allowing ways to go on discussing and drawing out from the articulation further aspects of what is characterized that are there to be seen in and by means of it.

“I had a natural propensity to think about ideas which arise in music,” Wittgenstein (2016: 9:40) said about this 1912-13 experiments on rhythm. Yet at Myers’s laboratory he realized to his dismay that the interrogative setting of the experiments stultified this sort of aesthetic enquiry. His test subjects answered what he called the *how* question, the psychological (hypothetical)

one, instead of the *why* question, the aesthetic. Wittgenstein (2016: 9:27) said: “The question of Aesthetics is not: Do you like it? But, if you do, why do you?” To answer the *why* question, the question about significance, to give a reason, requires making comparisons and ordering, as we draw in a field of possibilities and necessities, eventually offering the gift of a good simile. Such characterization requires a choice and an effort ‘to get it right’ within the space of possibility (a “synopsis”), to show someone else and enable a proper response. This was the source of the failure of his 1912-13 experiments on rhythm, but also the source of their significance, because they enabled him to tap for the first time, and very early on, a radical thought about the philosophical importance of paying close attention to the activity of characterizing, and the varieties of techniques for making illuminating comparisons *in situ*.

Such radical ideas which arose for him in music were bound to be suppressed for a while by the mounting philosophical framework of the *Tractatus*, which, according to Floyd (2018), powerfully fostered a philosophical disregard of characterizations and the belittling of the specific techniques of characterization involved in symbolizations and representations of all kinds. These pre-*Tractatus* seeds germinated in Wittgenstein's middle-period view of aesthetics when he brought back the idea of the anthropological form of life beginning in the early 1930s. As Wittgenstein's transitioned toward the anthropological view, his newly gained practical holism, to use Stern's (1991) notion, allowed for these seeds to grow. He obtained the view that our coping with things and people in, and through language can only be meaningful in specific contexts and against the background of shared practices, and only then, what he learned in the laboratory, namely, the significance of the ability to characterize, became of center importance for him in aesthetics, and he was able to further utilize this sense of characterization to a great philosophical effect in the years to come.

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