Thiodolf Rein, Hermann Lotze and the rise of empiricism in Finland

LAURI KALLIO*

Thiodolf Rein (1838–1919) was a key figure of Finnish philosophy towards the end of the nineteenth century. Between 1869 and 1900, he was the only professor of philosophy at the University of Helsinki (Imperial Alexander University in Finland), the only university in Finland until the early 1900s. Rein responded to the empiricist philosophies, which arrived in Finland in the second half of the nineteenth century. Since the 1820s until the late 1860s the academic philosophy in Finland was dominated by Hegelianism: the three preceding professors of philosophy before Rein were all Hegelians. Rein was associated with Hegelianism at the time of his professorship appointment as well. Yet, in the early 1870s he distanced himself from Hegelianism and advocated the philosophy of Hermann Lotze (1817–1881). Thus, Rein abandoned neither idealism nor German philosophy, but rather switched to the Hegelian version of it with Lotze's alternative. At that time, Lotze was probably the most distinguished German philosopher. His philosophy was also popular outside of Germany, and his main works were widely read in Sweden.[1]

In 1873, Rein founded the Philosophical Society (*Filosofillinen yhdistys*).[2] In the meetings of the Society, the empiricism of the younger generation confronted his idealism. Edward Westermarck (1862–1939), in particular, came to embody the empiricist-oriented view. By the early 1900s, Westermarck (nowadays remembered primarily as a sociologist) was the most renowned Finnish philosopher internationally. Alongside Hjalmar Neiglick (1860–1889), Westermarck is often seen as the precursor of the later tradition of analytic philosophy in Finland.[3]

The focus of this paper is on Rein's main work in philosophy, *Försök till*

*PhD, Department of Philosophy, Contemporary History and Political Science, University of Turku, Finland, lauri.kallio@utu.fi

en framställning af psykologin eller vetenskapen om själen (Attempt at a presentation of psychology, or the science of the soul, 1876–1891).[4] Unlike what the title suggests, the two-volume work consisting of more than a thousand pages, discusses not only psychological questions but also a variety of topics stretching from human bodily functions to metaphysics. With this work, Rein joins the German and Anglo-Saxon discussions of the time, but it is also clear that the popularity of empiricism in his homeland exerted an influence on the orientation of his work. Besides philosophy, Rein's arguments in this work had also implications for broader political and cultural issues of the time.

To read Rein's *Psychology* as a response to the rise of empiricism in Finland is not a straightforward task. This is because Rein makes few references to Finnish authors. At the time of the first volume, both Neiglick and Westermarck were teenagers. While Neiglick passed away before the publication of the second volume, Westermarck's career was merely taking off: two years prior to the publication of Rein's second volume of *Psychology*, he had published the first part of his *History of Human Marriage* (1889). The later edition of this work (1891) was a phenomenal success. Besides, Westermarck gave a couple of talks at the Philosophical Society meetings prior to 1891 and he also took active part in the discussions. Yet, there are no references to Westermarck in Rein's *Psychology*. In a footnote, though, Rein describes Neiglick's experiments in Leipzig.[5]

However, it is justified to argue that Rein developed his ideas in his talks at the meetings of the Philosophical Society: he elaborated several topics of his *Psychology* in his talks both before and after the publication of his work.[6] Some of these topics will be discussed in the following. I argue that Rein's *Psychology* was more of a starting point for a discussion than a commentary to an existing discussion and that both of the volumes of *Psychology* summarized and elaborated on Rein's views and thus provided material for further discussion in the Philosophical Society.[7]

Rein, Lotze and the Zeitgeist

There is no doubt that Lotze's philosophy set an example for Rein. In his memoirs, *Muistelmia elämän varrelta* (Memoirs from life, 1919), he stated that since the early 1870s he was persuaded of Lotze's idealism as formulated in his main work *Mikrokosmus* (Microcosmos, 1856–1864).[8] Rein met Lotze in person in 1878 in Göttingen and depicted him admiringly as "a champion of idealism".[9] Yet, it would be false to say that Lotze's example dominates Rein's *Psychology*; compared to other important authors, he does not refer to Lotze particularly often. In this section, I attempt to explain this apparent contradiction, i.e., I attempt to clarify Rein's relation

to Lotze. This will serve as an introduction to the discussion of Rein's views about empiricism.

To write a book about psychology in the period between 1876 and 1891 was a challenging undertaking. The second half of the nineteenth century was a period of specialization in science, and psychology was becoming independent from philosophy.[10] The birth of the independent science called psychology is often linked to the foundation in 1879 of the laboratory of experimental psychology in Leipzig by Wilhelm Wundt.[11] This laboratory stimulated the progress of psychological research, which had already been developing rapidly. In fact, the progress was so rapid that Rein never carried out his plan to add a third volume to his *Psychology*. He realized, before composing the third volume, that he should rewrite the two preceding volumes on the basis of new research![12] Besides, due to recent developments, he was forced to change the structure of the second volume.[13]

Although Lotze had also contributed to the psychological research of his time (e.g., his theory of local signs[14]), it is important to stress that by 1876—when Rein published the first volume of *Psychology*—his *Mikrokosmus* was no longer a novelty. Lotze had already delivered the second edition of this work (1869–1872) and was preparing the third (1876–1880). However, the revised editions included fairly moderate changes to the original work.[15] As Rein began to work on his second volume of *Psychology*, there was new significant research available, which had to be taken under consideration. Some of this research was even conducted by his Finnish colleagues. His student Neiglick carried out experiments on the so-called Fechner's Law under Wundt's watchful eye in Leipzig at the end of the 1880s.[16]

The first edition of *Mikrokosmus* was Lotze's contribution to the so-called materialism controversy, which was initiated in 1854 in Germany. At the heart of the materialism controversy was the question whether modern natural science confirmed materialism.[17] The champions of the materialist cause, Karl Vogt, Ludwig Büchner, Heinrich Czolbe, and Jacob Moleschott claimed that it did. The materialism that they had in mind was a metaphysical position according to which all objects (including human beings) are material entities.[18] Lotze held the opposite view. He argued that the mechanical realm (i.e., the world of the natural sciences) and the teleological realm (i.e., the world of values) do not contradict but are coherent with each other.[19] Mechanical explanation is the chief form of scientific explanation and Lotze saw no reason to restrict it: both living and non-living phenomena can be explained mechanically. But our conception of the world is seriously one-sided if it is based only on empirical data about causes and effects. For example, the functions of all organic

structures are explainable mechanically, but the origin of life itself is not. Thus, Lotze argued, one can both embrace the modern natural sciences and argue that not everything is explainable mechanically. The universe is, for Lotze, a meaningful and purposeful whole.[20]

The duration of the materialism controversy is debatable.[21] Anyway, in 1876, as the first volume of Rein's *Psychology* was published, the emphasis of the German discussion on materialism had shifted. The drastic event, which also affected Lotze's philosophy, was the publication of Charles Darwin's *On the Origin of Species* (1859).[22] It was quickly translated into German (1860), and Darwin's ideas spread rapidly in Germany.[23] In retrospect, it is evident that Darwin's work and various elaborations of it posed a serious challenge to Lotze's *Mikrokosmus*, in which Lotze had denied that the origin of life could be explained only in natural terms.[24] Yet, it can be argued that Lotze both underestimated the weight of Darwin's work and that he misconceived Darwin's theory.[25] Upon several requests, Lotze commented on Darwin only in a fairly short passage in the third edition of *Mikrokosmus*.[26]

Rein, on the contrary, took Darwin seriously.[27] His strong opponent in Finland, Westermarck, was deeply impressed by Darwin, and could be regarded as one of the first truly Darwinian scholars in the world.[28] Rein's *Psychology* (and especially its second volume) aimed at reconciling Lotzean principles with Darwin. It is noteworthy that in this work the discussion of Darwin gets mixed with other theories of evolution inspired by him, e.g., with that of Herbert Spencer, whose ideas were debated in the meetings of the Philosophical Society multiple times both before and after the publication of Rein's second volume of *Psychology*.

It could be concluded that Rein was committed to Lotze's grand project of reconciliation of mechanism and teleology, i.e., empiricism and idealism.[29] Lotze provided a framework for Rein's philosophy. But Rein also took the *Zeitgeist*, or the new psychological research and the rising Darwinism, into consideration. In this regard, one should also note the differences between Rein's *Psychology* and Lotze's *Mikrokosmus*. Lotze's *magnum opus* was subtitled "Anthropology", which—as was typical for the philosophical anthropologies of the time—included a broad range of topics.[30] In fact, the work grew into a statement of an entire worldview; Lotze's ultimate goal was to provide a history of humanity and to define the place of humanity in the cosmos.[31] In contrast, the objective of Rein's *Psychology* was not that ambitious. He was more interested in confronting the various theories of psychology of the time. Rein's work focuses on the individual, which in Lotze's *Mikrokosmus* serves as a preliminary to cultural anthropology, the focal topic of the work.[32] Rein touches upon, *inter alia*, races and nations, but he does not provide a proper cultural history.

Within the limits of this paper, neither the question of the relationship between *Mikrokosmus* and the other works by Lotze nor the question of whether the *Mikrokosmus* was original or principally a summary of Lotze's earlier ideas could be fully discussed. These questions divide Lotze scholars. It is a common view that Lotze's 1840s critique of vitalism becomes close to materialism,[33] whereas *Mikrokosmus* proclaims more directly idealist monism. Although Rein knew several works by Lotze, he does not comment on the differences between them. He was nevertheless aware of both these differences and of the fact that Lotze had addressed psychology more explicitly and commented on materialism in his work *Medicinische Psychologie oder Physiologie der Seele* (Medical psychology or the physiology of the soul, 1852), published prior to *Mikrokosmus*. In his detailed discussion of the issues of psychology, Rein refers multiple times to Lotze's earlier work.

Empiricism and its consequences

Although Rein discusses materialism, naturalism, and Darwinism, he does not discuss empiricism *per se* in his *Psychology*.[34] He also deals with positivism, sensualism, and realism. Empiricism underlies all these isms. Empiricism was also the common denominator for Finnish anti-idealist philosophers towards the end of the nineteenth century. Proper materialism was in fact rare in Finland. For both Rein and Lotze, the question of empiricism is essentially the question of the scope and the consequences of empiricism. Neither of them questions the validity of empirical methods in numerous realms of human knowledge. Rein makes it very clear that any future philosophy must be in harmony with empirical facts.[35] Lotze was trained as a medical doctor, and his medical training made him sceptical about the German tradition of *Naturphilosophie*.[36] Yet, despite their admiration for empirical science, both Lotze and Rein emphasize that the empirical methods cannot grasp all aspects of reality.

The consequence of empiricism that worries both Rein and Lotze is, first and foremost, materialism. To begin with, we must ask, why oppose materialism? For Rein, the most fundamental reason to oppose materialism is ethical, i.e., materialism leads to determinism and determinism contradicts freewill.[37] It is Lotze's contention, too, that the ultimate foundation of metaphysics lies in ethics.[38] But Rein is antagonistic towards materialism also for another reason. He tells us that the rivalry between natural science and philosophy is an ancient one, but that only in recent times did the idea of replacing philosophy with natural science find approbation.[39] In his *magnum opus*, Rein aims to answer the question of whether this idea can be realized in the realm of psychology. In other

words, he asks whether the methods of the natural sciences can capture the mental life of the human being or the soul.[40]

Thus, with his work Rein joins the discussion of the identity and role of philosophy in the domain of science, which began in the 1840s and continued as a sideshow of the materialism controversy.[41] The identity crisis of philosophy emerged because the discipline was challenged both internally and externally since the mid-1800s. Philosophy was eclipsed by the constant success of the experimental sciences.[42] Philosophy appeared obsolete. The age-old philosophical problems, like the mind-body problem, seemed to be comprehensible (or even solvable) without reference to philosophy. None of the four key figures of materialism (Vogt, Büchner, Czolbe, and Moleschott) were academic philosophers, and, Vogt even had total disrespect for philosophy.[43] The discussion of the status of philosophy also extended beyond academic circles. Büchner's *Kraft und Stoff* (Force and matter, 1855), the basic work of nineteenth-century materialism, was written for the ordinary citizen and became an instant best-seller.[44] Lotze's *Mikrokosmus*, which followed Büchner's work, was intended for ordinary people as well.

Besides the dividing line between philosophers and natural scientists, there was also a dividing line within the former camp. Because of the lack of chairs in psychology, the research within the discipline of philosophy began in the second half of the century to include more and more experimental psychological research.[45] Moreover, the idea, exemplified, e.g., by Wilhelm Dilthey, that psychology should be considered the fundamental human science (*Geisteswissenschaft*) instead of philosophy, was influential. As indicated earlier, Rein embraces Lotze's attempt to salvage idealism, or to unify idealist metaphysics with modern natural science, and to thereby secure a place for philosophy in the domain of science. To some extent, it is thus fair to say that both Lotze and his Finnish colleague oppose the constant specialization of science.[46] The opposition to the constant specialization of science concerns also psychology. They both argue for a close relationship between psychology and metaphysics.[47] An essential part of their strategy is a new metaphysics, on which I will elaborate in a later section.

Besides these scholarly and institutional issues, the discussion of materialism had also broader societal implications both in Germany and in Finland. In short, materialism was a "total social phenomenon".[48] The materialists drew conclusions about the political realm and many of them were also politically active. Vogt was a notorious critic of the established order of the German states. Although Thomas Willey and William R. Woodward have plausibly argued that his *Mikrokosmus* should be read as a political work, Lotze did not actively participate in political life.[49] Rein,

on the contrary, was actively involved in politics; he represented the Nobility at the Diet of Finland for many years.

As concerns the linkage between politics or societal issues and science, I will make three short comments about it. First, the strength of this linkage is a question of its own. Frederick Gregory has argued that the materialists neither agreed on politics nor conjoined their scientific and political views.[50] That is to say that, although they occasionally used scientific arguments to justify their political views, the latter were independent of their views on science.

Second, it is plausible that Rein's initial attraction for idealism was motivated by reasons other than scientific ones. In Finland, philosophical idealism was closely attached to the rising nationalism, and Johan Vilhelm Snellman, the hero of the Fennoman movement, was Rein's mentor in philosophy.[51] For Rein, it was only natural to adopt Snellman's idealist views alongside his nationalism. Snellman's Hegelian psychology linked up with his nationalism as well.[52]

Third, one can find at least weak linkages between Rein's *Psychology* and his political views. Rein's political stance has been described as "humanized Fennomanism". According to Jouko Aho, because of this "humanism" Rein over-emphasized the freedom of the will and ethical issues in his *Psychology*.[53] In my view, Aho's remark testifies to Kurt Danziger's point that psychological language "must be studied as part of social life and that means taking account of its political role".[54] According to Danziger, psychological categories are not only descriptive but normative as well.

Concerning the questions at stake in this paper, an interesting example of the relation between Rein's societal and scientific views is his stance towards materialism. It is plausible that Rein had a negative preconception of materialism before he familiarized himself with its philosophical foundation. Generally speaking, a certain moderation was common for Rein's scientific and political views. All kinds of radicalism, like Vogt's anarchism, or socialism were foreign to him. Caution and impartiality characterize Rein's *Psychology* as well. Yet, many of his statements about the materialists are rather simple and straightforward. This point will be elaborated at the end of the next section.

Materialism proper

Rein begins his discussion of materialism by making a distinction between (modern) materialism proper (*den egentliga materialismen*) and materialist parallelism.[55] To some extent, these two classes reflect the two phases of the materialism controversy in Germany. Materialist parallelism (which is discussed in the next section) is like a refined version of materialism

proper, whose philosophical foundation was convincingly refuted, e.g., by Hermann Helmholtz, whom Rein mentioned positively.[56]

In short, according to materialism proper, mental life is nothing but the activity of the brain, and the brain is principally similar to other organs.[57] One of the prime advocates of this view was Czolbe, who argues that empiricism is synonymous with materialism.[58] He traces all intellectual activity back to sense perception and then explains sense perception only as physical activities (vibrations in nerves and brain). Lotze's general strategy to defeat materialist monism is to confront the empiricist approach related to the materialist standpoint.[59] In his response to Czolbe, Lotze remarks that there is no reason to equate materialism with empiricism, because a materialist can still argue, e.g., for the existence of ideas and innate principles.[60] Thus, Lotze breaks the link between empiricism and materialism, which was central for Czolbe and other materialists.

Furthermore, Czolbe's attempt to explain all thinking on the basis of sense perception is misguided, because it is impossible to trace the unity of consciousness back to sense perception.[61] The recognition of the unity of consciousness is the starting point of psychology.[62] Lotze takes it as evident that there is a soul substance,[63] since otherwise it would be simply impossible to explain fundamental mental phenomena like the unity of consciousness. His contention that materialism cannot explain the unity of consciousness is based on his critique of the materialist concept of matter. He argues that the clarity of the concept of matter (and also the clarity of the concept of the interaction between material entities), which is provided by the natural sciences, is "only a pragmatic clarity".[64] Yet, Lotze's point is not to abandon that concept but to argue that this concept does not replace the metaphysical concept of matter.

Rein adopts Lotze's critique of Czolbe. According to their view, a materialist can explain neither the unity of consciousness nor how our consciousness combines representations.[65] Rein explains that we can have, for example, two seemingly identical representations of one and the same thing, and that our consciousness can keep these two representations separate and make a combination of them. Neither of these is explainable within the materialist framework, since they have no counterpart in the physical world. Having two identical representations in the physical world means that they lose their independency, or that there would be only one representation. This testifies that the essence of consciousness is irreducible to physical events.

A deeper philosophical point behind Rein's reasoning is that materialism is only one possible explanation for the given phenomena.[66] Rein considers materialism as an *a priori* hypothesis about the nature of things. But the empirical data do not support directly this hypothesis.[67] Rein

comments on Ludwig Büchner's thesis that everything (even the mental) consists of matter and force.[68] It is, he argues, only an axiom, which Büchner never justifies. Like Lotze, Rein admits that we have no experience of a mental life disconnected from a living body.[69] But this only tells us that we cannot have experience of mental life without the body. It does not concern the existence of the soul as such.

Rein suggests that the empirical data can be seen as supporting, e.g., spiritualism.[70] On this point, he does not refer to Lotze, who himself referred to his standpoint as "spiritualism".[71] For Rein, spiritualism holds that the soul and the body are two independent realms, but that the soul acts and has effects on others only through the body. It is thus possible that the disfunctions of the body (e.g., blindness) have an effect on mental life. This shows, or so Rein thinks, that the dependence of the soul on the body does not justify materialism.[72]

Rein also discusses the materialist thesis that thinking is nothing but a movement of matter (i.e., molecules in the brain).[73] That would mean that thinking is something else than what it looks like for us. In other words, in our minds thinking truly does not look like a movement of matter. For a spiritualist this is not a problem, but a materialist should be able to explain how this transformation takes place, Rein insists. The outcome of his analysis of the materialist theses is that materialism is inconsistent with experience.[74] This is because our experience is always twofold: inner and outer. These two are so different that it is impossible to see how an inner experience could be transformed into an outer experience. Here, Rein follows Lotze, who argues that:

> [t]he chasm is never bridged over between the last state of the material elements within our reach and the first rise of the sensation, and scarce any one will cherish the vain hope that at a higher stage of development science will find a mysterious bridge in a case where it is the impossibility of any sure crossing-over that forces itself on us with the most evident distinctness.[75]

Generally speaking, Rein seems to consider modern materialism to be rather uninteresting. He notes that the materialist view of the soul is the least justifiable.[76] As indicated in the previous section, Rein discusses some topics of the first volume of the *Psychology* anew in the second volume. It is telling that materialism proper does not belong to those topics, whereas materialist parallelism, which will be addressed in the next section, is discussed in both. Rein thinks that the epistemological foundation of materialism is essentially the same as it was in the eighteenth century[77] and, in fact, the materialist worldview is essentially the same as it was in Ancient Greece. The only thing that has changed is the concept of matter.[78] Rein also thinks that the modern concept of matter is vague to some

extent. This is precisely what Lotze suggests: the concept of matter has only a pragmatic clarity.

The title of Rein's work implicates that psychology is "the science of the soul". Does this indicate that Rein does not discuss the possibility that there is no soul at all or that it is not part of the scientific study? The possibility of "a psychology without the soul" became important in the second half of the nineteenth century. In 1855, at the very beginning of the materialism controversy, the materialist Vogt denied that there is any proof of the existence of a soul separate from the brain.[79] Some other thinkers, like Wundt, made use of the concept of the soul, but used it merely to refer to the totality of mental life.[80] He ascribed no substantiality to it.

Rein makes some references to the idea of the psychology without the soul in the second volume of the *Psychology* too.[81] But, he does not consider it as a serious alternative. This is simply because psychology has to begin with the undisputable fact of the existence of mental life, which Rein calls "the life of the soul" (*själslif*).[82] Both Lotze and Rein think that the metaphysical proof of the substantiality of the soul, the starting point of psychology, can be provided later.[83] So, Lotze and Rein agree that empirical psychology is based on metaphysical psychology.[84]

Materialist parallelism

As indicated in the previous section, Rein considers materialist parallelism as a refined version of the earlier materialism. The advocates of the parallelist cause distance themselves from the radicalism like that of Czolbe's and admit that mental and physical states differ essentially from each other.[85] They argue, however, that every mental state has a parallel physical state. Materialist parallelism is a kind of monism whereby the physical and the mental are only aspects of one and the same reality (*det reella*). The parallelist position is a result of two aspirations dominant in modern philosophy, Rein argues.[86] The first is the aspiration to stick only to experience. This is the element of positivism. The other is the aspiration to formulate a complete and unified worldview on this basis. This is the element of monism.

Different views within the parallelist standpoint emphasize these elements differently.[87] Emphasizing the monist element leads to a tendency to see the mental as an integral part of nature or as a special form of organic life. This leads to a tendency to see the physical as the true substance. This incline, Rein argues, to materialism proper, which he thinks he has already refuted. Putting the emphasis on the positivist element does not call into question the difference between the physical and the mental; the fact is that we have experience of both. But, because of this difference, it

becomes impossible to attain a unified or monistic worldview. Monism is impossible on empirical grounds alone.[88] It is possible to overcome the dualism of the mental and the physical only with a third element, Rein argues. This element must be "over-empirical" (*öfverempirisk*), it is a matter of metaphysics.

Rein identifies Friedrich Albert Lange as a remarkable advocate of the parallelist position. Lange greatly influenced the course of the materialism controversy in Germany. He criticized materialism proper, but only to lay the foundation of a more defensible kind of materialism. Yet, instead of Lange, Rein devotes much more space to Spencer's work, which was a popular topic of discussion at the meetings of the Philosophical Society.[89] According to Rein, Spencer shared the basic principles of Lange's parallelism, but developed his standpoint much further than his German colleague. Rein depicts how Spencer first postulates a force underlying matter itself. Next, Spencer explains the formation of matter, then the formation of the planets, and finally the emergence of organic life. This developmental process is essentially one of differentiation (*differentiering*). The peak of the process of differentiation is the emergence of human mental life. On this view, mental life is essentially a part of the organic life of the brain.

According to Rein, Spencer's theory differs from materialism proper in that, for him, the process of material differentiation is only the objective side of mental life, accompanied by a subjective side. In Spencer's theory the elementary levels of mental life, or feelings, are unconscious. Feelings generate instincts, which get gradually more complex. As the complexity increases, the unconscious instincts transform into conscious instincts. Besides the complex brain functions (the objective side of mental life), there is thus the subjective side of mental life (the consciousness).

Rein considers Spencer's reasoning overly vague. Spencer is unable to properly explain how, exactly, the unconscious becomes conscious. Spencer, Rein notes, makes gold out of gold. Rein here follows Lotze's argument that there is no "necessary contact between the motions of atoms in the brain and the experience of consciousness"; there is "a great gap between the two".[90] Spencer answers this challenge, Rein explains, by arguing that materialism is valid but only in the empirical and not in the transcendental sense.[91] Thus, it is valid to say that the mental life is produced by the system of nerves. At the same time, one could say that the true ground of this "producing" is mysterious; it lies outside the limits of possible experience. So, Spencer, who ascribes materialism validity only in the phenomenal world, distances himself from materialism proper.

In order to challenge Spencer's view, Rein asks whether the phenomenal world actually corroborates Spencer's view. This is also the crucial

question for his response to empiricism. Does our experience indicate that the mental is only the by-product of the physical?[92] The fact of being a by-product of the physical has been interpreted in two different ways among the materialists, Rein argues. (Spencer has, Rein claims, argued for both of these ways on different occasions.) The first way is to see mental life as a form of mechanical force: a mental event can interfere with the chain of causes and effects. That is to say that the mental force can transform into another kind of force (like a mechanical movement of matter). The other way is to exclude this possibility: a mental event as such has no causal force, but is nothing but the subjective side of some physical form of force.

Rein excludes both these possibilities. Concerning the first, Rein points out that we have plenty of information about the transformation of a force into another force. Yet, these forces are all spatial, whereas a mental event is not. However, there are empirical data indicating that a certain amount of nerve stimulus is linked to a certain intensity of sensation. Systematizing these data was one of the objectives of the psychology laboratories of the time (like that of Wundt's). Rein points out that scientific observations about this phenomenon are still inadequate.[93] Besides, even though there is a regularity between the nerve stimulus and the intensity of sensation, there is no direct equivalence between the two. They are incommensurate with each other.

About the second option, Rein bluntly states that the empirical data do not corroborate the thesis that the mental is always caused by the physical. It is clear that in many cases a physical state seems to precede a mental state. But there are also opposite cases, Rein notes. According to my reading of Rein, for him these kinds of cases are the Achilles' heel of materialism *à la* Spencer. As aforementioned, Spencer ascribes materialism validity only in the phenomenal world. For Spencer the true ground of the material that produces mental life is mysterious; it lies outside the limits of possible experience. In Rein's view, Spencer's postulation of a mysterious entity beyond the reach of experience results from his failure to consider the possibility that the mental is in some cases the cause of the physical.[94]

In this connection, Rein does not use the term "occasionalism", which Lotze uses to describe his own view.[95] Though, in fact, this term is somewhat misleading, since Lotze does not endorse the classic seventeenth-century occasionalism that rejected the direct interaction between the soul and the body. Lotze's main claim is that, although we cannot know the exact nature of the interaction between the soul and the body, there is no ground to deny the existence of this interaction.[96] Rein's reasoning is in accord with Lotze's occasionalism. They both argue for the possibility of

the interaction rather than that there is or could be a complete definition of the interaction. They both deny the one-to-one correspondence between the physical and the mental states.

Rein's stance towards laboratory psychology, the defining phenomenon of the time, becomes apparent here as well. In the first volume of *Psychology*, Rein explains why he prefers Lotze's psychology to Wundt's laboratory psychology. He does not deny that the latter is valuable, but considers that it is only ancillary to proper psychology.[97] Rein then describes his and Lotze's standpoint as "intermediary psychology" (*förmedlingspsykologi*). In fact, Rein's defence of Lotze could be read as an attempt to validate the role of philosophy in the domain of science. Rein gives his German colleague credit for acknowledging not only the physiological research but also the higher goals of psychology.[98] Psychology thus becomes the intermediate between physiology and philosophy.

Rein's views on Wundt are both one-sided and unfair. At the time of the publication of the first volume of Rein's *Psychology*, Wundt's plan for scientific psychology was only gradually taking shape. Although Rein heard Wundt's lectures in 1878 in Leipzig and although his Finnish colleagues addressed Wundt's methodology, Rein saw no reason to return to the subject in 1891. Jouko Aho is right to argue that Rein underestimates the scope and bearing of Wundt's laboratory psychology, which he apparently saw in a narrow sense.[99] Rein's claim that Wundt omits "the highest problems of psychology" is simply false,[100] namely, Wundt does not claim that psychology would be just an experimental science. Introspection is included into its methodology, too, and imagination cannot be investigated experimentally. In Wundt's view, the experiments set a limit to introspection.[101] Rein presents Wundt as an advocate of laboratory psychology, but, in fact, Wundt's conception of psychology is remarkably broader.[102]

Rein's misreading of Wundt has also bearing on the discussion about materialism and empiricism. Wundt juxtaposes psychology and natural science but also opposes materialism. He denies materialist parallelism by arguing that only elementary mental phenomena can be reduced to physiological functions.[103] But parallelism as such was important for him: it is a guarantee of the independency of psychology. By limiting both physiology and philosophy, Wundt makes room for scientific psychology, which has both an object and a methodology of its own.[104] Psychology investigates immediate experience in its totality. This is why psychology is an empirical precondition and a propaedeutic to humanistic sciences and even to philosophy!

As indicated above, Rein defines physiology as secondary to proper psychology. But it seems that, for him, psychology is an ancillary science

as well, because it is eventually subordinate to metaphysics. Lotze's influence on him is apparent here. Lotze neither juxtaposes psychology and natural science nor separates psychology from metaphysics. In fact, for Lotze, psychology is a subdivision of metaphysics. His chief work of psychology, *Medicinische Psychologie*, goes hand in hand with his *Mikrokosmus*, the statement of his metaphysical worldview.[105]

Interactionism

My obvious conclusion of the previous discussion is that the physical and the mental interact with each other. Rein concludes his discussion of materialism by addressing some materialist views about this possibility. Both Spencer and Lange have opposed the interactionist alternative on the basis of the law of conservation of energy. Westermarck presented the same argument at a meeting of the Philosophical Society.[106] If a mental state is not a force (see the previous section), it cannot interfere with the causal process. So, a mental state cannot "add energy" to a causal physical process. Rein considers this line of reasoning, which became common since the mid-1800s, as misguided.[107] According to him, a mental act does not have "to add new energy" to a causal chain in the brain. It rather releases the energy that is already in the brain. A nervous force (*nervkraft*) is either a compressive force (*spännkraft*) or a living force (*lefvande kraft*). The function of the mental act is to transform one force into another – a process that preserves the total amount of energy.

Rein also comments on an alternative counterargument by Lange.[108] Lange argues that the direction of a material movement (e.g., of the molecules) in the brain is always determined by material conditions. A mental state could not change this direction without violating the laws of physics. Rein's response to this argument is, as I read it, that a nervous force has always several means to manifest itself at a certain moment. A mental act is only the very last condition (*villkor*) of the manifestation.

Rein concludes the discussion of the three previous chapters by stating that there is no ground to deny the interaction between the mental and the physical. That is to say that the available empirical data testifies to dualism instead of materialist monism.[109] So, Rein ascribes to interactionist dualism, which is not surprising as such, because it was mainstream among the Finnish psychologists, philosophers, and physiologists of the time.[110] In Germany, Lotze was one of the early advocates of interactionism.[111]

Concerning the realm of psychology, the preceding analysis has questioned the thesis that the physical would be "more real" than the mental, or that the mental would be merely the subjective side of the objective

reality, like Spencer had suggested. The truth is the opposite, Rein maintains, namely, the material world is given to us only indirectly.[112] We can be conscious merely of the effect (*verkan*) of a material thing. Striving for a monistic worldview is understandable, but empiricism cannot provide the unifying principle between the mental and the physical realms, Rein argues. That is a matter of metaphysics.

Rein's previous argumentation is meant to justify the validity of metaphysics, although Rein never formulated his metaphysical views in print. This is because, as indicated earlier, Rein's *Psychology* covers only some of the topics of Lotze's *Mikrokosmus*. According to Jorma Kurkinen's analysis of Rein's general standpoint, Rein subscribes to the Lotzean standpoint of "monism-dualism": the dualism is valid only in the empirical realm (including psychology), whereas in the metaphysical realm only the spiritual is real.[113] So, according to Rein, natural laws are valid, albeit only in the phenomenal realm.[114]

The standpoint of monism-dualism also explains Lotze's view of mechanism, or his solution to the crucial question of the materialism controversy. As indicated earlier, Lotze did not equate mechanism with materialism.[115] The former is not a theory of the essence of things.[116] So, there are valid mechanical (or scientific) explanations of all kinds of (both living and non-living) phenomena, but they do not confirm metaphysical materialism.[117] Lotze provides an analysis of matter and concludes that it is simply a secondary reality. Compared to Lotze, Rein mentions the concept of mechanism only occasionally. Nevertheless, his general view on the mechanical explanation agrees with that of Lotze. Like Lotze, Rein stresses that mechanical explanation alone is insufficient to explain reality.[118] Besides materialism, Lotze's account of mechanism is a critique of idealism as well.[119] The idealism that Lotze has in mind imposes an external idea to explain natural processes. Here Lotze expresses his respect for the recent success of science, which is based on "mechanical investigation".[120]

While the material and the spiritual are two separate realms, there is also a principle that unifies the two. This is why Lotze claims that science and metaphysics speak different languages and that science is "an abbreviation" of metaphysics.[121] As mentioned earlier, the metaphysical concept of matter cannot replace the concept of matter of the natural sciences and vice versa. Rein does not address metaphysics as such, but he clearly implicates "monism-dualism", when he claims that the mental is more real than the physical.[122] One could thus say that our immediate experience indicates the deeper metaphysical truth! The conclusion of Lotze's metaphysical analysis is that only our knowledge of spirit has an intuitive clarity, whereas our knowledge of the material world has only a pragmatic clarity.[123]

The above-described argumentation is another example of how Rein justifies the role of philosophy in the domain of science. According to Rein, metaphysics is not an *a priori* enterprise.[124] The true metaphysics is actually the conclusion of empiricism. Rein's definition of metaphysics shows similarity to Lotze's. As Woodward explains, Lotze conceives "metaphysics as a discipline to take us beyond the given to the nongiven, beyond immediate experience to ultimate reality".[125] Criticizing the previous metaphysical tradition and especially Hegel's metaphysics was essential for both Rein and Lotze, although Rein had been deeply involved with Hegelianism, unlike his German role model.[126] Whereas Hegel thinks that pure reason can provide a complete system of metaphysics, both Lotze and Rein argue that metaphysics can only proceed from the content that is given to us through experience.[127]

Darwin's relevance

Thus far, Rein's main objective was to refute certain materialist conclusions of empiricism. Yet, he admits the possibility of a materialist monism in the future; he argues that a more solid monistic worldview could be based on a new conception of matter.[128] A foundation for this conception could be provided by Darwin's theory of evolution. Rein takes it as evident that Darwin's theory is groundbreaking. Although there still had much further research to be done, it had already explained many phenomena better than any other previous theory.[129] Now, what are the philosophical consequences of this theory? Does Darwin's empirical theory necessarily lead to a materialist or semi-materialist position (*en hel eller half materialism*) in philosophy and in psychology?[130]

Rein's discussion of Darwin proceeds from the difference between Darwin's theory and various philosophical interpretations of it. Lotze had followed the same strategy. He refused to comment on the precise mechanics of evolution in his *Mikrokosmus*, since that is entirely a matter of experience.[131] In the realm of psychology, the obvious example of a philosophical interpretation of Darwin is Spencer's philosophy. Spencer had developed his theory of evolution (*utvecklingsläran*) some years before Darwin and he later on closely attached his philosophical system to Darwin's theory, Rein explains.[132] Ernst Haeckel was probably the most influential ambassador of "ideological Darwinism" both in Germany and Finland.[133] As Anto Leikola puts it, "what was called Darwinism in Finland was strongly influenced by Haeckelism".[134] It is noteworthy, in this context, that Rein nowhere mentions Haeckel.

Rein begins by stating that the fundamental question of the origin of life remains unanswered by Darwin.[135] Rein does not elaborate this argu-

ment very much (he just points out that the recent findings do not support the idea of spontaneous generation), which is unfortunate, because it is essentially the same as Lotze's.[136] Lotze argues that Darwin's theory does not challenge his earlier arguments against the idea that life arose entirely by chance. Thus, Rein and Lotze both pass over the main reason why the German materialists found Darwin's theory attractive, namely, that Darwin provided a plausible scientific alternative to the idea of creation.[137]

Rein focuses on Darwin's theory of the origin of the human species and on his of theory of the mental difference between human and animal species.[138] Are the different stages of differentiation sufficient to explain this difference? Or did the human species initially have higher mental capabilities than the other animal species? As concerns instincts, Rein argues that the difference between animals and humans is merely relative,[139] even though a human being is a cultural being, which diminishes the function of instincts in everyday life. Rein also discusses numerous other cases and concludes that the human and animal psychological structure (*menniskans och djurens själslif*) is remarkably similar.[140] With this structure Rein refers not only to physiology or anatomy but also to sociality. He in fact attributes linguistic skills not only to terrestrial mammals, but also, e.g., to birds. Even though he advocates the view that acquiring the ability to use language is a decisive step towards higher intellectuality, he actually disputes the claim that the human species is the only species ever to possess the highest version of this ability.[141] We cannot exclude the possibility that other species with this ability have simply died out over the course of time.

The above-mentioned text does not provide a reason for rejecting Darwin's theory of the origin of humankind, although, Rein stresses, the validity of this theory cannot be proven within the realm of psychology alone.[142] Yet, the question remains whether Darwin's theory corroborates some sort of materialism and the parallelist version of it in particular. According to Rein, Darwin himself did not support the parallelist theory like that of Lange and Spencer.[143] A parallelist interpretation of Darwin's theory would say that the mental structure of human being gradually became more complex, because it is a side-effect of the physical structure, which developed and differentiated in the struggle for survival. Therefore, the soul plays no active part in the process of its perfection (*fullkomning*). But, if this were the case, Rein asks, why would a human being have developed such a complex mental structure? Natural selection, as we know it, favours such characteristics that are useful in the struggle for survival. If the complex mental functions play no active part in the development of the human species, as the parallelist theory claims, they cannot be use-

ful. So, why have these functions been preserved? Rein takes it as evident that at least some of the complex mental functions are indeed useful in the struggle for survival.[144] Thus, for him, the parallelist theory is inconsistent with Darwin's theory. So, Rein's thesis is that the mental functions do take part in the struggle for survival. But how? To further tackle this question, Rein discusses the emergence of mental life in the course of evolution. In what follows, I examine the basic principles of Rein's explanation of the emergence of mental life.

Rein stresses that our knowledge of the mental life of other living beings is always incomplete.[145] It is probable that the complexity of the nervous system is linked with the mental capabilities of an organism. Yet, there is no direct correspondence between the two.[146] The reason for this is that mental life has an effect on the evolution of the nervous system! (The effect that Rein has in mind here was explained in the previous section; this effect does not violate the law of conservation of energy.) The complexity of the mental structure is linked with the magnitude of the effect, i.e., a human being has a greater effect on evolution than a simpler organism.

Thus, Rein does think that a complex nervous system is to some extent the prerequisite for a complex mental life. But this is only one side of the coin. The mental side is wholly independent of the physical side. The physical side offers merely the means for the self-manifestation of the soul. Contrary to what the materialists claim, or so Rein claims, evolution is not a blind mechanical process of adaptation to changing conditions.[147] The driving force of the development of both humans and animals is the will to attain a better state.[148] An organism actively learns and practices ways that promote its own wellbeing and, over the course of time, this activity modifies the physical structure of the organism. The extent of this modification is dependent on the complexity of the mental life of an organism. In the case of human beings (see below), upbringing plays, however, a more important role.

To further elaborate these views, Rein addresses the question of the inheritance of mental characteristics. The empirical data suggest that some acquired mental characteristics are heritable. The task, then, is to explain how the mental side is independent of the physical side. Rein states that the inheritance of acquired mental (unlike physical) characteristics is essentially indirect. So, a mental characteristic does not pass "from one soul to another".[149] Instead, the mental characteristics of an individual are reflected in his or her nervous system. The descendant of this individual inherits his or her nervous system and thus also the readiness to acquire certain mental abilities from his or her parent. Rein's general view on the inheritance of acquired characteristics resembles Lamarckism rather than Darwinism.[150] Rein does not explicitly mention Jean-Baptiste Lamarck,

but he makes a couple of references to a neo-Lamarckian work by Theodor Eimer.[151]

It is of crucial importance that, according to Rein, all mental characteristics are not reflected in the nervous system. The nervous system of an individual is not "a complete reflection" of his or her mental life.[152] Besides, in the case of human beings, upbringing (*uppfostran*) in the broad sense has a more far-reaching effect on the mental life than inheritance through the nervous system. This is the point on which Rein disassociates himself from social Darwinism, advocated, e.g., by Spencer. For him, the struggle for survival alone does not explain the evolution of the human race.

To conclude this section, Rein thinks that Darwin's theory of evolution is essentially incomplete (although not mistaken), since Darwin does not explain the fundamental reason for variation.[153] Darwin has merely demonstrated why and how certain variations proved to be useful in the struggle for existence.[154] Rein's idea is—as I read it—that the variation cannot be totally random, because it could then be possible that none of the variations proves to be useful. Moreover, there is no explanation for the reason why that variation takes place at all. There are thus gaps in the materialist interpretation of Darwin. Ultimately, Darwin's theory does not necessarily entail materialism.[155]

Rein does not refer to Lotze in his chapter on Darwin, but his conception of evolution nevertheless features many Lotzean principles. Lotze argues in favour of teleological explanations of nature, that every organism has a purpose of its own, and that this purpose is reflected in the structure of that organism. Every organism aims to realize the idea of its own existence.[156] However, Lotze argues neither for intelligent design nor that it would be easy to define the purpose of an organism. On the one hand, on this view, nature is not "a perfect entity" that would include "a right place for every organism". On the other hand, all of nature cannot be a result of blind and random processes. The purpose of an organism is not a mere subjective interpretation; for both Lotze and Rein the teleological side of an organism is "a true force", which has an effect on its formation.[157] In fact, Rein claims that the empirical data, systematized by Darwin, testify to this![158]

Concluding remarks

This paper aimed to reconstruct Rein's reading of empiricism, based on Lotzean idealism. In the 1870s–1890s Rein had to defend his Lotzean idealism not only against the empiricists but also against the Herbartians (most notably August Fredrik Soldan). In Finland, Johann Friedrich

Herbart's philosophy found an echo among the scholars of pedagogy in particular.[159] Aho mentions in passing that the real reasons behind Rein's decision not to write a third volume of his *Psychology* remain somewhat unclear.[160] As a concluding remark, I propose one possible explanation.

As mentioned earlier, Rein does not refer to Lotze particularly often in the second volume of his *Psychology*. This can be partly explained by his aim to be impartial, but this is only one side of the coin. It seems plausible that Lotze's decreasing popularity influenced Rein's decision. Lotze's *Mikrokosmus*, according to Woodward, "helped turn the tide against materialism".[161] Lotze then became one of the forerunners of the German neo-Kantianism, which eventually left his own philosophy in the shade.[162] It seems that Rein found it difficult to combine Lotze's ideas with the recent psychological research already in 1891, and the task was even more challenging in the early 1900s.

Furthermore, the decline of Lotze's philosophy took place in the aftermath of the decline of metaphysics in Germany, which was *fait accompli* already prior to his death.[163] The idea that a substantial soul is the object of scientific psychology lost its popularity over time as well. In his *Psychology*, Rein had already argued that the substantiality of the soul cannot be proven within the realm of psychology alone. The highlight of the third volume of the work was meant to be "a concluding metaphysical review", which might have provided this proof. This review was never completed, whereas prior to his passing Rein was preparing "his philosophical testament", i.e., a work on the fundamental questions of philosophy.[164] Rein probably came to the conclusion that grounding psychology on metaphysics is less urgent than to argue for the possibility of metaphysics in general.

Notes

I presented the first draft of this paper at the philosophy research seminar of the University of Turku in April 2021. I am grateful for all the feedback I received at this event. In addition, I want to thank Hemmo Laiho as well as the anonymous reviewers for their helpful comments. My work on this paper was financed by the Society of Swedish Literature in Finland with funding from Ragnar, Ester, Rolf and Margareta Bergbom's fund (Ragnar, Ester, Rolf och Margareta Bergboms fond).

1. Ingemar Nilsson: *Själen i laboratoriet. Vetenskapsideal och människosyn i den experimentella psykologins framväxt* (Lund, 1978), 105–107.

2. Since 1962 the Philosophical Society of Finland (Suomen Filosofinen Yhdistys, SFY).

3. To some extent, Neiglick was a role model for Westermarck. Petteri Pietikäinen & Otto Pipatti: "Inledning" in Otto Pipatti & Petteri Pietikäinen (eds.): *Moral, evolution och samhälle. Edvard Westermarck och hans närmaste krets* (Helsinki, 2021), 21–22.

4. *Försök till en framställning af psykologin eller vetenskapen om själen* I–II (Helsinki, 1876–1891). I will refer to this work as *Psychology* I–II.

5. See the next section. Rein: *Psychology* II, 315–316.

6. For the minutes of the meetings of the SFY, see Juha Manninen & Ilkka Niiniluoto (eds.): *Ajatuksen laboratorio. Suomen Filosofisen Yhdistyksen pöytäkirjat 1873–1925* (Helsinki, 1996). Most of the minutes between 1873 and 1891 are fairly short (1–3 pp.). Worth noting is that Rein mostly lectured on other topics (e.g., religious freedom and liability for military service) than psychology.

7. Westermarck commented on *Psychology* II shortly after its publication. In November 1891, he gave a talk at the SFY meeting. Rein responded to him and the discussion between the two continued in the next meeting. Next January, Westermarck published his commentary. Edward Westermarck: "Professor Reins kritik af den monistiska själsteorin" in *Finsk Tidskrift* 32:1 (1892), 33–41.

8. Thiodolf Rein: *Muistelmia elämän varrelta* 1–2 (Helsinki, 1919), 284. *Mikrokosmus. Ideen zur Naturgeschichte und Geschichte der Menschheit. Versuch einer Anthropologie*. I will quote the English translation: *Microcosmus. An essay concerning man and his relation to the world* I–II (Edinburgh, 1885). I refer to this work as *Microcosmos* (instead of "cosmus"). Rein used (at least) two different German editions of the work.

9. Thiodolf Rein: *Uppsatser och tal* (Helsinki, 1903), 189, 194.

10. In the European universities, psychology was formally separated from philosophy after the First World War. Nilsson: *Själen i laboratoriet*, 49. In Helsinki, the professor of philosophy was responsible for psychology until 1948.

11. Nilsson: *Själen i laboratoriet*, 13–14, 16; George Mandler: *A history of modern experimental psychology* (Cambridge MA, 2007), xv, 59. For a more complex picture, see William R. Woodward: *Hermann Lotze. An intellectual biography* (Cambridge, 2015), 203.

12. Rein: *Muistelmia*, 285.

13. Rein: *Psychology* II, iii; Jorma Kurkinen: "Th. Reinin tieteelliset katsomukset" in *Minerva. Aate- ja oppihistoriallinen vuosikirja* 2 (1991), 276.

14. Nilsson: *Själen i laboratoriet*, 109; Frederick C. Beiser: *Late German Idealism. Trendelenburg and Lotze* (Oxford, 2013), 229–232.

15. Nikolay Milkov: "Einleitung. Hermann Lotzes philosophische Synthese" in Rudolf Hermann Lotze: *Mikrokosmos* (Hamburg, 2017), LXVIII–LXIX.

16. Jouko Aho: *Käsityksiä sielusta ja sielutieteestä – psykologia ja psykologinen ihmiskuva Suomessa 1800-luvun jälkipuoliskolla* (Oulu, 1989), 118–119, 124–125, 155.

17. Beiser: *Late German Idealism*, 240–241, 245.

18. I follow here Frederick Gregory's interpretation, *Scientific materialism in nineteenth century Germany* (Dordrecht, 1977), x–xi, 113, 146. Worth stressing is that the materialists themselves took a stance against metaphysics.

19. Beiser: *Late German Idealism*, 256.

20. Frederick C. Beiser: *After Hegel. German philosophy 1840–1900* (Princeton NJ, 2014), 64–66.

21. Charlotte Morel stresses that the materialism controversy and the Darwin controversy must not be confused. "Lotze's conception of metaphysics and science. A middle position in the materialism controversy" in *Philosophical Readings* 10:2 (2018), 90; Beiser sees the Darwin controversy as an integral part of the materialism controversy. *After Hegel*, 55–56.

22. Rein: *Psychology* I, 230–231; Beiser: *After Hegel*, 96.

23. Beiser: *After Hegel*, 5–6, 55–56.

24. Lotze: *Microcosmos* I, 425.

25. Beiser: *Late German Idealism*, 262–264, 314; Woodward: *Hermann Lotze*, 261.

26. Milkov: "Einleitung", LXIX; Lotze, *Microcosmos* I, 526–527.

27. Kurkinen: "Th. Reinin", 249. On the arrival of Darwin's theory in Finland, see Anto Leikola: "Darwinism in Finland" in Eve-Marie Engels & Thomas F. Glick (eds.): *The reception of Charles Darwin in Europe* (London, 2008), 135–137; and Pekka Lappalainen: "Darwinin opit ja niiden tulo Suomeen" in *Suomalainen Suomi* 33 (1965), 522–523.

28. Georg Henrik von Wright: "The origin and development of Westermarck's moral philosophy" in Timothy Stroup (ed.): *Edward Westermarck. Essays on his life and works* (Helsinki, 1982), 29–30. In 1890, just prior to the publication of Rein's *Psychology* II, Westermarck and Rein debated on Darwin's relevance for psychology. Niiniluoto & Manninen (eds.): *Ajatuksen laboratorio*, 159–161.

29. It is by no means self-evident that mechanism should be associated with empiricism and teleology with idealism. Lotze's reconciliation of these isms is based on his own definitions of them. The following sections shall deal with these definitions.

30. Woodward: *Hermann Lotze*, 228.

31. Lotze: *Microcosmos* I, xvi; *Microcosmos* II, 572–573; Woodward: *Hermann Lotze*, 247–248; Beiser: *Late German Idealism*, 250, 271.

32. Woodward: *Hermann Lotze*, 260–261.

33. Nilsson: *Själen i laboratoriet*, 24; Morel: "Lotze's conception", 93. The key materialists disagreed in many things, but they all agreed on the categorial denial of vitalism. Gregory: *Scientific materialism*, 164. So, in this regard, Lotze supported the materialist cause.

34. Rein: *Psychology* I, book 1, chap. 5; *Psychology* II, book 3, chap. 1–3.

35. Rein: *Psychology* II, 12.

36. Woodward: *Hermann Lotze*, 60–61, 65–66.

37. von Wright: "The origin", 33; Kurkinen: "Th. Reinin", 251–252.

38. Beiser: *Late German Idealism*, 154, 277–278.

39. Rein: *Psychology* II, 3–4.

40. Rein: *Psychology* I, 8; Rein: *Psychology* II, 5. In his *Psychology*, Rein prefers the terms "psychic" and "psychic life". I use the terms "mental" and "mental life" instead.

41. Beiser: *After Hegel*, 16–17.

42. Nilsson: *Själen i laboratoriet*, 15; Gregory: *Scientific materialism*, 146.

43. Gregory: *Scientific materialism*, 58, 64.

44. Gregory: *Scientific materialism*, 105.

45. Nilsson: *Själen i laboratoriet*, 43.

46. Beiser: *Late German Idealism*, 250.

47. Woodward: *Hermann Lotze*, 205. Paradoxically (225), Lotze also furthered the disciplinary differentiation of psychology, since he endorsed several experimental psychologists for academic positions.

48. Morel: "Lotze's conception", 90.

49. Woodward: *Hermann Lotze*, 229–231, 240–241, 286, 310, 437–438; Thomas E. Willey: *Back to Kant. The revival of Kantianism in German social and historical thought, 1860–1914* (Detroit MI, 1978), 56–57.

50. Gregory: *Scientific materialism*, 189–190.

51. Cf. Kurkinen: "Th. Reinin", 214.

52. Jouko Aho: *Sieluun piirretty viiva. Psykologisia perinteitä suomenmielisestä sielutieteestä kokeelliseen kasvatusoppiin* (Oulu, 1993), 15.

53. Aho: *Käsityksiä sielusta*, 108, 240. See also Aho: *Sieluun piirretty viiva*, 225.

54. Kurt Danziger: *Naming the mind. How psychology found its language* (London, 1997), 185.

55. Rein: *Psychology* II, 8–9.

56. Rein: *Psychology* II, 46.

57. Rein: *Psychology* II, 6; see also Woodward: *Hermann Lotze*, 212–213.

58. Beiser: *Late German Idealism*, 246; Beiser: *After Hegel*, 84.

59. Morel: "Lotze's conception", 93. Lotze formulated this argument already prior to his *Microcosmos*.

60. Beiser: *Late German Idealism*, 247. In fact, Lotze convinced Czolbe of the weaknesses of materialism. Czolbe changed his view later (249).

61. Lotze: *Microcosmos* I, 163–164.

62. Woodward: *Hermann Lotze*, 234.

63. Lotze: *Microcosmos* I, 152, 154; Aho: *Käsityksiä sielusta*, 10, 82–83; Kurkinen: "Th. Reinin", 262–263; Nilsson: *Själen i laboratoriet*, 55.

64. Morel: "Lotze's conception", 94.

65. Rein: *Psychology* I, 258–261. Rein refers here to Lotze: *Microcosmos* I, 164.

66. Rein: *Psychology* I, 249.

67. Rein: *Psychology* I, 206.

68. Rein: *Psychology* I, 237.

69. Rein: *Psychology* I, 239–240; Lotze: *Microcosmos* I, 147.

70. Rein: *Psychology* I, 249–250.

71. Beiser: *Late German Idealism*, 222. Lotze's spiritualism is a much broader metaphysical view than Rein's spiritualism in this context. The concept of spiritualism (or spiritism) commonly refers to the nineteenth-century religious movement. Arvi Grotenfelt (1863–1941), the professor of philosophy in Helsinki since 1905, was the key figure of the scientific investigation of spiritualist phenomena (parapsychology) in Finland. Rein commented on spiritualism occasionally as well. Jouko Aho: *Parapsykologit. Ulkopuolisen näkemys poikkeavan tieteen suomalaiseen historiaan* (Helsinki, 1993), 32, 47; Aho: *Sieluun piirretty viiva*, 160, 169.

72. Rein: *Psychology* I, 250–251.

73. Rein: *Psychology* I, 254–255.

74. Rein: *Psychology* II, 7; Kurkinen: "Th. Reinin", 276.

75. Lotze: *Microcosmos* I, 148. "Immer bleibt der Sprung zwischen dem letzten Zustande der materiellen Elemente, den wir erreichen können, und zwischen dem ersten Aufgehen der Empfindung gleich groß, und kaum wird Jemand die eitle Hoffnung nähren, daß eine ausgebildetere Wissenschaft einen geheimnißvollen Uebergang da finden werde, wo mit der einfachsten Klarheit die Unmöglichkeit jedes stetigen Uebergehens sich uns aufdrängt." *Mikrokosmus. Ideen zur Naturgeschichte und Geschichte der Menschheit. Versuch einer Anthropologie. Dritte Auflage. Erster Band* (Leipzig, 1876), 165.

76. Rein: *Psychology* I, 206.

77. Rein: *Psychology* I, 222.

78. Rein: *Psychology* I, 207.

79. Beiser: *Late German Idealism*, 243.

80. Nilsson: *Själen i laboratoriet*, 50–51.

81. Rein: *Psychology* II, 20–21.

82. Rein: *Psychology* I, 3, 8.

83. Lotze: *Microcosmos* I, 166–167; Rein: *Psychology* II, 394–395, 398. The fact that Rein and Lotze agree on the substantiality of the soul was also acknowledged at the SFY meeting in 1890. Manninen & Niiniluoto (eds.): *Ajatuksen laboratorio*, 148; Rein: *Psychology* I, 396; *Psychology* II, 514.

84. Nilsson: *Själen i laboratoriet*, 25.

85. Rein: *Psychology* II, 8–9.

86. Rein: *Psychology* II, 12.

87. Rein: *Psychology* II, 19–20.

88. Kurkinen: "Th. Reinin", 277.

89. Rein: *Psychology* II, 22–29.

90. Gregory: *Scientific materialism*, 150.

91. Rein: *Psychology* II, 29, 33.

92. Rein: *Psychology* II, 34.

93. Rein: *Psychology* II, 38–39.

94. Rein: *Psychology* II, 39–41; see also Kurkinen: "Th. Reinin", 253.

95. Lotze: *Microcosmos* I, 280.

96. Lotze: *Microcosmos* I, 275; Beiser: *Late German Idealism*, 221–222.

97. Aho: *Käsityksiä sielusta*, 106.

98. Rein: *Psychology* I, 313–314; Kurkinen: "Th. Reinin", 256.

99. Aho: *Käsityksiä sielusta*, 104–109. Interestingly, though, at the SFY meeting in 1890, Rein disputed the claim that Wundt's psychology is positivistic.

100. "[D]e högsta psykologiska problemerna". Rein: *Psychology* I, 312.

101. Nilsson: *Själen i laboratoriet*, 30, 56–57.

102. Besides psychology, Wundt carried out a grand plan of *Völkerpsychologie*, which dealt, e.g., with questions of social psychology. Raymond Fancher: *Pioneers of psychology* (New York, 1996), 154; Mandler: *A history*, 74.

103. Nilsson: *Själen i laboratoriet*, 57, 64; Fancher: *Pioneers*, 170.

104. Nilsson: *Själen i laboratoriet*, 28; Mandler: *A history*, 40–42.

105. Beiser: *Late German Idealism*, 211–212, 216–217.

106. Rein: *Psychology* II, 41–42. For Helmholtz's contribution to the formulation of this law, see Fancher: *Pioneers*, 116–117; von Wright: "The origin", 33.

107. Aho: *Käsityksiä sielusta*, 92; Nilsson: *Själen i laboratoriet*, 54; Gregory: *Scientific materialism*, 159–160; Rein: *Psychology* II, 42–43; Aho: *Sieluun piirretty viiva*, 111.

108. Rein: *Psychology* II, 43–44.

109. Rein: *Psychology* II, 48–49.

110. Rein: *Psychology* I, 504–505; Aho: *Käsityksiä sielusta*, 60.

111. Nilsson: *Själen i laboratoriet*, 55.

112. Rein: *Psychology* II, 51, 53; Kurkinen: "Th. Reinin", 277–278.

113. Kurkinen: "Th. Reinin", 264–265, 279; see also Beiser: *After Hegel*, 67–68.

114. For Lotze's view, see Beiser: *Late German Idealism*, 222–223.

115. Furthermore, in my view, Lotze does not equate mechanism with empiricism: although there is a mechanical explanation for all empirical phenomena, the mechanical explanation is not the only explanation for them.

116. Beiser: *After Hegel*, 67.

117. Cf. Gregory: *Scientific materialism*, x–xi.

118. Rein: *Psychology* I, 482–483.

119. Lotze: *Microcosmos* II, 727–728. Lotze criticizes previous definitions of idealism (e.g., that of Hegel's) particularly towards the end of his *Mikrokosmus*. His own version of idealism is essentially a theory of values, not a theory of existence. This is why Lotze associates idealism with teleology. Beiser: *Late German Idealism*, 268–271.

120. Lotze: *Microcosmos* II, 727. "[M]echanischer Forschung". *Mikrokosmus. Ideen zur Naturgeschichte und Geschichte der Menschheit. Versuch einer Anthropologie. Dritte Auflage. Dritter Band* (Leipzig, 1880), 622.

121. Morel: "Lotze's conception", 96.

122. Rein defended the thesis that only spirit is real at the SFY meeting in 1883. Manninen & Niiniluoto (eds.): *Ajatuksen laboratorio*, 101–102. Apparently, he did not mention Lotze.

123. Morel: "Lotze's conception", 96.

124. Rein: *Psychology* II, 50.

125. Woodward: *Hermann Lotze*, 120.

126. Aho: *Käsityksiä sielusta*, 80–82.

127. Beiser: *Late German Idealism*, 268.

128. Rein: *Psychology* II, 53.

129. Rein: *Psychology* II, 63, 65; Kurkinen: "Th. Reinin", 278.

130. Rein: *Psychology* II, 55. Darwin had merely broached the question of the human species in his *Origin of Species* (1859), but he elaborated this topic further in three works between 1871–1877. Fancher: *Pioneers*, 205–206; Peter J. Bowler: *The eclipse of Darwinism. Anti-Darwinian evolution theories in the decades around 1900* (Baltimore MD, 1983), 22). In the chapter on Darwinism (*Psychology* II, 54–88), Rein makes some references to the Swedish translation (1872) of Darwin's *The descent of man* (1871). Darwin's work of 1871 had a remarkable influence on Westermarck's development. Otto Pipatti: *Morality made visible. Edward Westermarck's moral and social theory* (London, 2019), 23–24.

131. Beiser: *Late German Idealism*, 263.

132. Rein: *Psychology* II, 23–24; see also Fancher: *Pioneers*, 212–213.

133. Aho: *Käsityksiä sielusta*, 98. Haeckel was also a remarkable evolutionary biologist in his own right.

134. Leikola: "Darwinism in Finland", 145.

135. Rein: *Psychology* II, 67.

136. Beiser: *Late German Idealism*, 262–263.

137. Gregory: *Scientific materialism*, 178; see also Lappalainen: "Darwinin opit", 528.

138. Rein: *Psychology* II, 69–71.

139. Rein: *Psychology* II, 76–77. This was also the thesis of Rein's lecture at the very first meeting of the SFY. Manninen & Niiniluoto (eds.): *Ajatuksen laboratorio*, 33.

140. Rein: *Psychology* II, 84–85.

141. Rein: *Psychology* II, 87–88.

142. Rein: *Psychology* II, 84–85; Kurkinen: "Th. Reinin", 279.

143. Rein: *Psychology* II, 90–91; von Wright: "The origin", 33–34, 57 (n. 39). Rein presented this thesis also at the SFY meeting in 1889. Manninen & Niiniluoto (eds.): *Ajatuksen laboratorio*, 150. Worth noting is that Rein's disagreement with Spencer concerns parallelism, not the claim that the human psyche has an evolutionary function. Aho: *Käsityksiä sielusta*, 96–97.

144. Rein: *Psychology* II, 93–94.

145. Rein: *Psychology* II, 102, 104.

146. Rein: *Psychology* II, 105.

147. Rein: *Psychology* II, 106–107.

148. Rein: *Psychology* II, 97, 109; Kurkinen: "Th. Reinin", 280.

149. "[F]rån själ till själ". Rein: *Psychology* II, 113.

150. Bowler: *The eclipse of Darwinism*, 7.

151. *Die Entstehung der Arten auf Grund von Vererben erworbener Eigenschaften nach den Gesetzen organischen Waschsens* (1888). Bowler: *The eclipse of Darwinism*, 90–91. Interestingly, around the time of the publication of Rein's *Psychology* II, Westermarck developed a critical stance towards the Lamarckian elements of Darwin's theory. Pipatti: *Morality made visible*, 12–13; Pietikäinen & Pipatti: "Inledning", 18–19. Westermarck was influenced by August Weismann in this regard. Rein makes critical remarks on Weismann's theory. *Psychology* II, 111–112.

152. Rein: *Psychology* II, 114–115, 117.

153. Rein presented this thesis also in his critique of Westermarck at the SFY meeting. Niiniluoto & Manninen (eds.): *Ajatuksen laboratorio*, 160.

154. Rein: *Psychology* II, 108–109.

155. Aho: *Käsityksiä sielusta*, 96; Kurkinen: "Th. Reinin", 285.

156. Beiser: *Late German Idealism*, 258.

157. Beiser: *Late German Idealism*, 260; Rein: *Psychology* I, 504.

158. Kurkinen: "Th. Reinin", 327.

159. Aho: *Käsityksiä sielusta*, 70–72, 187–188. Lotze, too, got into a controversy with Herbartians, e.g., M. W. Drobisch.

160. Aho: *Käsityksiä sielusta*, 76.

161. Woodward: *Hermann Lotze*, 318.

162. Beiser: *Late German Idealism*, 127; Woodward: *Hermann Lotze*, 315–316; Wilhelm Windelband, one of the most important neo-Kantians, was Lotze's pupil and strongly influenced by him.

163. Nilsson: *Själen i laboratoriet*, 40, 49–50, 75 (n. 83).

164. Rein: *Psychology* II, iv; Kurkinen: "Th. Reinin", 309–326.

Abstract

Thiodolf Rein, Hermann Lotze and the rise of empiricism in Finland. Lauri Kallio, PhD, Department of Philosophy, Contemporary History and Political Science, University of Turku, Finland, lauri.kallio@utu.fi

The paper addresses Thiodolf Rein's (1838–1919) view of empiricist philosophies, which arrived in Finland in the second half of the nineteenth century. Rein was the key figure of Finnish philosophy towards the end of the nineteenth century. His philosophy was strongly influenced by Hermann Lotze (1817–1881), probably the most distinguished German philosopher of the time. In his main work, *Försök till en framställning af psykologin eller vetenskapen om själen* (Attempt at a presentation of psychology, or the science of the soul, 1876–1891), Rein attempts to reconcile modern natural science and its empirical methodology with idealist metaphysics. His chief concern is to refute the claim that the results of natural science corroborate materialism. Whereas Lotze had only shortly commented on Charles Darwin's theory of evolution, Rein attempts to integrate Darwin's theory into his idealist metaphysics. Besides philoso-

phy, Rein's arguments had also implications for broader political and cultural issues of the time.

Keywords: Thiodolf Rein, Hermann Lotze, empiricism, idealism, materialism, nineteenth-century philosophy