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ARTICLE

Dilthey on the unity of science

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ABSTRACT

This paper elaborates a conception of the unity of science that emerges in the context of Dilthey's well-known treatment of the distinction between the *Naturwissenschaften* and the *Geisteswissenschaften*. Dilthey's account of the epistemological foundations of the *Geisteswissenschaften* presupposes, this paper argues, their continuity with the natural sciences. The unity of the two domains has both a psychological and a biological basis. Whereas the psychological functions at work in scientific thinking, the articulation of which is the task of Dilthey's proposed science of 'descriptive and analytic psychology', are common to both kinds of sciences, their ontological ground consists in the embodied and environmentally situated context of human beings, and is expressed in Dilthey's central concept of 'life'. Accordingly, this paper develops the shared biopsychological foundations of the epistemology of the natural and human sciences from Dilthey's writings in the 1880s and 1890s. Dilthey's conception of unity, furthermore, has implications for philosophy's orientation towards the special sciences. Thus, in conclusion, this paper applies the biopsychological account to sketch an outline of Dilthey's historicist method in the philosophy of science, and considers its similarities and differences with a contemporary approach in 'historical epistemology'.

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1. Introduction

Wilhelm Dilthey has long been recognized for a principled distinction between the *Naturwissenschaften* and the *Geisteswissenschaften*¹ that was

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¹In this paper, I will translate these as 'natural sciences' and 'human sciences'. The distinction may have been introduced into German in 1849 by way of Schiel's translation of 'Moral Sciences', the subject of the sixth book of J. S. Mill's *System of Logic*, as *Geisteswissenschaften*. See Makkreel (*Dilthey: Philosopher of the Human Studies*, 35–44), for background to the term *Geisteswissenschaft*. Anderson ('The Debate over the *Geisteswissenschaften* in German Philosophy, 1880–1910') charts the debate as it was contested between neo-Kantian philosophers around the turn of the century. Dilthey himself problematizes the term *Geisteswissenschaften*, noting its inherent shortcoming insofar as it suggests a restriction of the sphere of knowledge to the spiritual, social, moral, or cultural, and excludes the embodied, physical nature of human beings (GS I.6; SW I.58).

intended to secure for the latter a philosophically respectable autonomy. Dilthey's distinction between the two domains rests on an influential distinction between two kinds of epistemic achievement. Whereas the natural sciences strive for predictive value through causal explanations (*erklären*) of the natural world, the human sciences aim at evaluative understanding (*verstehen*) of human activity in its social and historical context. Much scholarly ink has, consequently, been spilled on Dilthey's arguments for the *discontinuity* between the natural and human sciences on the basis of his distinction between *erklären* and *verstehen*.² What has received considerably less attention is his enduring commitment to the underlying *unity* of the sciences. *Wissenschaft*, for Dilthey, is a collaborative enterprise that, despite the variety among the special disciplines, retains a shared object and purpose.³

The goal of this paper, accordingly, is to draw attention to this relatively neglected aspect of Dilthey's thought by uncovering a powerful vision of the unity of science at work in his corpus from the 1880s and 1890s. Dilthey's flagship project of articulating the epistemological foundations of the *Geisteswissenschaften* in the *Introduction to the Human Sciences* (henceforth *Introduction*),⁴ I argue, presupposes their continuity with the natural sciences. However, unlike some earlier unity of science theorists, Dilthey's conception of unity does not rest on the reducibility of all special sciences to physics.⁵ Neither does it rest, unlike some later accounts, on a purely formal unity of explanatory structure,⁶ nor on merely methodological considerations.⁷

²See, for instance, Makkreel: 'To recognize that the human studies presuppose natural laws does not mean that they lack their own starting point' (*Dilthey*, 61); Plantinga: 'To grasp Dilthey's approach to historical understanding, then, we must examine his views on the autonomy of the *Geisteswissenschaften*' (*Historical Understanding*, 24); Schnädelbach: 'his [Dilthey's] program understands itself not as a mere completion of Kantian criticism, but as a radical new beginning in the background of the historical enlightenment' (*Philosophie in Deutschland 1831–1933*, 74); Scanlon: 'showing its [i.e., psychology's, as a human science] distinctness served to illustrate and justify the broader point that the human sciences generally should be regarded as different from the sciences of nature' ('Dilthey on Psychology and Epistemology', 347). There is indeed more than a grain of truth in the point that Dilthey emphasizes the distinctness of the human sciences. Without intending to deny that point, in the following I wish to emphasize Dilthey's recognition of their continuity with the natural sciences.

³Patton ('Methodology of the Sciences') suggests reading Dilthey as defending a Humboldtian vision of an ideal of *Wissenschaft* as a cooperative academic endeavor, though she does not offer the details of Dilthey's defense of that ideal.

⁴Dilthey's works are cited from the twenty-volume *Gesammelte Schriften* as GS, followed by volume and page numbers. Where available, I have cited Makkreel and Rodi's six volume English translations, *Selected Works* as SW, followed by volume and page numbers, though the translations given are frequently my own.

⁵For instance, Descartes, for whom physics forms the trunk of the tree of knowledge – though metaphysics, of course, provides the roots.

⁶Such as Carnap's unified language of science as 'a common reduction basis for the terms of all branches of science' ('Logical Foundations of the Unity of Science', 64), the amenability of which to a rigorous method of analysis yields a unified logic of science.

⁷Such as Popper's falsifiability criterion to demarcate science from non-science (*The Logic of Scientific Discovery*, 95).

Dilthey's conception of unity, instead, has biopsychological foundations. His proposed science of descriptive psychology in his 1894, 'Ideas for a Descriptive and Analytic Psychology' (henceforth 'Ideas'), I claim, elaborates the epistemological principles of scientific knowledge in *both* the natural and the human sciences. But this conception of unity is not merely epistemological. Rather, Dilthey turns to the life sciences for an ontological basis of the unity of science, expressed in the fundamental concept of 'life' that lies at the heart of his philosophy. Physics and chemistry stand upon the same ontological ground as philology and jurisprudence inasmuch as they all result from the purposive activity of living, psychological beings. The biological basis for the unity of science underwrites a biopsychological foundation of unity.

The next section elucidates the thesis of the unity of the natural and human sciences in Dilthey's landmark *Introduction*. Section 3 reconstructs Dilthey's 'epistemological standpoint' with regard to its biological and psychological aspects, focusing in particular on the all-important notion of 'structure', which, I contend, Dilthey understood in its nineteenth-century biologicistic sense. Section 4 then presents Dilthey's critique of nineteenth-century experimental psychophysics as inadequate for unified science, in large part due to its adherence to a physical-mathematical conception of structure that fails to model the kind of structure found in the psychological realm. Section 5 turns to the positive project of descriptive psychology and its foundational role for the unity of science, drawing out the philosophical payoffs of conceiving psychic structure on the model of organic structure. Section 6 concludes by applying the biopsychological account of knowledge to Dilthey's general philosophy of science and considers his relation to the contemporary movement of 'historical epistemology'.

2. The continuity of the natural and human sciences

A striking fact about the *Introduction* is that Dilthey turns to Hermann von Helmholtz, one of the preeminent *natural* scientists of the nineteenth century, for its epigraph: 'Reality has, up to now, revealed itself to science, which faithfully investigates its laws, as being more sublime and rich than even the most extreme efforts of mythical fantasy and metaphysical speculation could portray it' (GS I.1; SW I.52). Helmholtz, in fact, offered Dilthey more than just a Baconian motto upon which to hoist the flag for a new, scientific philosophy of the human realm. Dilthey frequently expresses his admiration for Helmholtz's 'healthy philosophy of experience' (*gesunde Erfahrungsphilosophie*) (GS XI.262) and esteems him as the 'embodiment of the natural scientific spirit' (GS XI.263, V.3). As Lessing argues, such tributes are not empty gestures of approval. Rather, Helmholtz's scientifically informed approach to philosophical problems such as the problem of the external

world, and the status of the causal law, were exemplary for Dilthey's own orientation towards empirically informed philosophy.⁸

The symbolic significance of aligning his project with the outlook of a celebrated natural scientist of the nineteenth century is only fully appreciated in light of the occasion that led to its publication: the *Introduction* served as Dilthey's *Habilitation* that marked his assumption in 1882 of the chair in Philosophy at the University of Berlin, once held by Hegel and Trendelenburg, from one of the preeminent representatives of the grand tradition of German metaphysics, Hermann Lotze. The explicitly antimetaphysical stance of the *Introduction* that seeks inspiration for a critique of the *human sciences* from a celebrated natural scientist invites closer scrutiny of Dilthey's motives. In particular, it suggests the question of how exactly Dilthey conceives the conditions for knowledge in the natural and the human sciences, and whether they have a shared basis.

Dilthey gives an unequivocal, affirmative answer to this question at the outset of the *Introduction*. The intended 'Critique of Historical Reason'⁹ requires uncovering truths 'which ground not only our knowledge of the socio-historical world, but also our knowledge of nature' (GS I.3; SW I.55), for the subject matter of the human sciences 'does not really separate *facts of the human spirit* from the *psychophysical unity of human nature*' (GS I.6; SW I.58). Dilthey conceives the human beings that are the objects of the socio-historical sciences as embodied, 'psychophysical life-units' (*psychophysische Lebenseinheiten*), determined as much by physical laws as by the activity of the will or the emotions. A full perspective for the human sciences, consequently, must consider human beings both under a physical aspect as given in outer perception, and under a mental aspect accessible in inner perception. Thus, while the *Introduction* does indeed aim to articulate the epistemological conditions special to the human sciences, it intends to establish only their '*relative independence*' (emphasis added) from the natural sciences, while retaining the monist perspective in which '[m]ental facts comprise the uppermost limit of natural facts, and the facts of nature form the underlying conditions of mental life' (GS I.17; SW I.69).¹⁰ The domain of natural facts is expanded to include

⁸In particular, Lessing notes that Dilthey was actively engaged with Helmholtz's writings in the years leading up to the 1883 publication of the *Introduction* ('Helmholtz und Dilthey', 822).

⁹Dilthey once entertained this as a title for the *Introduction*, as he recounts in the dedication to Paul Yorck von Wartenburg (GS I.ix).

¹⁰Cf.: 'In the first instance it seems to me entirely unobjectionable to establish a distinction between physical and mental facts. The human sciences study, on the basis of physical facts, mental facts occurring in the objects of sense and their relation to each other as well as to physical facts. To be sure, the distinction between natural and human sciences is not grounded on a distinction of two classes of objects. There exists no difference between natural and mental objects' (GS V.248). That is, the various sciences may conceptualize the object of their study differently, yielding different kinds of fact, but in each case it remains one and the same kind of object.

mental facts, which, taken together, condition knowledge in the human sciences.¹¹

Crucially, Dilthey does not equate knowledge of the natural basis of the human sciences with mathematical physics. Rather, understanding the physical context of humanistic inquiry requires, in the first place, appeal to biology (GS I.19; SW I.70). For our biological nature is more proximate to our nature as psychological beings than is our nature considered strictly from the perspective of physics. The cognitive capacities of the subject of knowledge, which constitute the basic conditions of the possibility of any knowledge, are at the same time the capacities of a *biological* subject, thus conditioned by biological facts. For these facts, the philosopher of the sciences must turn to the concepts and methods of the life sciences. As Dilthey would write in 'Life and Cognition', shortly before the 'Ideas' of 1894: 'Ever since I recognized in the structure of life the foundation of psychology, I had to expand and deepen the psychological standpoint to the biological' (GS XIX.345; SW II.71). Dilthey's critique of experimental psychophysics as well as his positive proposal for a descriptive psychology must be viewed in light of this biological perspective. Before turning to those negative and positive projects, though, we should have in view the biological and psychological premises of the 'epistemological standpoint' from which Dilthey proceeds.

3. Epistemology, biology, psychology

The biological perspective gains increasing prominence in Dilthey's thought during the last two decades of the nineteenth century and informs the psychological and, consequently, the epistemological standpoint from which Dilthey conducts his critique of the sciences. We shall begin with the relation between epistemology and psychology, and then turn to their relation to biology.

For Dilthey, in the absence of any non-experiential basis for epistemology, reflection upon the structure of the mental faculties takes priority in guiding epistemology over, for instance, the procedures of formal logic. The

¹¹This theme of the unity of the natural and human realms recurs throughout Dilthey's corpus. For example: 'outer perceptions form the ever-present basis for inner perceptions' (GS V.244; SW II.214); and: 'The basic idea of my philosophy is that, from perception to the highest forms of knowledge, the human intellect stands under conditions of consciousness, which it introduces successively as pre-suppositions for the construction of the real world' (GS XIX.44; SW I.500). Dilthey regards everyday perception, natural scientific representation, and humanistic representations as forming a continuum that rests ultimately on shared conditions of silent or pre-discursive thought. These basic logical processes include comparing, separating, finding similarities and degrees of difference, and recognizing uniformities. See Makkreel ('The Productive Force of History', 497–503) for a useful taxonomy of explicative, representational (*vorstellende*) and discursive (*vertretende*) modes of thought in Dilthey. Makkreel's analysis draws on the later *Formation of the Historical World in the Human Sciences*, but the same taxonomy can be discerned in the 1880s and 1890s as well. Makkreel (*Dilthey*), and Lessing and Rodi (*Materialien zur Philosophie Wilhelm Diltheys*), among others, have argued convincingly for the continuity between Dilthey's pre-1900 'psychological' and post-1900 'hermeneutical' periods.

conditions of possibility for the connection of the contents of knowledge are those implicated in the mental processes in which the contents occur. Such 'transcendental reflection' expands the horizon of inquiry into the conditions of experience and informs the empirical sciences of the embodied human being (GS V 246; SW II 216). Since it is only through reflection on mental activity that these conditions are uncovered, a reflective science of the mind, of the sort that descriptive psychology aspires to be, attains a more intimate relation to epistemology than does any other special science. Dilthey expresses the centrality of such a psychological investigation in an early draft for the planned Book 4 of the *Introduction*: '[T]he standpoint of epistemology must therefore be taken into a truly descriptive psychology, which also includes in itself the contents of psychical facts. This standpoint grounds not only aesthetics and ethics, but also the theory of science' (GS XIX.45).¹²

Accordingly, Dilthey announces the epistemological standpoint in the Preface to the *Introduction* itself:

Only in inner experience, in the facts of consciousness, have I found a firm anchor for my thinking ... All science is experiential; but all experience has its original context and derives its validity from the conditions of our consciousness in which it arises, from the totality of our nature. We designate as 'epistemological' this standpoint which consistently recognizes the impossibility of going behind these conditions ... Modern science can acknowledge no other [than this epistemological standpoint]. (GS I.xvii; SW I.50)

The conditions behind which science, thus scientifically informed philosophy as well, is not permitted to go are the conditions of the totality of human nature. These conditions are expressed in two central principles.

First, the 'principle of phenomenality' asserts that everything that exists for me is a fact of consciousness and subject to the conditions of consciousness (GS XIX.60, V.90; SW I.247, II.8). The principle amounts to an empiricist commitment that anything that could be an object of knowledge must be presentable in experience. Importantly for Dilthey, the facts of consciousness are not limited to representations given as isolated elements from which the subject constructs the external world by a mechanical procedure. Indeed, the tendency to derive all experiential facts from a limited number of univocal elements is the distinctive mark, and fatal flaw, of experimental psychophysics

¹²Compare: GS V.149–51; SW II.124–7. Within the context of nineteenth-century disputes in Kant interpretation, Dilthey may be seen as advocating transcendental psychology, rather than transcendental logic, as the proper ground of critical epistemology. Reflection on the nature of the mental capacities at work in cognition supplies the conditions of possibility of knowledge in any domain of inquiry. In this sense, Dilthey's epistemological foundations can be deemed psychological, without thereby making them psychologistic; for Dilthey would resist any attempt to derive the basic materials of descriptive psychology from mere awareness of particular acts of consciousness. Makkreel (*Dilthey*), Schnädelbach (*Philosophie in Deutschland 1831–1933*), Scanlon ('Dilthey on Psychology and Epistemology'), Rodi (*Das strukturierte Ganze*), and Feest ('Hypotheses, Everywhere Only Hypotheses!') are some of the commentators that recognize the transcendental psychological basis of Dilthey's epistemology, while denying psychologism.

(GS V.167; SW II.142). By treating the subject as a mere onlooker to a world of appearances in whose veins 'no real blood flows' (GS I.xviii; SW I.50), such an approach leads invariably to phenomenalism, which can only be overcome by metaphysical hypotheses. Thus, whereas Schopenhauer escapes from the radical phenomenalism of a world considered as representation only with a metaphysical flight to the world as will (GS I.358, I.223; SW I.192, I.223), a large swath of experimental psychophysics, Dilthey charges, overcomes phenomenalism, and transgresses experience, by accepting untestable hypotheses such as psychophysical parallelism or epiphenomenalism (GS V.161–2; SW II.136–7).

Consequently, the principle of phenomenality needs to be supplemented by a second principle, namely, that the facts of consciousness are contained in the totality of psychic life (GS XIX.75; SW I.263–4). This principle requires that the facts of consciousness, including the facts of the sciences, be regarded as contained in and conditioned by the overall structure in which they are found. Whereas the principle of phenomenality delimits the domain of possible knowledge, the second principle serves a methodological rule that any account of knowledge must refer to the whole of which it is a part, in the context of which its significance must be understood. The presupposition of primitive facts, such as the sensational elements of psychophysics, out of which systematic knowledge could be constructed is the illusion of an intellect operating in isolation from the larger, purposive structure of drives and affects among which it is merely one function (GS XIX.76; SW I.264).

The notion of 'structure', consequently, occupies a central place in Dilthey's epistemology. Dilthey's concept of structure, however, does not denote a physical-mathematical spatial framework in which external phenomena are localized and which provides a fundamental condition for objectification.¹³ Nor should it be understood as a static, socially and historically entrenched system of institutions and values that conditions human behaviour. Rather, the Diltheyan 'structure' of the facts of consciousness is a goal-directed system that develops from a state of relative homogeneity to a state of relative heterogeneity through a process of differentiation. This concept of structure, which dominated the morphological and embryological traditions in the eighteenth and nineteenth centuries, can be traced through the work of, among many others, Caspar Friedrich Wolff (1734–94), Hans Blumenbach (1752–1840), Jean-Baptiste Lamarck (1744–1829), Karl

¹³Proponents of views that may be termed physical-mathematical structuralism in the late nineteenth and early twentieth century-Germany include, for example, Helmholtz (*Physiological Optics, Volume III*) and Natorp (*Die logischen Grundlagen der exakten Wissenschaften*). Indeed, the mathematical concept of structure is in large part responsible for the success of the physical sciences, as Dilthey recognizes, since it provides stability through a spatial order to their objects and enables their precise measurability (GS V.142; SW II.118).

Ernst von Baer (1792–1876), and Herbert Spencer (1820–1903).¹⁴ Paradigmatically, organisms exhibit such structure. The developmental process results in a system of functions organized in a way that serves the drives and instincts of the organism, such as to nourish itself, or to avoid predators. A being so organized is one that has adapted itself to its environment to a greater or lesser degree:

a living creature, in the midst of the stimuli that impinge on it from its milieu, seeks to satisfy its system of drives and feelings in reaction to these objects, either by adapting them to its needs or by adapting itself to what is unchangeable. We find this structure exemplified in every living creature ... [Through this structure we see] varying degrees of completeness of adaptation, by means of different degrees of the differentiation of functions and their combinations. (GS XIX.309; SW I.468)

Structural differentiation begins, for example, in the stages of a mammalian embryo as it passes from being an undifferentiated zygote to having successively more complex and specialized limbs, organs, and functions. It continues in the early development of the organism before slowing down or ceasing altogether in the adult individual.

In the case of the human organism, the system of functions that unfolds in the course of development assumes increasingly complex forms in religion, art, science, politics, and the institutions of modern social and economic organization. Yet, Dilthey's commitment to the natural basis, of which the biological is most proximate, of the facts of spirit entails that the psychological system of functions that produces socio-historical facts must also be regarded as conditioned by the structure of organic life. While the notion of 'life' at the heart of Dilthey's concerns certainly outstrips a merely biological interpretation, Dilthey nevertheless employs in his psychology the concepts of structure and life in their biological

¹⁴Lamarck defines the science of biology as including

all which pertains to living bodies and particularly to their organization, their developmental processes, the structural complexity resulting from prolonged action of vital movements, the tendency to create special organs and to isolate them by focusing activity in a center, and so on (1802; in Coleman, *Biology in the Nineteenth Century*, 2).

Spencer, whom Dilthey cites with approval for his biological approach to psychology, writes:

In respect to that progress which individual organisms display in the course of their evolution, this question has been answered by the Germans. The investigations of Wolff, Goethe, and von Baer have established the truth that the series of changes gone through during the development of a seed into a tree, or an ovum into an animal, constitute an advance from homogeneity of structure to heterogeneity of structure (1857, cited in Rodi, 'Dilthey's Concept of "Structure"', 108).

See Coleman (*Biology in the Nineteenth Century*) for a survey of the problem of form in nineteenth-century biology. Richards (*The Tragic Sense of Life*) charts the struggles over Darwinism in Germany in the late nineteenth century; see esp. chap. 5.

significations as well.¹⁵ In the Breslau drafts, for instance, he explicates the articulation of psychological functions as analogous to the system of functions of the nervous system (GS XIX.99–105; SW I.282–9). The parallel structural organization of the nervous system and the psychical domain shows ‘psychic life in its dual role of receiving effects from the external world and reacting to it’ (GS XIX.102; SW I.286). The conceptual link between psychological and biological structure goes beyond mere analogy. An organic concept of structure that proceeds from stimulus to motion, in which ‘the secret of life pulsates, as it were’ (GS XIX.344; SW II.69), emerges as a condition for the intelligibility of life: ‘The character of life is apparent in the structure of all living creatures. Its meaning arises from it [this structure]’ (GS XIX.329; SW I.489). Thus, although Dilthey’s notion of ‘life’ is by no means exhausted by biological connotations, it preserves a crucial connection between organismal structure as understood in nineteenth-century biology and the structure of human psychology. This continuity of meanings receives an historical account as well.

In Dilthey’s story of the development of the sciences, biological science passes over into human science. The quest for unified causal cognition of nature that defined the rise of mechanics in the seventeenth century paved the way in the eighteenth for the development of the biological sciences by making possible wide-ranging use of the methods of comparison and classification. By casting the totality of the physical world in a single, law-governed framework, the mechanical world picture allowed for comparative investigation across genera of animals, including human beings. The extensive study of differences, gradations, types, and affinities aimed at answering the question, ‘how can diverse forms of organic life be arranged, classified, and explained?’ (GS V.309; SW II.276–7). Comparative and descriptive methods were, however, readily adapted to the study of political economy, religious institutions, and human history. The epistemological questions in the human realm were thus situated in the larger context of a developmental natural history of the world on the basis of their methodological continuity with the life sciences. Dilthey writes:

¹⁵Biologistic interpretations of the concept of structure, and even more centrally, of life in Dilthey’s thought, have never gained much following, as Rodi (‘Dilthey’s Concept of “Structure”’) notes. Many have explicitly denied that Dilthey took any interest in the life sciences in the nineteenth century, so his ubiquitous term ‘life’ could not carry any biological connotations. Thus, Plantinga writes that Dilthey ‘manifested no special interest in biology and did not use the term ‘life’ in a biological sense’ (*Historical Understanding*, 74); Schnädelbach, by placing Dilthey in the broad sweep of *Lebensphilosophie*, endorses a similar reading of Dilthey on which ‘with “Life” is not meant something primarily biological’ (*Philosophie in Deutschland 1831–1933*, 172); likewise, Owensby speaks of ‘organic metaphors’ that the later Dilthey replaced with cultural ones (‘Dilthey’s Conception of the Life-Nexus’, 558). Yet, Dilthey was well informed of nineteenth-century biology, and recognized its methodological differences from the physical sciences (see, for instance, his lengthy survey at GS V.303–16; SW II.270–28). Without wishing to deny the greater scope that Dilthey accords to the concept of ‘life’, I want to emphasize that Dilthey nonetheless retains in the concept its biological meaning, which he uses to mediate the continuity of the human and the natural realms.

The investigation of the organic world and of the individuation in it was the last step taken by natural science in its lawful course. By demonstrating the homogeneity of the forms and laws of animal and human life, natural science was at the same time led to the threshold of the human sciences. (GS V.310; SW II.278)

Dilthey's project of laying philosophical foundations for the human sciences may well be regarded as an attempt to cross that threshold.

It is not only on the basis of an historical reconstruction of the progress of science that Dilthey considers the interface of biology and psychology as the locus for the unity of the sciences of nature and of spirit. The advance of psychophysics, in particular, naturally assumes great significance in light of its goal of establishing regularities between physiological events and mental states. From the perspective on the human being taken by psychophysicists such as Fechner and Helmholtz, Dilthey writes, 'arises a clearer representation of their [humans'] dependence on the total context of nature within which they appear, act, and from which they withdraw again' (GS I.17; SW I.68). This dependence is reciprocal. On the one hand, the human being receives stimulation through the nervous system in accordance with physical laws. But on the other, the physical world provides material for human beings to act in order to realize their ends, and their mental lives affect the material state of the natural world. Upon this mutual dependence of the physical and the mental rests Dilthey's claim that the

sciences of man, society, and history have the sciences of nature as their basis, first, insofar as psychophysical life-units themselves can only be studied with the help of biology, but thereupon, insofar as nature is the medium (*Mittel*) in which their development and purposive activity occurs. (GS I.19; SW I.70–1)

The facts of nature circumscribe the domain in which the facts of the human spirit play out.

Yet, Dilthey famously calls for a reform of the rapidly advancing science of psychophysics, if it is to fulfil the epistemological task of grounding an inclusive system of the sciences. 'Constructive psychology', as Dilthey charges in the so-called 'Berlin Plan', has its one-sided origin as 'analysis under the presupposition of the results of natural science' (GS XIX.299). It is this critique to which we turn next.

4. Critique of psychophysics

Dilthey opens the 'Ideas' with a discussion of the inadequacies of explanative or constructive psychology for explaining the knowledge-generating processes at work in the human sciences. Dilthey subjects explanative psychology to a number of charges – being hypothetical in character, being misled into pursuing the deductive ideal of mathematical physics, and overemphasizing representational functions. All of Dilthey's criticisms can be seen as

founded upon the charge that explanative psychology orients itself around a physico-mathematical, rather than biological, conception of structure. Explanative psychology is inadequate for grounding the unity of nature and spirit, because it fails to appreciate fully the biological nature of the knowing subject.

Dilthey identifies the attempt to derive all facts of inner and outer experience, of history and of society,¹⁶ from a limited number of elements as the distinctive mark of explanative psychology (GS V.158, V.167; SW II.133, II.142).¹⁷ By 'element', Dilthey means any constituent that enters into psychological explanation as a basic unit, such as sensations, impressions, or unconscious representations, from which the world of stars, trees, people, and societies is then constructed. This procedure fails when it denies that the elements it takes as basic are themselves part of an originally given, unified psychological whole. Unlike the physical sciences, in which the conceptual connection between elements is achieved through the use of hypotheses, the connectedness of psychological phenomena is precisely what is given in experience (GS V.144; SW II.119–20). Instead of acknowledging this wholeness, explanative psychology resorts in vain to hypotheses such as that of psychophysical parallelism to connect the phenomenal world to an external reality. In other words, explanative psychology misguidedly resorts to the hypothetico-deductive method of the physical sciences to stake its claim to objective, causal knowledge of the psychological. Unfortunately, whereas the physical sciences possess clear criteria for testing their hypotheses, in virtue of having a mathematical spatial framework in which objects are stabilized and subjected to careful experimentation, the empirically insoluble character of the mind-body problem means that no such criteria for confirmation or disconfirmation of the hypotheses of explanative psychology are possible (GS V.142; SW II.118). Explanative psychology becomes trapped in a profusion of metaphysical hypotheses among which it cannot decide on empirical grounds. Consequently, it must abandon its claim to the heart of the explanative method, namely, the testing of hypotheses (GS V.168; SW II.143).

The project of a 'mechanical construction of psychic life' (GS XIX.303) has the further consequence that explanative psychology largely restricts its focus to perception and memory and their associative laws, which present and record the images of the external world. Thus, explanative psychology fails to situate properly these representational processes in the context of

¹⁶Thus, the critique of explanative psychology is equally an attack on Comtean sociology, and on German *Völkerpsychologie*. See Feest ('Hypotheses, Everywhere Only Hypotheses!') for these further contexts.

¹⁷Foremost under Dilthey's label 'explanative psychology' (*erklärende Psychologie*) falls Herbart, and the tradition in nineteenth-century experimental psychophysics that he inspired. However, it is not only German psychophysicists such as Fechner and Weber that are Dilthey's targets, but also English philosophers and scientists such as J. S. Mill and Herbert Spencer, and the French psychologist Hippolyte Taine. Importantly, Dilthey concludes his negative appraisal of explanative psychology by favorably distinguishing Wilhelm Wundt from this tradition (GS V.166–7; SW II.141–2).

the larger system of volitions, drives, and affects in which they occur. A fuller conception of the psychological domain must acknowledge the 'life of feelings and instincts, the striving for self-preservation and self-expansion', and the obligations and norms that dictate behaviour (GS V.156; SW II.131).¹⁸

The shortcomings of explanative psychology emerge from its adoption of a static, physical-mathematical conception of the structure of psychic life, as opposed to the organic one of the life sciences. Methodologically, explanative psychology is led to employ the hypothetico-deductive procedure of physics, instead of the more appropriate methods of comparison, description, and classification available in the biological sciences. Likewise, by forcing the explanatory ground of psychological facts onto an external spatial framework, psychophysicists neglect the purposive nature of the human organism, whose psychological states are constituted equally by volitional and affective processes in addition to representational ones. The way out of the unsatisfactory state of mechanistic psychophysics lies in reorienting the science of the mind towards its biological context.

5. Descriptive psychology

The biological concept of structure fits well with Dilthey's characterization of psychic structure in the 'Ideas'. Situating the biological notion in this context, 'structure' can be understood as a system of functions that results from a process of development in the self's interaction with its environment. This system of functions is constituted not just by perceptions and memories, but also by volitional and affective processes through which the organism experiences resistance from its milieu.¹⁹ Psychic structure is thus analogous to biological structure in that it exhibits goal-directed activity as a result of which it develops further. The task of descriptive psychology is to analyse this structure of functions, and its methods are those of the life sciences: description, analysis, classification, comparison, and a theory of development (GS V.155; SW II.130).

A primary explanandum of descriptive psychology is the creative 'inner synthesis' by which something is produced that has no analogue in nature.

¹⁸Compare: 'Life and Cognition', where Dilthey dismisses the 'atomistic interpretation of life' of explanative psychology as 'an unusable starting point for epistemology' (GS XIX.341; SW II. 67). He proposes instead

a real, natural epistemology that corresponds to the facts and therefore satisfies the practical nature of human beings. Such an epistemology must begin with whole and concrete human beings in their vitality and fullness ... The function of thought can only be grasped naturally as part of the system or structure of all the functions of life. (GS XIX.343; SW II.68)

¹⁹This process of impulse and resistance grounds Dilthey's justification of belief in the reality of an external world, developed in the 1890 'The Origin of Our Belief in the Reality of the External World and Its Justification' (in GS V.90–138; SW II.8–57). See Lessing ('Helmholtz und Dilthey') for a fuller treatment of Dilthey's account as a response to Helmholtz's 'intellectualist' proof.

Whereas connectedness in a series of sensory stimuli can only be established on the basis of a hypothesis, the connectedness of objects in inner experience – that is, the unified experience of stable, persisting objects in regular interaction with one another – is immediately given (GS V.170; SW II.145). Descriptive psychology elucidates the functions that give rise to this synthesis by directing attention at this unity. Consequently, it must first address the problem of introspection.

Dilthey does not regard introspection as an insurmountable obstacle. The basis for inner apprehension of synthetic functions lies in perception and memory, which, guided by attention and interest, can be trained to isolate phenomena and hold them stable (GS V.171; SW II.146). But he also distances himself from introspection as it is employed in explanative psychology, which erroneously presupposes a real distinction between the observer and the object, akin to outer perception. On such an approach, introspection is futile, for representations are never actually detached from volitional processes and, therefore, can never be held fixed while the observer turns her attention to them.²⁰ Rather, in inner perception mental states are accessible only insofar as they are conscious – when I feel sad, the sadness does not present itself as an object for me, but just is the state I experience. These states are retained in memory and recur with enough regularity for anyone to be able to learn, with attentive observation, the patterns of their occurrence. Although one can never fix attention on the act of thinking itself without affecting the act, as is demanded by the introspective method in explanative psychology, it is nonetheless possible to recover such acts from memory (GS V.197; SW II.169). The possibility of introspection, moreover, paves the way for an articulation of the system of basic functions of abstraction, generalization, distinguishing, finding similarities, and determining degrees of difference, on which knowledge in all the sciences depends. Thus, descriptive psychology takes the first step towards explicating the psychological conditions of all science.²¹

The initial excavation of the sources of knowledge yields three characteristics of inner perception as it informs descriptive psychology. In the first place, inner perception arises in conjunction with an intellectual component, namely the system of logical functions on the basis of which regularities in the flow of inner experience can be established. Attentive apprehension directed

²⁰Dilthey consistently treats attention as a volitional process. For instance:

Whatever one's views about the origin of acts of will, it is in any case empirically certain that attentiveness shows its affinity with acts of will, that it cancels any state of distraction and the involuntary play of representations, and that it can never be directed at anything other than what the will is then aiming at. (GS V.198; SW II.170)

²¹And with that, the elementary *logical* conditions as well. The transcendental psychological sources of knowledge produce thought processes that have the formal character described as abstraction, comparison, separation, and so forth.

at memories of feelings, perceptions, and desires guides the discovery of patterns in the field of experience. Second, inner perception is not an isolated process but is connected to the totality of psychic life. The apprehension of particular states of consciousness always takes place against the background of the whole and presupposes the system of beliefs, drives, and purposes that enter into every act of apprehension. Dilthey's elaboration of the distinction between explanation (*erklären*) and understanding (*verstehen*) emerges at this point.²² Whereas a manifold of external sensory particulars can simply be connected by a universal causal hypothesis without appealing to volitions or affects, inner experience cannot be so explained. For inner perception is always directed at a functional unity of representational, volitional, and affective processes that forms the context of final significance for any particular state. To remain faithful to the structure of psychological life as we find it, empirical psychology must adhere to this basic structural feature of the knowing subject. Third, it follows from the purposive order of psychological life that '*the essential stands out from the inessential*' in inner apprehension. Inner perception, like any other process, is directed by interest and feeling, and guides the functions of thought in light of the drives and ends of the larger system of functions (GS V.172–3; SW II.146–7). Descriptive psychology, in this way, strives to remain on the firm ground of lived experience. It explicates from within the context of their activity the prediscursive intellectual processes that enable description, designation, and classification not only in everyday thought, but also in the natural and human sciences. Descriptive psychology thereby emerges as a foundational, empirical 'science of science' within Dilthey's conception of philosophy as the 'theory of knowing' (*Theorie des Wissens*) (GS XIX.408).

If the initial task of descriptive psychology is the explicative one of describing, designating, and classifying psychological functions (GS V.185; SW II.159), its further task produces more complex representational knowledge of the laws that govern the structural connection (*Strukturzusammenhang*) of those functions. Dilthey identifies three such laws as the goals of descriptive psychology. First among these is the 'structural law through which the intellect, the life of feelings, and the activity of the will are connected to the articulated whole of psychic life' (GS V.176; SW II.150). The connectedness of psychic life, however, is not a logical, but a purposive connection directed towards 'the satisfaction of instincts, the attainment and preservation of pleasure, the fulfillment of life and the intensification of existence, the rejection of what diminishes, oppresses, restrains' (GS V.205; SW II.177). Dilthey's basic insight in this regard is that none of the three kinds of process contains in itself a sufficient reason for encompassing the others. Rather, a careful analysis

²²Which, to be sure, is not original with Dilthey, but has its origin in Droysen and Burckhardt. See Beiser (*The German Historicist Tradition*, 290–1).

of every state of consciousness (*Bewußtseinsstand*) shows that representations, volitions, and feelings are always bundled together. Similarly, the transition from one state to another is not determined by any single component, though one may predominate. For instance, in observing a landscape, the representational element may at first dominate. But a careful analysis of the state would reveal that attention, a volitional process, is active at all times, and a feeling of happiness accompanies the perception. Moreover, the representational component may gradually be supplanted by a surging happiness as the dominant element in the experience (GS V.203; SW II.175). In this way, the search for the general structural law operates with comparison, separation, distinguishing, and other prediscursive functions. Descriptive psychology examines particular states of consciousness for the manner in which constituents are unified and abstracts from its findings to formulate general principles of psychological structure.

Here descriptive psychology discovers the fundamental unity of the sciences of inner and outer experience. In uncovering the '*immanent subjective purposiveness*' of psychic structure, it brings to light the psychological counterpart of an organic conception of structure and, thus, a means with which to extend reflection in order to unify the inner and outer. The subjective purposiveness originally given in inner experience is expanded in biological science, through a hypothesis, into an objective purposiveness. Biology conceives a link between the goal-directed psychological structure of drives, feelings, and representations, and the self-directed motions and self-maintaining activities of the organisms it studies by transferring the functional organization of inner experience to the outer domain (GS V.207; SW II.178).²³ While this link remains hypothetical, it has the benefit of 'enlarging the horizon of descriptive and analytic psychology' by postulating a system of external facts in the context of which alone the facts of human spirit can be interpreted (GS V.210; SW II.181). Unlike a mechanical or atomistic hypothesis, it retains the purposive structural character of inner experience, thus offering a unified framework for the study of nature and spirit.²⁴

The purposive nature of psychic structure yields a second, developmental law of psychology. For the drives and instincts that characterize psychic structure impel a temporal progression in which the life of an individual takes shape as it strives for satisfaction and fulfilment. The system of psychological functions becomes increasingly articulated in this process. In adapting to its

²³The transference thesis occurs in various places in Dilthey's corpus: '[T]his external world contains human facts and spiritual meaning by means of a process of transferring our inner life into this world' (GS I.20; SW I.72); 'The first characteristic of cultural facts is that they are there for us through the projection of facts of inner experience onto human bodies' (GS V.250; SW II.219).

²⁴At no point, however, does Dilthey endorse purposiveness as an *objective* concept of nature. Its transference to outer experience remains hypothetical, and presumably defies confirmation or disconfirmation from evidence. Rather, purposiveness is given only subjectively in the goal-directed character of the instincts, drives, and feelings that mediate stimulus and response.

external conditions, the individual produces not only its life values but also the means for preserving and enhancing them, for example, by acquiring skills, technologically supplementing its perceptual capacities, or entering into beneficial relationships. The structural law of psychic life, thus, finds expression through the developmental law whereby the contents of consciousness get articulated in experience (GS V.216–7; SW II.187).²⁵ Descriptive psychology, accordingly, aims ‘to supplement the description and analysis of a fully developed and mature human type with a general biography of the type’, since we can only understand an individual psychological being once we learn how it has developed (GS V.213; SW II.184).

The procedure with which it arrives at the development law is, unsurprisingly, a biological one. Unlike explanative psychology, which must revert to unverifiable hypotheses about the developmental process, descriptive psychology follows the model of the botanist:

Just as the botanist must start by describing the growth of an oak from when an acorn first sprouts to when as a fully developed tree it drops another acorn, the psychologist describes the life of psychic structure by noting its developmental laws and uniformities of succession. (GS V.221; SW II.192)

The common notion of structure at work in descriptive psychology and biology again grounds a unity of the natural and human sciences: ‘The act, in which this development is carried out, *creates* something that in the earlier condition could not be exhibited ... Besides the creative syntheses of science, emerges the artistic formation of symbols for the stirrings of our inner life’ (GS V.218; SW II.188).

Finally, the third law of Dilthey’s psychology follows straightforwardly from the first two and concerns the manner in which every act of consciousness is conditioned by the ‘acquired nexus of psychic life’ (*erworbener Zusammenhang des Seelenlebens*) (GS V.177; SW II.151). Briefly, the acquired psychic nexus consists in the developed system of facts available in mature consciousness. It is the product of the developmental process whereby the various psychological functions acquire their particular differentiations and interconnections to yield the mental life of an adult individual. It is the outcome not just of general capacities of perception, memory, volition, and feeling, but of the idiosyncratic life history of any individual. The third law, consequently, aims to understand the effects of personal biographies on judgments of perceptions, on the direction of interests and setting of ends, and on affective

²⁵The conceptual link to biological structure tightens further in this context:

This nexus of our psychic life that is given in inner experience can be explicated and confirmed by surveying its presence and its function throughout the animal realm ... The entire system of the animal and human world is presented as the unfolding of this simple, fundamental structure of psychic life by means of the increasing differentiation and independence of the various functions and parts. (GS V.210–1; SW II.182)

responses to stimuli. As a description of the present state of psychological life, the acquired psychic nexus contains 'as it were the *rules*, on which *the course of particular psychic processes depends*', and constitutes the main object of analysis. Given its extensiveness, however, the whole of developed psychic life is never present in consciousness. Thus, our access to it begins with its particular products. For Dilthey, these include not only works of geniuses such as Shakespeare and Goethe, but also language, myth, religion, science and all other expressions of 'the collective spirit in which, in Hegel's terms, human consciousness has become objective and thus able to withstand analysis' (GS V.180; SW II.154). The creative syntheses of human psychology generate the systems of facts studied in the various sciences towards which philosophy must orient itself.

With this account of the principles of descriptive psychology in hand, we turn finally to its implications for Dilthey's historicist critique of knowledge.

6. What kind of historicism?

In his monumental study of the German historicist tradition, Beiser declares that with Dilthey, historicism 'becomes for the first time a self-conscious and general program. Dilthey, not Nietzsche, is the true father of historical critique' (*The German Historicist Tradition*, 324). This concluding section brings Dilthey's conception of the aims and methods of reflection on science to bear upon the question of its unity and compares it to the recent movement of 'historical epistemology'.

A unified conception of scientific inquiry in all its diverse modes emerges from Dilthey's biopsychological account of the sources, methods, and objects of knowledge. The procedure of descriptive psychology for investigating the facts of consciousness and its structural laws also guides philosophical reflection on science. Consequently, given the intrinsically developmental character of psychological structures, Dilthey's account of reflection on science demands an historical approach. Since philosophy does not have an absolute point of departure, or a standpoint that goes behind the facts of experience, 'self-reflection (epistemology) presupposes science as its material' and 'can be cultivated only by thinking through the history of human knowledge' (GS XIX.300; SW I.459). Specifically, reflection takes the current best science as its starting point and traces its historical development in order to uncover its general structural invariants.

The first, structural law of descriptive psychology, which connects particular psychic functions to the developed whole of experience, entails an interconnected context of intellectual, practical, and aesthetic demands that condition the generation of knowledge. The purposive character of psychic life, in which thought, volition, and feeling co-constitute each state of consciousness, also expresses the structure of scientific knowledge. The structural

laws of science, consequently, can neither be such as to be reducible to a strictly logical form, nor are they susceptible to collapse into mere sociology of knowledge, for the psychic functions at work in the production of knowledge are always bundled together. Neither can the epistemically normative aspects of scientific theories be decisively separated from considerations arising from social factors, nor can theory change be wholly explicated in terms of logical elements, or pragmatic considerations alone. Rather, reflection on the general structural law must recognize the original interconnectedness of competing psychological demands at work in the creative synthesis underlying scientific knowledge.

If the general structural law is the ultimate object of reflection on science, its concrete expression orients inquiry towards the second, developmental law of descriptive psychology. The articulation of the system of drives, instincts, and representational capacities responsible for the generation of knowledge occurs in the knowing subject's interaction with its environment. Scientific knowledge, on this account, unfolds through engagement with a series of problem situations, each one leading to further complexity in its structure. The epistemologist's task is to reflect on the process of change in the state and character of knowledge, using the methods of description, classification, and comparison to uncover regularities in the creative process of science. Here, the history of science, as the concrete expression of the laws of knowledge, supplies plentiful material for reflection towards which epistemology must orient itself.²⁶

Finally, the third law of psychic life – that the acquired psychic nexus conditions every act of consciousness – presents reflection with its primary object of analysis, namely, the present state of knowledge as the product of an historical process. Self-reflection, for Dilthey, takes mature consciousness as its object, as the structure in which the activity of developmental processes finds its most sophisticated expression. The object of epistemology should be the latest waystage in the progression of knowledge. Accordingly, the 'acquired psychic nexus', or the current paradigms of knowledge, constitute the primary object of description and analysis in virtue of being the most well-articulated expression of the structure of functions underlying scientific cognition. Dilthey's historicist philosophy of science, thus, is thoroughly presentist, insofar as the motivation for studying past knowledge rests in its value for an understanding of its present situation. As Dilthey writes in the Introduction to the 'Berlin Plan' drafts:

The study of the history of this continuous unfolding of the purposive effects (*Zweckwirken*) of humanity has the task of inducing the historical consciousness

²⁶Thus, Schnädelbach rightly regards Dilthey as among the proponents of the 'historicist maxim' that 'to understand something is to understand how it came to be' ("Etwas verstehen heißt verstehen, wie es geworden ist" – Variationen über eine hermeneutische Maxime, 136–7).

of humanity out of itself, of letting the thinking spirit move back from stage to stage, so that it can enrich and fulfill the present with historical consciousness. (GS XIX.297)²⁷

Thus, Dilthey's descriptive psychology offers a framework for historical reflection on science. It anticipates the emergence in the twentieth century, first in the French tradition of Georges Canguilhem and Gaston Bachelard and, more recently, in the work of Lorraine Daston, Hans-Jörg Rheinberger, and Jürgen Renn, of a family of positions labeled 'historical epistemology'.²⁸ While encompassing a variety of approaches towards the study of science, historical epistemology broadly divides under three kinds of project: the study of the histories of higher order epistemic concepts such as objectivity, probability, or experimentation;²⁹ the histories of epistemically problematic objects such as the electron³⁰ or short-term memory; and the dynamics of long-term scientific change. In general, historical epistemologists are united in the goal of contributing to an understanding of scientific knowledge by studying the actual historical conditions under which scientific concepts, objects, and normative standards develop. They share with their nineteenth-century predecessors 'a loving immersion in the details of the historical process, a universal spirit of historical observation, which determines the value of each state of affairs solely from the context of development' (GS I.xvi; SW I.48). In that respect, with his firmly historicist and particularist orientation towards epistemological reflection on science, Dilthey may well be regarded as a forerunner of historical epistemology.

Yet, Dilthey's historicism diverges from the contemporary project in a crucial respect. For, unlike the latter approach, Dilthey's organic, developmental conception of the structure of scientific knowledge implies a commitment to the history of science as a unified object of inquiry. Recent historical epistemology instead limits the scope of reflection on any given scientific episode to emphasize the local factors at work in the emergence of, for instance, the concept of the electron in the early twentieth century, or of 'mechanical objectivity' in the mid-nineteenth. As Daston articulates the position, historical epistemology 'drastically curtails the chronological scope of the history of ideas as traditionally conceived, for it radically challenges the assumption of

²⁷A similar conception of the importance of history for self-reflection is echoed in the twentieth century by Foucault, who describes his goal in the *History of Sexuality* as, 'to learn to what extent the effort to think one's own history can free the mind from what it silently thinks, and so enable it to think differently' (*The History of Sexuality, Volume 2*, 9).

²⁸For background and the variety of ways in which historical epistemology is and has been practiced, see Feest and Sturm's ('What (Good) Is Historical Epistemology?') introduction to a special edition of *Erkenntnis* on historical epistemology, which resulted from a conference on the topic at the Max Planck Institut für Wissenschaftsgeschichte in 2008. See esp., pp. 288–96 for a classification of three broad methodological positions.

²⁹A recent classic in this mould is Daston and Galison (*Objectivity*).

³⁰Arabatzis (*Representing Electrons*) is a monograph length example of an historicist study of the early development and stabilization of the concept of the electron.

resemblance between ideas advanced by thinkers working within different conceptual categories'. For Daston, the historical epistemologist seeks the 'preconditions that make thinking this or that idea possible' from the local circumstances in which the idea is found, to the exclusion of any approach that would treat it as the product of a progressive articulation from earlier thought ('Historical Epistemology', 27–8).³¹

In Dilthey's conception of historical development, by contrast, the present state of knowledge unfolds from earlier states. The analysis of present epistemic concepts and practices requires tracing its precursors. Moreover, Dilthey approaches the Kantian question of the historical conditions of possibility of scientific knowledge, unlike Daston, by seeking the structural and developmental laws governing the process of knowledge. For Dilthey, the first task of historicism indeed requires careful attention to the concrete details of the methods and institutional settings of scientific practice. But for historical reflection to serve a properly epistemological function, it needs to aim beyond strictly local contexts of practice in order to uncover the invariant structural and developmental laws of knowledge. Even in his late, more 'hermeneutical' *Formation of the Historical World*, Dilthey still affirms that,

The enduring efficacy of general structural relationships is what above all produces the meaning and sense of history for us ... What is immutable and regular in the historical process is the first object of study, and conditions the answer to all questions about progress in history and about the direction in which human life is moving. (GS VII.185; SW III.206)³²

In this respect, Dilthey's conception of the history of science hews closer to a more traditional history of ideas in which the discovery of great narrative arcs can and should be pursued. In point of comparison, Dilthey's historicism perhaps bears greater affinity to a position articulated by Cassirer in his introduction to *Das Erkenntnisproblem* that, '[t]he concept of the *history of science* itself already contains the thought of the *maintenance of a general logical structure* in all succession of special conceptual systems' (*Das Erkenntnisproblem in der Philosophie und Wissenschaft der Neueren Zeit*, 16). Only, for Dilthey, unlike for his Marburg contemporary, the general structure maintained through the procession of all theoretical frameworks is characterized as a purposive, biopsychological one, and the methods for its investigation are those employed in his descriptive and analytic psychology. While he

³¹Arabatzis (*Representing Electrons*, 45), and Nasim ('Was Ist Historische Epistemologie?', 138–9) express similar sentiments to distinguish historical epistemology from a traditional history of ideas.

³²Compare: '*The evident sense of history must first be sought in what is ever present and recurring in its structural relations, in its productive systems*' (GS VII.172; SW III.193). To be sure, this demand exposes a deep tension in Dilthey's thought. Already in chapter 14 of the *Introduction*, he vehemently opposes the idea of a metaphysics of history, or the possibility of a grand system underlying the unfolding of historical events (GS I.86ff; SW I.142ff). A full examination of this issue is beyond the scope of this paper. See Beiser (*The German Historicist Tradition*, 359–64) for a discussion of this tension in Dilthey as emerging from the threat of relativism.

would have much sympathy for historical epistemology, Dilthey's own critique of scientific knowledge embodies a perhaps novel conception of a more traditional kind of historicism.

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