

WUNDT AND “HIGHER COGNITION”: ELEMENTS, ASSOCIATION, APPERCEPTION, AND EXPERIMENT

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Throughout his career, Wundt recognized *Völkerpsychologie* (*VP*) as (at first) ancillary to experimental psychology or (later) as its required complement. New scholarship from around 1979 highlighted this fact while claiming to correct a picture of Wundt as a pure associationist, attributed to Boring’s *History of Experimental Psychology*, by instead emphasizing apperception in Wundt’s scheme (sec. 2). The criticisms of Boring, summarized by Blumenthal in 1980, overshot the mark. Boring’s Wundt was no pure associationist. Both Boring and the seventy-niner historians emphasized psychic activity in Wundt. Section 3 considers Wundt’s endorsements of mental chemistry, elements, association, and psychological explanation via combinations of elements. Section 4 follows Wundt’s changing conceptions of *VP*; looks into the relations between *VP* and experiment, especially as regards “higher” mental processes; examines the (sometimes cooperative) interactions between individual (including experimental) psychology and *VP*; and considers how method, not type of mental process, distinguishes the two branches of psychology. Finally, section 5 acknowledges Wundt’s unification of *VP* and individual psychology and concludes that although he objected to the Würzburgers’ experimental methods in treating higher mental processes, he did not generally exclude the latter from experimental investigation, contrary to the seventy-niner narrative, which has been widely adopted.

1. Wundt and Psychology

Wilhelm Wundt was a central figure in establishing an experimental psychology in the latter half of the nineteenth century. He, along with other German sensory

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physiologists, applied experimental techniques to psychological phenomena, including the study of sensory processes through the techniques of psychophysics and the use of reaction times to measure the temporal course of cognitive functions such as discrimination, recognition, and choice. In 1879 he established the first Institute for Experimental Psychology, in Leipzig. This followed upon his publication of major studies in sensory perception (*Beiträge zur Theorie der Sinneswahrnehmung*, 1862) and extensive lectures on human and animal psychology (*Vorlesungen über die Menschen- und Thierseele*, 1863)—each calling for an “experimental psychology” (1862, vi; 1863, 1:iv, ix, 23)—and upon the publication of the ambitious *Grundzüge der physiologischen Psychologie* (1874), the first textbook (or perhaps “handbook”) constructed around experimental psychology. Add to this the founding of the first journal devoted mainly to the publication of experimental articles in psychology, the *Philosophische Studien* (which also published theoretical psychology as well as straightforwardly philosophical articles), and Wundt is uncontroversially a founding figure in experimental psychology.

A (once) new body of Wundt scholarship (e.g., Danziger 1979; Leary 1979; Bringmann and Tweney 1980; Rieber 1980) has shown this description of Wundt’s achievements to be importantly incomplete. Leaving aside his various contributions to philosophy (in logic, ethics, and metaphysics), there was more to his psychology than experiment.¹ This scholarship largely arose in connection with the important anniversary of 1979, 100 years after the establishment of Wundt’s institute. It showed that, from 1862, Wundt had envisioned a second important method for psychology, based not on experimental observation but on the observation and analysis of historical and cultural products. This *Völkerpsychologie* (*VP*) would examine cultural products in order to discover aspects of “higher cognitive processes” or “thinking” that depended on interactions between individuals and a group (e.g., Kusch 1999, 13, 98; Greenwood 2003, 80).² As Wundt’s thinking developed,

their comments and discussion. The anonymous referees for the journal offered a variety of challenges and much useful advice. Uljana Feest and Scott Edgar helpfully commented on recent versions. In the article, where no translation is cited, the translations are mine. When a published translation has been emended, the page citation is marked with an asterisk (*).

1. On Wundt’s many-faceted relation to philosophy, see Araujo (2016); earlier work includes Leary (1979) and Schneider (1990, 71–83). These studies recognize that Wundt was not antimetaphysical but thought that metaphysics should be grounded in empirical science and not the other way around.

2. As many have noted, there is no obvious translation for the word *Völkerpsychologie* as used by Wundt (Wong 2009, 230). “Folk psychology” has inappropriate modern connotations (as the psychology of the layperson); “social psychology” has been used, including in some quotations herein and as a gloss by Wundt himself (1887, 1:6), but it might mistakenly suggest an equivalence with present-day social psychology; “the psychology of peoples” indicates that the phenomena of *VP* arise because human development occurs in a community, wherein the properties of the collective influence the psychology of individual members (Wundt 1916, 4–6). In this article, *VP* is used to abbreviate the word *Völkerpsychologie*, without translation.

he focused on language, myth, and custom as appropriate objects for *VP*. And indeed, Wundt's thinking on this topic did develop, leading to intense methodological discussions from the mid-1880s onward (e.g., Wundt 1888b), a 10-volume work on *VP* (1900–1920), and a one-volume synthetic work on the same topic (1916).

The new scholarship around 1979 held not only that Wundt pursued this second approach to human psychology via culture but also that he considered it to be the only way to approach the psychology of "higher mental processes" (Leary 1979, 234). As Kurt Danziger put it: "Experimentation has no place in social psychology [*VP*]," and "the complex products of [psychological] processes . . . have a social-historical character and must be investigated by the nonexperimental methods of social psychology" (207). This view became entrenched in subsequent literature (e.g., Kusch 1999, 13–14; Jones and Elcock 2001, 39; Walsh et al. 2014, 239). The most radical views held that principles arising from experimental psychology and used in the psychology of individuals did not apply to *VP* with its focus on historically conditioned group activities. Accordingly, collective phenomena cannot "be understood" or "analyzed" in terms of individual psychology (Leary 1979, 235).³

This scholarship also held that the traditional picture of Wundt's individual psychology was deeply flawed. Accordingly, Wundt had usually been considered to be an associationist who believed that all psychological states could be explained as arising from associative combinations of elemental sensations and feelings (sensations having only the attributes of quality, such as color, and intensity). Wundt recognized that the products of association might have properties not found in the elements (as when color sensations mentally combine with muscle sensations to yield spatial perception). On the traditional view, rejected by the seventy-niners, these sensations are put together by a mental chemistry. But, they rightly point out, the mature Wundt gave a large role to apperception and active attention in explanations of the more complex mental states. He

3. Here is the passage (Leary 1979, 235): "According to Wundt experimental psychology and folk psychology differed both in terms of subject matter and in terms of method. They were fundamentally different disciplines, and yet both were valid and necessary to give a rounded understanding of human experience and the psychological processes underlying that experience. There was simply no way, Wundt claimed, that social phenomena such as language, myths, and customs could receive a definitive treatment, or be understood, in terms of the more primitive psychological processes. Social phenomena are, in practice at least, *sui generis*; they are not amenable to experimental manipulation because, for one thing, it is impossible to know and control all the conditions which influence the higher activities of adult minds. The best that can be done is to provide careful genetic and comparative descriptions as well as critical analyses of social phenomena. The categories derived from these analyses—that is, the conceptual framework of folk psychology—will of necessity be completely different from that of experimental psychology." If the categories of analysis are "completely different," experimental psychology is not relevant for *VP*. Leary is admirably explicit in ascribing to Wundt a complete conceptual bifurcation between the two psychologies; one finds a similar tone in Farr (1996, chap. 2) and Kusch (1999, 98–100).

rejected the mechanical association ascribed to the British and, they argue, allocated the role of association to apperception (e.g., Danziger 1979, 216).⁴ They also interpret Wundt as saying that processes such as sensations gain not only their significance but also their identity from their relations to other processes and hence from apperceptive relation making (a “top-down” view of psychic content). Further, a standard part of this story is that Wundt’s objections to the Würzburg school grew out of his conviction that only *VP* can approach higher mental processes such as thought; hence, thought cannot in principle be investigated by experimental methods (e.g., Kusch 1999).

I believe that this once-new scholarship needs qualification. Section 2 critically assesses and rejects some of the new interpretations, summarized by Arthur L. Blumenthal (1980), while stressing the importance of Wundt’s theory of actuality in relation to psychic activity. Section 3 emends the seventy-niner construal of Wundt on mental chemistry, association, elements, and psychological explanation as stemming from the combination of elements. The reality of Wundt’s elements as processes is considered in connection with his law of psychic relations. Section 4 follows the development of Wundt’s conception of *VP*; looks into the relations between *VP* and experiment, especially as regards “higher” mental processes; examines the (sometimes cooperative) interactions between individual psychology and *VP*; and considers how method, not type of mental process or subject matter, distinguishes the two branches of psychology. Finally, section 5 acknowledges Wundt’s unification of *VP* and individual psychology and concludes that although he objected to the Würzburgers’ experimental methods in treating higher mental processes, he did not generally exclude the latter from experimental investigation.

4. The idea that British association always involved a simple conjoining of atomic sensations without any added content is being challenged by, for instance, distinguishing varieties of “mental chemistry,” some more mechanical and some (as with J. S. Mill) more creative (Beenfeldt 2013, chap. 2). Wundt (1902, 245–48) gave a brief critical history of association, naming Aristotle, David Hume, David Hartley, and Johann Friedrich Herbart as important figures. He portrayed Hume and Hartley as fostering a mechanical association among ideas treated as repeatable objects. He noted recent attempts to reduce the laws of association to two: association by contiguity in space and time (your neighbor walks the dog every day, the dog appearing on the sidewalk first, then the neighbor; after repeatedly experiencing this conjunction, when you see the dog you expect the neighbor) and similarity (based on similarity of appearance: you think of the neighbor’s dog when you see a new dog). Wundt then introduced his own conception of association, which included fusions and assimilations (discussed below). More generally, the seventy-niners (e.g., Blumenthal 1980, 439, 440, 444) described E. B. Titchener as a friend of British association and blamed him (as Boring’s teacher) for Boring’s alleged reading of Wundt as a pure associationist, but Titchener was closer to Wundt on process elements (see below) than he was to atomic association (Hatfield 2015, sec. 2). This is not to equate Titchener’s psychology with Wundt’s; as Christian Beenfeldt (2013, chaps. 3 and 4) observes, Titchener may have ended up more of an associationist than Wundt, as a result of his (pre-Wundtian) education at Oxford.

2. 1979 and All That

Arthur L. Blumenthal (1970, 1979, 1980, 1985) was a leader in developing a new picture of Wundt's psychology. Appropriately, he was given the final chapter in the collection *Wundt Studies*, edited by Wolfgang Bringmann and Ryan Tweney (1980). As Bringmann and Tweney described Blumenthal's chapter, it "critically examines common misconceptions about Wundt's personality and work" (1980, 9). In the new literature, Edwin G. Boring's *A History of Experimental Psychology* (1950) was generally blamed for these "misconceptions." Accordingly, Blumenthal used Boring's *History* as his stalking-horse in detailing what he considered to be mistaken descriptions of Wundt and his work.

Blumenthal (1980, 437) offered nine summary statements, attributed to Boring (1950, 317–44), the accuracy of which he challenged, drawing on more than a dozen works from 1979 and before. Of these statements, eight concerned Wundt's conception of psychology and one his personality. I begin with the following three (the first item takes two together): "that Wundt claimed psychology as one of the natural sciences" and took "scientific" to mean "experimental" and "that Wundt opposed the implication of an active agent in his view of mental processes" (Blumenthal 1980, 437, 438, 441).

Regarding the first item, that Wundt conceived of psychology as a natural science and considered all science to be experimental, Blumenthal (1980, 438) rightly noted that Wundt accepted a distinction between *Naturwissenschaften* ("the natural sciences") and *Geisteswissenschaften* ("the mental sciences").⁵ While he granted that Wundt would allow psychology to use "some of the research techniques of the natural sciences," the implication is that Wundt placed psychology among the mental sciences (438).

In fact, in Wundt's early writing (1862, 1863), he treated psychology as primarily a natural science. In these works he mentioned *VP* as an important supplementary area of psychology but characterized his own psychology as primarily experimental and hence natural scientific (1863, 1:23). He opened the introduction to the *Beiträge* by discussing how psychology can become a natural science (1862, xi–xii).

From the 1874 *Grundzüge* on, Wundt described psychology as occupying a middle place, between the *Natur-* and *Geisteswissenschaften*. Psychology draws

5. In his *Logik* (1880–83, vol. 2), Wundt named as the primary "natural sciences" physics, chemistry, and biology; the primary "mental sciences" included the historical sciences (among which are history per se, linguistics, mythology, and historical ethics), ethnography, demography, sociology, economics, jurisprudence, and philosophy (which is "general," compared to the others). For Wundt's reception on this distinction, see Wong (2009). *Geisteswissenschaften* was used to translate the term "moral sciences" in J. S. Mill's *System of Logic* (published in German in 1849), but this is not the origin of the term (Diemer 1968).

“research methods” and “explanatory principles” from the former, and it serves as the “foundational theory” of the latter (1874, 4). But in continuing this statement, he gives explanatory precedence to natural scientific psychology: “Each expression of the human mind has its ultimate cause in the elementary appearances of inner experience. History, legal theory, political theory, philosophy of art, and philosophy of religion lead back to psychological grounds of explanation” (4). These “psychological grounds” are those of “physiological” and “experimental” psychology.⁶ Psychology as a whole thereby keeps a leg firmly within natural science while serving as a basis for the *Geisteswissenschaften*.⁷

Let us return to Blumenthal’s accusation that Boring’s Wundt places psychology among the natural sciences, with experiment as its only method. In discussing the *Beiträge* (1862), Boring indeed has Wundt affirm that “psychology must be *Wissenschaft*, but that, *als Wissenschaft*, it must be dependent upon experiment” (1950, 321). But Boring did not routinely extrapolate from Wundt’s early positions to his later ones. He recognized shifts in Wundt’s thinking between 1862 and 1874, including his rejection of unconscious inference as the fundamental form of synthesis in sensory perception (323). In any case, Boring was clear that Wundt did not restrict psychology in general to the experimental method: “Wundt never held that the experimental method is adequate to the whole of psychology: the higher processes, he thought, must be got at by the study of the history of human nature, his *Völkerpsychologie*” (327–28).⁸ Blumenthal’s charge (1980, 438), taken literally, does not stand. But, in spirit, it does stand:

6. On why Wundt entitled his psychology in the *Grundzüge* “physiological psychology” as opposed to “experimental psychology,” see Leary (1979, 234), Blumenthal (1980, 438), and Kusch (1999, 136–37). Wundt defined experiment as “observation under the condition of purposive control by the observer, of the rise and course of the phenomena involved” (1902, 23; see also 1883). This includes using practiced observers with definite tasks and controlling stimulus variations (see 1904, 5). Wundt held that experiment (or, sometimes, “experimental self-observation”) could be applied to all “fundamental psychical processes” (1902, 26), including sense perception, memory, feeling, volition, and apperception. On Wundt’s various conceptions of psychology and its methods over his career, see Hoorn and Verhave (1980). On experiment and observation, see Araujo (2016, 175–80).

7. Wundt retained this wording (with slight changes) through the fourth edition but subsequently did not mention the *Geisteswissenschaften* at this locus, while still discussing *VP*. From 1887 (1:5–6), he made *VP* an equal partner with experimental psychology, so that not only is the latter foundational for the *Geisteswissenschaften* and *VP*, but *VP* is its necessary complement within psychology as a whole. These two parts of “objective psychology” do not merely supplement each other; they depend on one another: *VP* relates “the mental life of a people . . . to the individual forces that enter into it, and individual consciousness is, especially in its higher forms of development, carried by the mental life of the collective” (1:5). On the methods of *VP* and experimental psychology, see n. 9. On psychology and the *Natur-* and *Geisteswissenschaften*, see also Araujo (2016, 168–73).

8. Boring mentioned Wundt’s *VP* twice more, anent the “higher processes” (1950, 331, 333). One might speculate that Boring does not include *VP*, based on history, within science proper. Yet Boring (21) did not restrict “psychological fact” to experimental results. But these are other matters.

Boring did not explicitly state that Wundt included nonexperimental observation as a method of science and as the primary method of *VP* (e.g., Wundt 1874, 5; 1888b; 1902, 27–28). Boring did not go into the methods of *VP*. We can agree with the post-1979 studies, including Blumenthal (1985, 31, 39), that Wundt's *VP* used a method of "observation" to examine cultural products in search of the psychological laws of their development.⁹

The second challenge, that Boring mistakenly has Wundt deny "the implication of an active agent in his view of mental processes" (Blumenthal 1980, 437), requires subtlety to evaluate, since the charge paraphrases one of Boring's sentences. In discussing Wundt's elementism, Boring considered an objection to it that might arise from not understanding that Wundt's elements are not fixed, static things (object-like) but processes. For Boring's Wundt (as for Wundt himself), "an element is a process" (1950, 334). Proper understanding of this point would, Boring held, allow Wundt to respond to foreseeable objections:

The obvious objection to psychological elementism is the fact that phenomenal experience is a constant flux. It is not even a kaleidoscopic change of parts, for there are no separate parts. It is, as James made clear, like the flow of a stream that can not properly be thought of as a grouping of elements. Wundt sought to emphasize this fact by naming the element a "mental process." The force of this term is that it persistently asserts that experience is active in the sense of changing process, although not in the sense of an activity that requires an agent. (334)

There are things here that Blumenthal might have liked concerning Wundt on psychic elements. Relevant for now is that when Boring precludes Wundt from affirming an "agent," he is saying that Wundt does not posit a substantial agent

9. Wundt described such observation as "the investigation of phenomena without [purposive] control, the occurrences being accepted just as they are naturally presented to the observer" (1902, 23; see also 1888a). Because individual psychological states are fleeting processes, they cannot be properly observed by simply attending to them but require the controlled conditions of experiment, whereas cultural products are stable and can be observed repeatedly without altering them (1902, 24–27). Experiment is proper for "processes," pure observation for "objects," with the qualification that the objects of *VP* are not "real objects" considered as "independent" of the (psychic) subject (3) but are relatively permanent "psychical objects," found in stable mental products such as language, myths, and customs (27). Still, in some circumstances, experiment can be applied to *VP* phenomena (discussed below). Finally, Wundt's conception of the methods of the *Geisteswissenschaften* developed between the first and second editions of his *Logik*, with the latter describing a range of methods for addressing mental life, including abstraction and analysis, comparison, interpretation, and criticism (1893–95, 2.2:vi). In 1893–95 Wundt also maintained that we wish "to explain" (*erklären*) nature but that we want not only to explain but also "to understand" (*verstehen*) mental processes and products (2.2:82). He mentioned Dilthey and rejected his ascription of totally different logics to the *Natur-* and *Geisteswissenschaften* (2.2:84).

in the sense of substance dualism. Rather, Boring has it that Wundt, in his “theory of actuality,” is saying that mental processes are themselves “actual,” or “real” (334), without needing an underlying mental substance.¹⁰

My aim has not been to rehabilitate Boring’s *History* (which has good points and bad points). It is to assess aspects of the new picture of Wundt by asking whether they are really new (in relation to Boring [1950]) and are right about Wundt (on the topics assessed, Boring receives the better scorecard). We have found that Wundt early on envisioned a natural scientific psychology; that, at that time, he also recognized the desirability of *VP* (as supplemental); that he subsequently placed psychology between the *Natur-* and *Geisteswissenschaften*, drawing on natural scientific methods and serving as a foundation for the *Geisteswissenschaften*; that he recognized both experimental and observational methods for psychology (and for science more generally); and that Boring rightly emphasized Wundt’s theory of “actuality,” which affirms the reality of psychological processes without invoking a mental substance.

3. Association, Mental Chemistry, and Elements

Blumenthal (1980, 437, 440–41) devoted the most space to examining Boring’s alleged description of Wundt as a British associationist: “that Wundt borrowed British associationism and was an elementalizer (in the sense of mental chemistry models)” (437). In the *Beiträge*, Wundt (1862, chap. 6, sec. 4) drew upon association in analyzing the background to unconscious inference (with nods to William Whewell and J. S. Mill). Subsequently, he rejected unconscious inferences in perception but retained association. In neither case was he an “associationist” who thinks that association conjoins atomic elements to form the contents of ideas and who holds that association is by itself a sufficient theoretical basis for psychology. As his thought developed, he increasingly emphasized active apperception as the controlling factor in many psychological processes, while retaining association as a distinct and important form of psychic synthesis.

That Wundt was not an associationist is a major tenet of the new scholarship. In fact, it is easy to show that Boring, too, accepted this. Although he has Wundt

10. Wundt’s theory of actuality is intricate and important (Wundt 1902, 356–58; 1902–3, 3:758–61). See Schneider (1990, 49–50), Kusch (1999, 133–36), and Araujo (2016, 148–50). Boring (1950, 335) affirmed that Wundt rejected “mental substance” in favor of “actual” processes that embody psychic causality. But Blumenthal (1980, 441) charges Boring with making Wundt a substance dualist, and indeed, Boring says, “Wundt was a dualist” (1950, 333). We have just seen Boring reject mental substance for Wundt. At this point in his *History*, Boring has redefined dualism, away from Descartes’s substance dualism (162) to Hartley’s and Kant’s rejection of materialist reductionism, which he dubs their “dualism” (195–96, 249). Boring has in mind a property dualism for Wundt, founded on the notion of process, not a substance dualism.

emphasizing association in the early editions of the *Grundzüge* (the first three, 1874–87), he then notes a change in the first edition of the *Grundriss der Psychologie* (1896). As Boring put it: “The change seems in part to be an admission that sensationism and associationism were alone inadequate for a satisfactory picture of the mind” (1950, 330). We might quarrel with Boring’s dating: I find that apperception was already receiving expanded treatment (relative to association) in the second edition of the *Grundzüge* (1880, chaps. 17 and 18), an emphasis that grew in subsequent editions, whereas Boring (1950, 331) finds a marked increase of importance for apperception only with the fifth edition (Wundt 1902–3). We can also charge Boring with not paying enough attention to apperception, which he thought had been overemphasized by others (1950, 338–39), and with mistakenly allying Wundt, generally, more closely with the British (329, 336) than the German tradition, although Boring did recognize the importance of Herbart and Lotze in the development of Wundt’s thought (318, 321).¹¹ But we cannot have Boring rendering Wundt as an associationist, plain and simple.

More profound issues surround Wundt’s frequent use of the chemical analogy and the character of his subsequent discussions of its shortcomings.¹² This topic brings us to Wundt’s notion of elements, including his interpretation of them

11. The philosophical background to Wundt is large. Araujo (2016) argues that Kant was more central to it than has been recognized. Without delving deeply, we can note that Wundt, as a psychologist, was well informed about previous philosophical and psychological discussions of association and apperception and that he acknowledged a variety of contributions to psychological thought. It is not true that, regarding association, Wundt was “highly critical” of the entire group of British empiricists (Blumenthal 1980, 440). Wundt (1893, 2:228–34) gave a long history of theoretical accounts of the “psychological development of visual ideas,” in which he described earlier associative theories as importantly developed by Irish and British thinkers (Berkeley, Bain, J. S. Mill), while also discussing contributions from Herbart and others. He was critical of “unconscious inference” accounts (Schopenhauer, Helmholtz), as surpassed by his own “associative fusion theory” (2:233). In considering the historical relation of association to apperception, he noted that a line of British thinkers, from Hartley and Hume to J. S. Mill, Spencer, and Bain, were “association psychologists” in the sense of affirming that “all mental processes can be derived from association” (2:482), a position that he rejected. This rejection in no way precludes his affirming the reality of association as a type of psychological connecting principle. Wundt gave little historical background on apperception but ascribed the term’s origin to Leibniz (2:267), who used it for self-consciousness, whereas Wundt expanded its compass to include attentive apprehension; he also mentioned Herbart as broadening “apperception” but did not here elaborate. Finally, in 1895 Wundt adopted the name “voluntarism” for his psychology (1893–95, 2:2:166; 1902, 15–16, 18*; Araujo 2016, 202). Wundt thereby emphasized the importance of activity and process; he did not assert that all psychological processes are controlled by the will, specifically exempting association from such control (1902, 276–77, quoted below).

12. Blumenthal (1980, 440) falsely maintains that Wundt’s “only positive statement about the chemistry model, one that inherently rejects it, appears in his *Grundriss*.” Blumenthal (1985, 32) subsequently acknowledged Wundt’s widespread use of the analogy but characterized him as ultimately rejecting it. I address this claim below. More generally, Koch (1985, 11–12) questioned the plausibility of such anti-elementist readings of Wundt.

as processes and not fixed entities; his division of psychology into major parts that consider elements, compounds, and processes of synthesis and development; his conception of the source of identity for both elements and compounds; and his conception of psychological explanation as the derivation of more complex processes from simpler ones.

If we take the *Outlines* (1902) as a guide to Wundt's mature psychology of individuals (as opposed to *VP*), it divides the substance of psychology into five parts: psychic elements, including sensations and feelings (affects); psychic compounds, including spatial and temporal ideas, emotions, and volitional processes; the interconnection of psychic compounds, via processes of attention, association, and apperception; psychic developments, as observed in animals, children, and mental communities; and psychic causality and its laws.¹³ We first consider Wundt's appeal to synthesis or associative "fusion" (1902, 126, 247–51) in forming psychically compound spatial ideas, as illustrative of his invocation of mental chemistry.

Wundt compared the association of sensations to yield a new qualitative product to chemical combination. In both cases, new qualities appear in the product that were not there in the elements. From 1874 onward (including all six editions of the *Grundzüge*), he used this analogy to explicate the notion of a psychic synthesis as producing new qualities. This comparison came up especially in relation to spatial perception: peripheral sensations combine with central muscle sensations to yield a spatial ordering. There was no spatial aspect to the sensations themselves; just as hydrogen and oxygen combine to form a new compound, water, with its own distinctive properties, aspatial sensations are "synthesized" (Wundt 1874, 485, 640) or "fused" (1893, 2:38; 1908–11, 2:734) to create spatial ideas.¹⁴

In connection with his discussion of the synthetic creation of visual spatial ideas according to his "associative" (later, "associative fusion") theory, Wundt acknowledged J. S. Mill's "mental chemistry" (*psychische Chemie*) as offering a "picture" that "illustrates very well the synthesis that occurs here" (1874, 639–40). Wundt repeated the just-quoted phrase in all subsequent editions of the

13. Blumenthal (1985, 34) objects to translating *Gebilde* as "compounds," noting that it is not a dictionary entry and finding it favorable toward "atomism." The term *psychische Gebilde* might in this context be translated as "psychic products" or "psychic formations." In the *Grundriss* (1896, 106), Wundt said, "Unter einem 'psychische Gebilde' verstehen wir jeden zusammengesetzten Bestandtheil unserer unmittelbaren Erfahrung, der durch bestimmte Merkmale von dem übrigen Inhalte derselben derart sich abgrenzt, dass er als eine relativ selbständige Einheit aufgefasst wird und, wo das praktische Bedürfniss es fordert, mit einem besonderen Namen bezeichnet worden ist." A *Gebilde* is a "composite component" that has a phenomenal psychic unity. For this technical term, "compound" seems as good as "product" or "formation" and is the standard translation (Wundt 1902, 100).

14. On "fusion" (*Verschmelzung*) as a form of association, see Wundt (1893, 2:437; 1902, 248–51).

Grundzüge, with the substitution of "fusion" for "synthesis" starting in the fourth (1893, 2:231). He also added a qualifier in the fifth and sixth editions: the analogy "illustrates very well the fusion that occurs here, admittedly without emphasizing the most important aspect of this fusion, the creative character of this psychological synthesis" (1902–3, 2:684). On the face of it, Wundt found the chemical analogy useful but also found it worthwhile to point out disanalogies, the existence of which did not cause him to drop the comparison but to qualify it. However, his use of the chemical analogy in no way defines him as a "mental chemist," if this means someone who believes that all psychic combinations are associative, nor does his noting aspects of disanalogy mean that he rejected what he found good in the analogy.

A considerable amount is at stake here, for on my reading Wundt likes the analogy (especially in relation to spatial ideas) because it models the combination of elements to yield new content. But he notes the following disanalogies. In chemistry, we can isolate the elements (such as hydrogen and oxygen) and discover their properties independently of the compound (water). With psychic elements, we must abstract the elements from complex experiences (Wundt 1880, 1:271).¹⁵ With chemistry, we can believe that, in the future, we will be able to derive the properties of the compound from the properties of its elements (Wundt 1887, 2:41). Although Wundt initially described a similar expectation for psychology—in a statement using the chemical analogy (1880–83, 1:459)—he soon came to hold that this would not happen in psychology (1887, 2:41).¹⁶ How the elements exactly combine to yield their product is not known, only that they do so. This view is expressed in the above qualification from the final two editions of the *Grundzüge*, which emphasizes the "creative" nature of fusions as psychological syntheses (on the assumption that a creative outcome cannot be foreseen). All the same, the combination of aspatial sensations yields a new product, spatial ideas.

Wundt has said that, in spatial vision, associations, or associative fusions, yield a complex product, a "compound" spatial idea. He called the elements that enter

15. Wundt (1880, 1:271): "Isolirt ist uns die einfache Empfindung niemals gegeben, sondern sie ist das Resultat einer Abstraction, zu welcher wir unmittelbar durch die zusammengesetzte Natur aller innern Erfahrungen genöthigt werden." Speaking of the chemical and psychological cases: "Ein wesentlicher Unterschied zwischen beiden Fällen besteht jedoch darin, dass die meisten chemischen Elemente zugleich isolirt vorkommen und daher unmittelbar der Untersuchung gegeben sind, während uns die elementaren Empfindungen durchaus nur aus den Verbindungen, die sie mit einander eingehen, bekannt sind."

16. Wundt (1887, 2:41): Having restated the analogy with water and its constituents, he continued, "Sachlich ist diese Analogie deshalb keine ganz zutreffende, weil die chemische Dynamik möglicher und sogar wahrscheinlicher Weise noch dazu führen kann, die Eigenschaften einer Verbindung aus denen ihrer Bestandtheile vorauszusagen." Psychic synthesis does not allow such foresight; no one could envision tactual space if (contrary to fact) given local signs and movement sensations as isolated elements. (Also, that the analogy is "not fully apt" does not mean that it is not apt at all.)

into spatial ideas “pure sensations.” As he often reiterated, we never experience a pure sensation by itself, in isolation: “All the contents of psychological experience are of a composite [*zusammengesetzt*] character. It follows, therefore, that psychological elements, or the absolutely simple and irreducible components of psychological phenomena, are the products of analysis and abstraction” (Wundt 1902, 32). What does it take to achieve such an abstraction? An act of discrimination and attention. Examples of abstracted “sensational elements,” or “sensations,” include “a tone, or a particular sensation of heat, cold, or light, if in each case we neglect for the moment all the connections of these sensations with others, and also all their spatial and temporal relations” (32–33).

Does the fact that elements must be abstracted from composite experiences impugn their reality by entailing that only the composite is real? I think not. Once we have abstracted the sensations belonging to a specific domain, such as touch or vision, we can then consider how these sensations are ordered in relation to each other (e.g., by continuous qualitative variation), what their physiological conditions may be, and under what experimental conditions different qualities arise (Wundt 1902, chap. 1, sec. 6). We can also consider the processes by which such elemental sensations are combined to yield ideas, such as spatial and temporal ideas. For vision, Wundt developed an intricate theory that generates spatial ideas by fusing light sensations (from the stimulation of retinal receptors), local signs (peculiar to each retinal element), and muscle sensations (a central state varying with the positions of the eyes and limbs; 128, 133, 141–42), none of which are themselves inherently spatial (140–41). The compounding of elements creates the spatial content: “New attributes, peculiar to the compounds themselves, always arise as a result of the combination of these elements. Thus, a visual idea has not only the attributes of the light sensations and perhaps, further, sensations of ocular position and motion contained in it, but, beyond these, also the attribute of the spatial ordering of the sensations, which the sensations do not possess in and of themselves” (101*). The formation of spatial ideas arises as a creative synthesis, with the originally aspatial local signs taking on spatial meaning according to their positions on the retina; those positions then become coordinated with directions in space as the muscle sensations, which are coordinated with eye and limb locations, gain spatial significance.¹⁷

Still, the new scholarship has challenged the reality of Wundt’s elements on the grounds that they get their “identity” and “significance” only from their relations within a given complex experience. As Blumenthal (1980, 441) put it, according

17. Wundt (1894, chaps. 9 and 10) provides a more elaborated account of the development of the spatial ideas of touch and vision; even more detailed is Wundt (1893, chaps. 11, 13). Regarding nineteenth-century accounts of spatial vision as developing out of aspatial sensations, see Hatfield (1990, chaps. 4 and 5).

to Wundt "elementary components of phenomena have meaning and identity only to the degree that they are members of some larger, controlling configuration." In a later paper, he compared Wundt's position to that of the Gestalt psychologists, contending that both recognized "emergent qualities" in perception. But unlike the Gestaltists, Wundt saw these emergent qualities as being "controlled by the central attentional process" (Blumenthal 1985, 35).

Blumenthal's description might well apply to the combination of ideas, emotions, concepts, and other aspects of more complicated (or compounded) psychological processes. But it will not work for spatial ideas. Such ideas are developed through fusional processes. In adult consciousness, the qualitative elements can be distinguished only by abstracting away from spatial order. But the spatial order itself must, in the development of the child, be acquired through the combination of elemental (qualitative) processes that possess their qualitative identities as visual sensations (that is, their color) and muscle sensations (Wundt 1902, 318). (Accordingly, Wundt's complexes differ from typical Gestalt wholes, which are not compounded from elements.)

Wundt did indeed maintain that the significance of elements arises from their relations, in his well-known law of psychic relations. Boring described the law as "a psychic content acquires significance from the other contents with which it stands in relation" (1950, 336). This is similar to Blumenthal's statement above, but he adds that not only the "meaning" (or significance) but also the "identity" of the elements depends on their relations with one another. Boring's statement is closer to Wundt's, which says, "Every single psychical content receives its significance from the relations in which it stands to other psychical contents" (1902, 367).

I have already implied that color sensations and local signs must have their qualitative identity in order to enter into associative processes out of which our spatial ideas originate. That is one point in favor of the elements existing and having their identities. Another point comes from Wundt's affirming that the identity of compounds depends on the identity of the elements, not the other way around: "The classification of psychical compounds is naturally based upon the character of the elements that enter into them. Those composed entirely or chiefly of sensations are called *ideas*, those consisting mainly of affective elements, *affective processes*" (1902, 102). Similarly, color sensations have an identity as visual sensations. But their spatial relations (and other relations) give them their significance for perception.

Another blow to the seventy-niners comes from Wundt's denial that attention and apperception are everywhere involved in the formation of compounds from elements. Associative combinations arise through a passive process, as in the associative fusion of sensations to yield spatial ideas: "Associations in all

their forms are regarded by us as *passive experiences*, because the feeling of activity, which is characteristic of all processes of volition and attention, never arises except as it is added to the already completed association process in a kind of apperception of the *resultant, given content* (p. 238). Associations are, accordingly, processes that can arouse volitions but are not themselves directly influenced by volitions” (Wundt 1902, 276–77). These passive processes contrast with the active processes of apperception, involving attention and will. Apperceptive processes depend on prior associations to provide their target compounds; they then add new content to the apperceived ideas by bringing them into new relations. An example would be apperceptively comparing two spatial extents in judging whether they are the same or different (277–80). From reaction-time experiments, Wundt had found that, in all cases, the sensory judgment “appears after the sensations and ideas; the judgment must, therefore, be recognized as a separate process” (280). Sensory judgments can be studied using the methods of psychophysics and the structure of the judgments analyzed (280–90).

Finally, Wundt found a unity in psychological explanation as a hierarchy of component parts and types of synthesis (1902, 29–31). Most basically, elements enter into psychic compounds and processes: ideas, composite feelings, emotions, and volitional processes. Then there are interconnections of these compound states, via attention, association, and apperception. Analysis gives us these various psychic components, which we understand to be synthesized by the processes just listed to yield the more complex psychic processes. The most complex are called “psychical developments,” which divide into two types: first, the development of the individual’s memory, imagination, and understanding, a part of “individual psychology,” which can be treated experimentally (Wundt 1880–83, 2:492; 1893, 1:5; 1902, 329–30; 1904, 5–6), and, second, general psychic developments that depend on collectives, such as occur in the development of animals, children, and social groups. The latter developments are studied in comparative psychology, comprising *VP* and animal psychology (notwithstanding that animals are subject to experiment). General psychic developments within a collective have their own laws (mentioned in the next section); in the case of *VP*, these laws operate over the course of historical development. The collective-based psychic developments are approached using the method of observation, as distinct from the experimental method (next section).

These cases of using the various laws of association, apperception, and development exhibit a common pattern of explanation and causation. Wundt summarized this point directly: “There is only *one* kind of causal explanation in psychology, and that is the derivation of more complex psychical processes from simpler ones” (1902, 28). The derivations have been mentioned above, as divided among associative formation of compounds, apperceptive formation of interconnections,

developmental formation of individual capacities, and, in the case of human beings, the development of social groups with their mental products. There are laws appropriate to each type of derivation. But the abstract pattern of explanation is the same: the formation of a new psychic result from the actual processes of combination and interconnection.

4. "Higher Cognition," Individual Psychology, and *Völkerpsychologie*

From his initial writings in the *Beiträge* about the possibility of a scientific, experimental psychology distinct from physiology, Wundt (1862, v–vi) envisioned that two subdisciplines would aid this general psychology as "auxiliary sciences": comparative psychology and developmental psychology (xiv). He introduced *VP* as a branch of comparative psychology that would draw on historical materials from "philology [*Sprachkunde*], cultural history [*Culturgeschichte*], and the history of customs [*Sittengeschichte*]" (xv). While few had used these materials for psychology, Moritz Lazarus and Heymann Steinthal, in their *Zeitschrift für Völkerpsychologie*, had made a beginning.¹⁸ Previous psychology, he continued, had followed two methods: mere self-observation, the basis of previous "empirical psychology," and deduction from speculative metaphysical assumptions. By his reckoning, mere self-observation (nonexperimental) would always be needed, even if it was itself not sufficient as a method for the new science; speculative metaphysics was to be abandoned (xvi–xvii).¹⁹

Going forward, psychology would recognize two methods: observation and experiment. Observation found application in comparative psychology, especially in developing a "natural history of human society" (Wundt 1862, xxiv). In psychology, the experimental method had been used primarily to study sensory perception, but Wundt would extend it to the "higher mental activities" (xxvii). Indeed, in investigations related to the discovery of "personal differences" among

18. Subsequently, although Wundt (1888b, 3–5, 9–10, 16–23) acknowledged the role of Lazarus and Steinthal in developing *VP*, he rejected their strict division between descriptive and explanatory sciences, which he had come to view as untenable, and found that their program was too broad, encompassing too much of culture and too much of history without realizing that the singular character of history set it apart from the goal of *VP* to seek universal laws of human development. Also, Lazarus and Steinthal claimed to move beyond Herbart but retained references to souls and their interaction. Dennes (1924, chaps. 4–5) compared the methodological and theoretical basis of Wundt's *VP* with that of Lazarus and Steinthal and also that of Hermann Paul.

19. As Araujo (2016, 23, 135–36) argues, the mature Wundt regarded some philosophy as prior to the sciences and some as posterior: epistemology should provide a basis for thinking about the evidential basis of the sciences, thereby conditioning psychology (while nonetheless itself being conditioned by psychology), whereas metaphysics builds on the other sciences and so does not condition psychology but is conditioned by it.

astronomical observers, he made the temporal “course of representations” (a “pure psychic process”) into an object of experimental investigation (xxvii–xxviii).

The *Vorlesungen* of 1863 filled out this picture. Experiment—distinguished from the “mere self-observation” used by previous “natural scientific” psychology (Wundt 1863, 1:iv, ix)—would be used in analyzing “thought,” including unconscious processes (1:v), and would be supplemented by the “natural history of human society,” forged by applying statistics to historical materials (1:21). Because Wundt’s focus was on theory, experiment would be the prime method for his psychology; *VP* and statistics are more relevant to “practical psychology” (1:23) as applied in the conduct of life (2:100–101). He now elaborated where experiment might serve and where not. In the domain of perception and cognition, including sensory perception but also concepts and judgments, experiment has a place (vol. 1); this is the pure theory of cognition. Starting in volume 2, treating feelings and desires, experiment is not appropriate (2:iii). Objective observation must be brought in, aided by ethnographic study that feeds into *VP* (2:iv). This part of the *Vorlesungen* offers an early concrete instance of *VP*. The coverage of topics was wide, including aesthetics; customs and ethics; primitive culture; history of society, from the family to the state; religion; superstition; and language. However, Wundt later disavowed this part of the 1863 work (in the second edition of the *Lectures*; 1894, vi), after reaching his mature conception of *VP* (found especially in Wundt 1888b). He also changed his mind about the application of experiment to feeling and desire (Wundt 1874, chaps. 10, 20; 1893, chaps. 10, 18).

From 1874 to 1886, Wundt developed his experimental and individual psychology. While continuing to recognize the need for *VP*, he did not produce any major works in that field. In the *Grundzüge* (Wundt 1874, 4–5; 1880, 1:4–5), he characterized *VP* as a descriptive science, as opposed to experimental psychology, which is explanatory. But, even in *VP*, the theoretical apparatus found in individual psychology (and so based on experiment) has its use; the apparatus of association, attention, apperception, and will is accepted as a fundamental theoretical scheme in the *geisteswissenschaftlich* part of psychology. *VP* itself relies on history and ethnography, as a “natural history of the mind”; its aims are primarily classificatory. By contrast, physiological psychology seeks a “natural theory of the mind” grounded in experiment.

The first edition of the *Logik* (Wundt 1880–83) was similar, treating psychology as the “transition” (2:481) from the *Natur-* to the *Geisteswissenschaften* because it applies natural scientific methods (experiment) in individual psychology and also serves as a basis for the *Geisteswissenschaften*. But there is a foreshadowing of a distinction between “lower” and “higher” processes. The *Logik* tells us that natural scientific methods are most suited to the investigation of “elementary psychic facts.” The “higher mental processes” arise out of these lower processes

(2:481). In the higher processes, history and society are the ruling forces, and so these processes require an analysis similar to that found in the special *Geisteswissenschaften*. This point gets qualified, as Wundt distinguishes psychophysical experiments, restricted to elementary sensory processes, from purely psychological experiments, which can be applied to the construction of representations and the time course of representational processes (2:484–85), the latter having been described, in 1862, as applying experiment to higher cognition. More generally, in discussing the types of psychology, he distinguished comparative from historical psychology. Historical psychology does not rely on history taken generally; it directs itself toward specific cultural products (2:499). He singled out language, myth, and custom as targeted subjects for "historical psychology," while acknowledging that, save for language, the named areas were "sciences of the future," not extant bodies of work (2:500–501). Although we saw similar fields in 1862 (xv), they were not specified in the *Grundzüge* (1874, 1880), and Wundt gave no rationale for singling them out now.

Everything changed in 1886, as Wundt produced a major methodological statement, "Ueber Ziele und Wege der Völkerpsychologie" (1888b).²⁰ Whereas, before, *VP* partook of historical investigation, Wundt now distinguished *VP* from history. History concerns itself with singular aspects of its subject matter, including the historically particular aspects of language, myth, and custom. *VP* takes account of these historically particular aspects, but they do not in themselves reveal the "laws" of *VP*, which constitute its primary subject matter. While these laws "presuppose a mental interaction among individuals, they fully and completely overstep the compass and the capacities of individual consciousness. They are forms of events that bring with them thoroughly new contingencies, which cannot be foreseen by individual psychology" (1888b, 21). The processes studied by *VP* cannot violate the laws of individual psychology. But what now makes *VP* a second major branch of psychology, and a required complement to experimental psychology, is that *VP* both is conditioned by individual psychology and, reciprocally, conditions the processes of individual minds (21).

We see these changes in the third edition of the *Grundzüge*. *VP*, not itself primarily a historical discipline, takes information from history, philology, and other *Geisteswissenschaften* and seeks to find general laws of collective psychic development. Again, the two chief branches of psychology interact:

Through the use of *objective research methods* experimental psychology comes into close relation with another important branch of psychological

20. In the foreword to a collection of essays on *VP*, Wundt (1911) noted that his (1888b) article had been composed in 1886.

research, *Völkerpsychologie*. While the task of the former is the exact investigation of *individual* consciousness, the latter seeks to find the psychological laws to which the products of mental collective life, namely language, myth, and custom, are subject. The two fields of objective psychology do not, however, merely supplement each other, but they also depend on one another in many ways. For the collective mental life of a people generally refers back to the individual forces that enter into it, and individual consciousness is, especially in its higher forms of development, carried by the mental life of the collective to which it belongs. (Wundt 1887, 1:5)

Wundt often affirmed that collective mental life, the object of *VP*, arises through the synthesizing processes described in individual psychology. At the same time, human psychology is strongly conditioned by contingent features of collective mental life that vary from group to group, beginning with the pervasive effect of language on cognition and including, in myth and custom, influences on (respectively) feelings and motives. These historically developed aspects of mental life must be approached through the methods of *VP*. But whereas, before, *VP* used observation in the service of a merely descriptive enterprise, now it uses observation to find psychological laws of collective mental life.

Let us focus on Wundt's mature conception of *VP*, going forward from 1886, and its relation to experimental psychology. The new scholarship portrays *VP* as providing the sole means for studying "higher mental processes"; it holds that experiment is not applicable to such processes and hence has no place in *VP*; and, in its most extreme version, it claims that the findings of individual psychology, or experimental psychology, are irrelevant to *VP*.

This last claim can easily be refuted, as shown below.²¹ For now, I want to focus on the boundary between "higher mental processes" and the corresponding "lower" processes, as well as the applicability of experiment. I begin with the claims of some post-1979 interpreters, proceed to Wundt's own methodological pronouncements, reflect on the lack of a hard boundary based on type of mental process, find that method distinguishes the two branches of psychology in a general way, and give examples, including some in which experiment is useful for *VP*.

21. The previous block quotation already affirms the relevance of individual psychology to *VP*; see also the first volume of the *Völkerpsychologie* itself (Wundt 1900–1920, 1.1:vi): "That the simpler questions of physiological psychology must, to a certain extent, be settled before scientific work can confront complicated *völkerpsychologischen* problems, is easily comprehensible." Further, in *Logik* Wundt (1893–95, 2.2:233; also 1906–8, 3:227) wrote, "It is ruled out from the start that any *universal* laws of mental events emerge in *Völkerpsychologie* that are not already completely contained in the laws of individual consciousness."

There is no general agreement among post-1979 interpreters on what are called the "lower," "simpler," or "basic" processes that are alleged to be the objects of individual and experimental psychology for Wundt, as opposed to the "higher" or "complex" mental processes that allegedly can be investigated only through the observational techniques of *VP*. Leary (1979, 234) says that, for Wundt, experimental psychology "studies the basic processes involved in the lower mental activities such as sensing, perceiving, feeling, and willing," leaving the "higher mental processes" to *VP*. Baars (1986, 31), summarizing then-recent work on Wundt (by Blumenthal and Danziger), has it that "higher mental functions, emotions, and social psychology were beyond the reach of the experimental method." Kusch (1999, 13) portrays Wundt as holding that "the lower processes of the mind (sensations, simple feelings) could be investigated by means of experiments; the higher, thinking processes called for collective psychology." According to Walsh et al. (2014, 239), for Wundt, "the essentially cultural processes of feeling, thinking, and willing" could be approached only through natural observation and historical analysis (i.e., *VP*). Feeling and willing are sometimes slotted as lower, sometimes as higher, but there is agreement that thinking is not reachable by experiment.

Wundt's own word usage might help. In his *Outlines* (1902), having identified the two main branches of psychology as individual, experimental psychology and *VP*, he continued, "Psychology has, like natural science, *two* exact methods: the experimental method, serving for the analysis of simpler psychical processes, and the observation of general mental products, serving for the investigation of the higher psychical processes and developments" (27–28). Here we have "higher" versus "simpler." We are not sure what a "higher" process is, but, importantly, he also mentioned "developments," meaning historically developed cultural products that exhibit their own laws. In the fourth edition of the *Grundzüge*, Wundt (1893, 1:5) says that *VP* takes up where experimental psychology fails and that it is the "most important" means of approaching the "complex" or indeed "more complex mental processes" that express the collective mental life. In the fifth edition, Wundt says that *VP* is required "as a completion of individual psychology, where the developed forms of complex mental processes are in question" (1902–3, 1:6).

Wundt's word usage provides no simple solution. In these contexts, "higher" and "complex" are not technical terms. He does formally distinguish "simple" and "complex" apperceptive processes: relating and comparing are simple, whereas analysis and synthesis are complex (Wundt 1902, 278). But this distinction does not correspond to the division between experimental psychology and *VP*.

The question of a boundary line between experimental psychology and *VP* will not be decided by finding a list of subject matters (such as language) or psychological capacities (feeling, apperception) that are studied exclusively by one

or the other branch. Wundt tells us as much: “In the present stage of science these two parts of psychology are generally taken up in different treatises, although they are not so much different fields as different *methods*” (1902, 27*).²² Subject matters may overlap; method—experiment versus observation—distinguishes the two branches. That does not preclude that some topics are better suited to only one of the methods: sense perception was approached by Wundt experimentally, and myth and customs, as historical developments, are approached primarily by observation (*VP*). But there is a range in the middle where both methods can be applied. The characteristics of apperception as judgment are approached experimentally (Wundt 1880, chap. 16; 1893, chap. 17; 1902, sec. 17), but *VP* finds that apperception is historically conditioned (Wundt 1902, 201, quoted below). And there are also cases in which experiment is applied to materials that belong to *VP*, as in the case of language, and in which experiment cooperates with *VP* (see below).

In an adult human being, words are associated with meanings (a process of individual psychology). These associations are acquired by the child. But they are acquired from the collective, a historical and cultural group. Accordingly, when words are used in experimental psychology, they are the product of developments studied in *VP*: “Word ideas are furnished to the individual consciousness in a finished state, so that we must leave to social psychology [*Völkerpsychologie*] the question of the psychological development of the processes of thought which are active in their formation” (Wundt 1902, 297). *VP* supplements individual psychology by bringing in new kinds of explanations that depend on the historical development of complex psychological products such as specific natural languages and word formations (English, German, Chinese, etc.), specific traditions of myths, and particular customs as developed historically. These follow specific laws of development, applicable both to individuals and to the collective.²³

Experiments on how nonsense syllables and known words affect the span of attention (Wundt 1902, 32) can be contrasted with observing the structure of language as a stable object in *VP* (Wundt 1970). Concerning the span of attention (how many unit items can be held in attention after a brief exposure), Wundt explained the apparently larger capacity for apperceiving proverbs (phrases totaling 20–30 letters are taken in at once, as compared with 6–10 letters when nonsense syllables are used) by hypothesizing that, in becoming familiar, the

22. As previously noted, Wundt (1902, 24–27) distinguishes “fleeting processes” as the object of experimental psychology from “psychical objects” for *VP*. These do, in a very general way, divide the two branches by properties of “objects” taken in a broad sense. Even so, the boundary is permeable, as we will see.

23. Some main laws of development are the laws of “mental growth,” “heterogony of ends,” and “development toward opposites” (Wundt 1902, 369; also 1902–3, 3:787; see Blumenthal 1985, 39–40), all of which apply to the development of mental communities. Wundt also alluded to more particular “laws” of the development of language, myth, and custom.

proverbs have undergone a process of associative assimilation that aggregates them into units. Accordingly, perhaps only 6–10 of these compounded units are apperceived at once (Wundt 1902, 232). Observation (from *VP*) and experiment mutually apply in a cooperative way: word units, recognized as stable units by observation, arise through historical development in ways that individual psychology helps to explain (via association); how such units affect apperception is known by experiment (see also Wundt 1900–1920, 1.1:519–44).

In the history of psychology, Wundt (1874, 13; 1904, 22) noted a standard distinction between “lower cognitive powers,” including sense, imagination, and memory, and “higher cognitive powers,” such as attention, reflection, and understanding.²⁴ Adopting this division as an entrenched usage, we can say that Wundt found instances of the higher powers to be amenable to experiment. For support, we can consider the psychological topics covered in the *Grundzüge* (e.g., 1893), his main exposition of experimental psychology. In addition to sensation, feeling, and the formation of sensory ideas (as discussed in sec. 3), the work covers consciousness, attention, association, apperception, will, and mental development. Only the last fails to have experiments associated with it. In connection with apperception, Wundt (1893, 2:viii) speaks of “complex reaction processes,” which include acts of discriminating (*Unterscheidung*), cognizing (*Erkennung*), and choice (*Wahl*), all of which are subject to experimental investigation through reaction-time experiments. So, this cannot be where the experimental method gives out. Later in the same work, he discusses the “intellectual feelings,” which only partly belong in experimental psychology, since they also require the descriptive approaches (2:521) associated with *VP*. Among the “most developed” feelings are the “higher aesthetic feelings” (2:524). These again are subject to experimental investigation insofar as they rely on elementary aesthetic feelings. But their full development requires considering “our entire mental life,” including ethical and religious considerations (2:524). In these several cases, we have “higher” processes that require both experimental and *VP* treatment, with the latter helping especially with “developed” aspects.

In *Outlines*, Wundt notices a continuity between the processes of association and the simpler acts of apperception, relating, and comparing. These are contrasted with the generation of psychic products that are *sui generis* and ultimately need to be approached through *VP*: “As a combining function apperceptive synthesis is based upon fusions and associations. It differs from fusions and associations in the fact that some of the ideational and affective elements which

24. Wundt of course rejected the attendant notion of mental faculties, and in addition to the cognitive elements (sensations, which develop into ideas), he added elements of feeling (1874, chap. 10; 1902–3, chap. 7).

are brought forward by the association are voluntarily emphasized and others are pushed into the background. The motives of the choice can be explained only from the whole previous development of the individual consciousness" (Wundt 1902, 290–91). The ultimate explanation of complex, developed apperceptive processes relies on historical development, presumably of both the individual and the collective. The latter is approached through *VP*. Collectively conditioned motives are applicable in explaining individual action.

Wundt's specifically psycholinguistic studies apply the method of observation in *VP* to a comparatively stable object: the structure and use of language. Wundt undertook extensive studies on language in the 1880s and 1890s, leading to the publication, in 1900, of the first volume of the *Völkerpsychologie*, on language (1900–1920, vol. 1). On the basis of his (nonexperimental) studies, Wundt adopted various positions on the relation between thought and language and the inner structure of language. In particular, he held that sentences express psychological judgments; hence, thought is prior to language (Wundt 1902, 294–95; 1970, 20–25)—a result from the *VP* study of language that applies to individual psychology. Moreover, he held that the sentence is the fundamental linguistic unit. Each sentence expresses a "total idea" (*Gesamtvorstellung*). Words, as parts of the sentence, are under the control of this total idea. Hence, sentences should not be viewed as mere associative combinations of words.

Wundt entered further into the analysis of common and variable aspects of language, to reveal linguistic structure. The subject-predicate form is universal. But the order of the words that express subject and predicate varies among languages. The Latin "Romulus conditit Romam" (Romulus founded Rome) can occur in any of six forms (all sequences are possible). The same is not true for German or English; additional word elements must be added to transform "Romulus founded Rome" into "Rome was founded by Romulus." In this case, the meaning is the same among the different forms; they all express the same psychological judgment. The allowance of one form and exclusion of others Wundt ascribed to "tradition" (1970, 28). Different orders might emphasize one aspect of the meaning over another: "Romulus founded Rome" emphasizes Romulus; "Rome was founded by Romulus" emphasizes Rome.

5. *Völkerpsychologie*, Experiment, and Explanation

In saying that experiment does not extend to some complex, historically conditioned processes and that individual psychology cannot fully account for such historically developed processes, Wundt was not effecting a complete separation between individual, or experimental, psychology and *VP*. Rather, he was marking

a difference in kind between the primary objects and methods of the two main branches of psychology.

Individual psychology analyzes the mind into elements, including sensory, affective, and volitional processes, using experiment as a leading source of evidence. These elements are processes, not things. Various synthetic processes for combining the elements are then examined, including association, apperception (which manipulates attention), and will. A specific experiment is not needed for each use of this explanatory framework: once the elements and processes of composition have been described, they can be used to explain a wider variety of phenomena than those investigated experimentally thus far. Wundt appeals to processes of association and apperception in explaining how changes in word meaning led to abstract representations, by breaking the direct association between a word and a particular sensory complex. The word is set free to gather various sensory complexes under itself (Wundt 1902, 335–36).

Wundt well knew that the cognitive representations, motives, and feelings of adult human beings are powerfully influenced by historically developed collective ideas and practices. Nonetheless, he held that in the development of peoples or of the child, insight can be gained into the ideas and motives of members of a specific collective by applying the explanatory framework of individual psychology. Thus, the development of animistic thought (a familiar topic from late nineteenth-century ethnography), whether restricted to the notion of a "soul" or broadened to include the belief that everything is alive ("personification"), can be understood as a matter of apperceptively projecting one's own perceptions and feelings onto an inanimate object (Wundt 1902, 338–39; 1916, 204–5). Or the hypothetical conjecture that "the god-idea resulted from a fusion of the hero ideal with the previously existing belief in demons" (Wundt 1916, xv, 364–74) results from considering how *VP* content (demons with special powers, ideal human heroes with personalities) could interact in accordance with a known psychological process ("fusion," or *Verschmelzung*).

One cannot predict, from the concept of apperception and a speculatively posited human search for explanations of events, the specific forms that animism and its successors will take. Nor could one predict the concepts of heroes and demons and their fusion using only the laws of individual psychology. The various developed mental collectives exhibit a variety of representations, concepts, and motivating structures of thought that are expressed in a stable way and can be studied in *VP*. They are expressed in the historical record and in ethnographic reports. Here, Wundt's (1902, 24–27) remark is relevant that individual psychology is limited to fleeting processes of sensation, feeling, willing, attending, and the like, whereas *VP* studies relatively permanent objects, including language in its concrete use, mythical thought systems and their expression, and motivational

habits embodied in moral customs. Even so, as we have seen, *VP* can help with the study of the “fleeting” process of apperception, and experiment can be applied to stable objects such as words and phrases.

Languages, myths, and customs, as historically developed systems, are not, as a practical matter, subject to experiment. They require a collective to exist: a language community that teaches new arrivals, shares some core stories, and teaches or exemplifies a body of customs. Perhaps Wundt thought that these weren't subject to experiment at all, either because he refused to call social engineering an experiment on methodological grounds or because he did not take seriously the actual possibility of large-scale manipulations of populations in a manner suitable to the experimental method. But he hardly denied that aspects of language use could be subjected to experiment or that the history of myths could be illuminated by applying portions of the explanatory apparatus of individual psychology.

In examining Wundt's individual psychology and *VP*, I have not touched on his controversy with the so-called Würzburg school over new methods for studying consciousness. The urgency of this topic has lessened, as we have found that Wundt did not preclude “higher” processes, such as apperception and judgment, from experimental study. Still, he did object to new methods associated with Oswald Külpe at Würzburg. In a 1907 article, Wundt objected to methods of self-observation used by Karl Marbe and Karl Bühler, including “systematic experimental self-observation” (ascribed to Marbe by Wundt [1907, 306]) and the *Ausfrage* (or question-based) experiment (ascribed to Bühler by Wundt [304]). Each used what Wundt would call mere self-observation to record responses to introspective tasks in relation to acts of judgment (Marbe) or to a modified questionnaire method (Bühler), in which a subject would respond to phrases from known authors with a yes or no, which might on a given occasion mean that they did or did not understand the sentence or that they did or did not agree with it. The subject would then, using self-observation, report on the thought process that occurred.

In responding to this work, Wundt (1907) did not at first mention *VP*. Rather, he analyzed the notion of proper experimental method (308) and then argued that the Würzburgers did not meet the standards set (see also Greenwood 2003). On the way to this conclusion, he first reviewed the notion of a “perfect psychological experiment” (sec. 3), including techniques that might be applied to “the study of logical thinking” (318). He then considered some “imperfect psychological experiments” (sec. 4), including some experiments on memory and some using reaction times. His assessment of the *Ausfrageexperimente* of the Würzburgers (sec. 5) concluded that they fit a third category, that of “pseudo-experiments [*Scheinexperimente*]” (334).

Wundt did not want to offer a merely negative result, so he concluded with a sixth section, "On the Methods for Investigating Thought-Activity" (1907, 340). The main theme of the section is that mere self-observation is not adequate for studying thought activity, which requires the combined efforts of individual psychology and *VP* (340). He offered a long analysis of a mistaken assumption that allowed the Würzburgers to believe in their methods: "the presupposition that everything that one generally has in consciousness must also be immediately given in self-observation, that is, the assumption of an identity of consciousness and attention." But Wundt continued, "This assumption is false, as very many everyday self-observations make probable, and as tachistoscopic investigations, inquiries in the field of rhythmic time-ideas, and other well-known results of experimental psychology prove evidently" (347). He then pursued an argument that drew on both "everyday" self-observation and experimental self-observation (348–53). He also invoked his result from *VP* that thought is prior to language and that the "total idea" of the sentence controls the words in the sentence, thereby countering the surmised need of the Würzburgers for thoughts to be built up sequentially from ideas or words. In any event, Wundt did not object to the application of experiment to higher thought processes but appealed to such experiments in his critique of Würzburg.²⁵

Recall that, in *Outlines*, Wundt said, "There is only *one* kind of causal explanation in psychology, and that is the derivation of more complex psychical processes from simpler ones" (1902, 28). We have seen how this might work for explaining the construction of spatial ideas and, in a more general way, for combining such ideas into higher thought processes including judgment. Wundt's notion of the "total idea" of a sentence, which, when analyzed, contains subsidiary elements, is plausibly another case. And his laws of development in *VP*, which might trace changes in aspects of word forms across historical time, could fit into this scheme. Greenwood (2003, 83) has suggested that Wundt's claim to find analogous psychological laws across domains (including *VP*) is not particularly clear or forceful. Be that as it may, this is not because Wundt did not posit real processes as elements or provide, with greater or lesser success, explanations of higher psychic complexes through a synthesis of lower elements or compounds. Some of these syntheses are associative; some result from apperception; and some are exhibited in historical processes of development, including development of the individual and of the collective. In studying these various phenomena, the full range

25. Wundt allowed that aspects of the Würzburg approach deserved further study, including the concept of the subject's "task" (*Aufgabe*), but he cautioned against using such terms as "Bewußtseinslagen" or "Bewußtheiten" (imageless aspects of conscious experience), as products of "neo-scholastic phenomenology" (1908–11, 3:449).

of concepts and methods can be relevant, including experiment, individual psychology, observation, and *VP* analysis. There is more unity to Wundt's psychology, at least in his own conception of it, than has been thought.

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