History of Psychology

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Online First Publication, June 26, 2017. http://dx.doi.org/10.1037/hop0000066

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1093-4510/17/$12.00 http://dx.doi.org/10.1037/hop0000066

Buried Layers: On the Origins, Rise, and Fall of Stratification Theories

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This article presents a historical analysis of the origins, rise, and demise of theories of stratification (*Schichtentheorien*). Following their roots in the ancient metaphysical idea of the "great chain of being," Aristotle's *scala naturae*, the medieval "Jacob's ladder," and Leibniz's concept of the *lex continua*, I argue that theories of stratification represent the modern heir to the ancient cosmological idea of a harmonious, hierarchical, and unified universe. Theories of stratification reached their heyday during the interwar period within German academia, proliferating over a vast number of disciplines and rising to special prominence within personality psychology, feeding the hope for a unitary image of the world and of human beings, their biological and mental development, their social organization and cultural creations. This article focuses on the role of visuality as a distinct mode of scientific knowledge within theories of stratification as well as the cultural context that provided the fertile ground for their flowering in the Weimar Republic. Finally, the rapid demise of theories of stratification during the 1950s is discussed, and some reasons for their downfall during the second half of the 20th century are explored.

Keywords: stratification theory, Schichtentheorie, media theory, images in psychology, personality psychology

The interwar era has, without doubt, been one of the most productive periods in the history of German psychology: Both the rise of Gestalt psychology and holistic psychology (*Ganzheitspsychologie*) fall within this period, while proponents of humanistic psychology (*Geisteswissenschaftliche Psychologie*) formed an alliance against experimental psychologists such as Georg Elias Müller or Hermann Ebbinghaus, who intended to give psychology a more positivistic and natural-scientific stance. All of these psychological currents competed against each other to become the rightful successor of Wilhelm Wundt and his legacy. Debates between these branches, which have been extensively investigated in historical literature (Ash, 1995; Harrington, 1996; Schmidt, 1995) finally culminated in the notorious talk of psychology's "crisis" during the 1920s (Bühler, 1927; Wieser, 2016).

However, there is another intellectual current that burgeoned during this era that has mostly escaped historical attention thus far—a current that aimed to compile all of these competing approaches into one unifying image of "stratification." Theories of stratification (*Schichtentheorien*) spread over a wide range of disciplines during the first half of the 20th century: From ontology and epistemology to ethics and philosophical anthropology, medicine, neurology, psychiatry, psychology and psychoanalysis, and from sociology to

This work was supported by the Austrian Science Foundation (FWF Project No. P 28119) and the Future Fund of the Republic of Austria (Project Code: P13-1578).

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art and literature studies, theorists of stratification aimed to grasp and visualize the world and the human being, human biological and mental development, social organization and creations as parts of one integrated visual scheme of "layers." Very little has been written about the fate of stratification theories after World War II (Ruttkowski, 1978; Stöwer, 2012), and the rare material written in English covering this topic was published only during the 1950s (David & Bracken, 1957; Gilbert, 1951). This article aims to fill this historiographical gap by presenting a historical outline of the roots, rise, and fall of theories of stratification as well as raise the historiographer's awareness of the iconic structure of psychological knowledge.

In the first section, the roots of stratification theories are traced back to the ancient idea of the "great chain of being," the medieval "Jacob's ladder," and Leibniz's *lex continua* [Law of Continuity]. Subsequently, a short introduction to the modern philosophical reinterpretation of the "great chain of being" is given by highlighting Emil Boutroux's and Nicolai Hartmann's ontological theories of stratification. The third section presents an overview of the various branches of stratification theories that blossomed during the interwar era in Germany in philosophy, arts, and humanities, and the fourth section extends this investigation into the fields of neurology, psychiatry, psychoanalysis, and psychology. In the fifth section, the historiographical perspective switches from the written language to the iconic, highlighting the continuities and breaks between the "chain of being" and images of stratification on a visual level. The sixth section suggests an explanation as to why the concepts and images of stratification attracted so many German intellectuals, a question that leads us to the broader cultural climate of the Weimar Republic. In conclusion, the disintegration of theories of stratification as a coherent theoretical system after the 1950s is discussed. As this article is written with the intention to provide a historical outline of the spectacular impact of theories of stratification to an English-speaking readership, a complete documentation is not intended, and the reader must excuse the exclusion of other examples of this current.

Stratification theorists across all disciplines displayed a strong belief in the accuracy and objectivity of their images and concepts. Many of them were convinced that their image of the world, and of man, mind, and brain, was more than just a mere "metaphor" or "model." However, because this investigation is concerned with the historical dynamics and development of theories of stratification, the question whether this realistic interpretation was indeed justified or not must be left for another time. Historical analysis, from this point of view, is an "archaeological" attempt to reconstruct the conceptual logic and visual imagery of a thought style that was buried long ago within its respective context—not to bring it back to life but to deepen our historiographic knowledge as well as to draw our attention to the implicit presuppositions of what we consider to be real when we look at contemporary scientific images.

The "Great Chain of Being": On the Roots of Theories of Stratification

In 1936, Arthur Lovejoy, eminent historian at Johns Hopkins University, published one of the most influential works in the history of ideas. *The Great Chain of Being*, as his book was titled, recounted the history of an idea that Lovejoy considered to be "one of the half-dozen most potent and persistent presuppositions in Western thought . . . the most widely familiar conception of the general scheme of things, of the constitutive pattern of the universe" (Lovejoy, 1936/2001, p. vii). The core of this idea, which Lovejoy traced back to the writings of Plato, Aristotle, and Plotinus, is an image of a rational and hierarchical universe, created by an indefinitely reasonable and powerful "absolute," the inner laws and structure of which can be recognized by human reason. According to Lovejoy, the absolute in Plato's *Timaios* is described as a "self-transcending fecundity" (p. 49), as an indefinite power that transcends itself by the emanation of "being." In Plato's words, "He was good; and in the good no jealousy in any matter can ever arise. So, being

without jealousy he desired that all things should come as near as possible to being like himself" (Plato, 1997, p. 33). This "principle of plenitude," as it was named by Lovejoy (1936/2001, p. 52), represented the first axiom of the "great chain of being." Because the almighty creator was free from any defect or jealousy and "overfilled" with being, he created *all possible* kinds of beings, from the immutable ideas down to the transient visible material objects. Because an almighty creator would not have left any "holes" or "gaps" between two kinds of beings, it was concluded that everything that *can* exist *does* exist.

The other two axioms of the "chain" can be found in the writings of Aristotle, who argued that all differences in nature are just quantitative, not qualitative; they are *continuous*, not discrete. Therefore, the "principle of continuity" states that there are no "jumps" in nature but just infinitely small quantitative differences between all kinds of beings:

> Nature passes so gradually from inanimate to animate things, that from their continuity their boundary and the mean between them is indistinct. The race of plants succeeds immediately that of inanimate objects; and these differ from each other in the proportion of life in which they participate. (Aristotle, 1897, p. 194)

Aristotle's "degree of participation" represents the third axiom of the "chain," which states that every living being incorporates some realized potentials, though some do more than others. The result is a continuous ontological ladder (which was later named *scala naturae*) based on a zoo-psychological hierarchy of "perfection" (e.g., plants are able to absorb and metabolize; in animals, the abilities of movement and perception are added; and human beings additionally possess the power of reason).

The principle of plenitude (that everything that can exist does exist, and everything is "filled" with existence), the principle of continuity (nature knows no "leaps" or "jumps" between beings), and the principle of gradiation (that there is a continuous qualitative order ranging from pure matter up to the perfect absolute) became the three pillars of the Neoplatonistic metaphysical system, most famously presented in the *Enneads* by Plotinus. Within this worldview, everything depends on a supreme and perfect "One" from which all lower beings stem. Plotinus also added another important characteristic to this metaphysical system—although all beings differ from one another, the potentialities of "lower" beings are not lost but preserved within higher ones:

> It is then like a long life stretched out at length; each part is different from that which comes next in order, but the whole is continuous with itself, but with one part differentiated from another, and the earlier does not perish in the later. (Plotinus, 1984, p. 65)

The visual order of the "great chain" played a central role during the formation of scholasticism during late antiquity, as it promised to reconcile and systematize Plato's theory of ideas, Aristotle's zoological and psychological writings, and the Bible. Images of this worldview, such as Figure 1, bear witness to its power, as biblical elements can be added (e.g., the hell below and angels above humankind) into a hierarchical, rational order of a universe wherein everything is in its proper place. From the top to the bottom, it is held together by a chain (the vertical center of Figure 1) reaching from God, on whom everything that exists depends, down to the lowest forms of being, pure matter.

Through the following centuries, we can find the "chain of being" in the writings of such eminent figures as Augustine, Albertus Magnus, the anonymous author named "Pseudo-Dionysius," and Thomas Aquinas, who reinterpreted the biblical "love of God" as an indefinite power to create and generate (Lovejoy, 1936/2001, p. 67). It is a controversial question whether or not the medieval "chain" was exactly the same idea that we find in Plato's and Aristotle's writings (for an extended critical discussion of Lovejoy's analysis, cf. Mahoney, 1987, and Wilson, 1987). In the middle ages, for instance, the chain was reinterpreted as "Jacob's ladder" (see Figure 2), presenting a successive order of "spheres" that the human soul is supposed ascend to approach God, an image that was

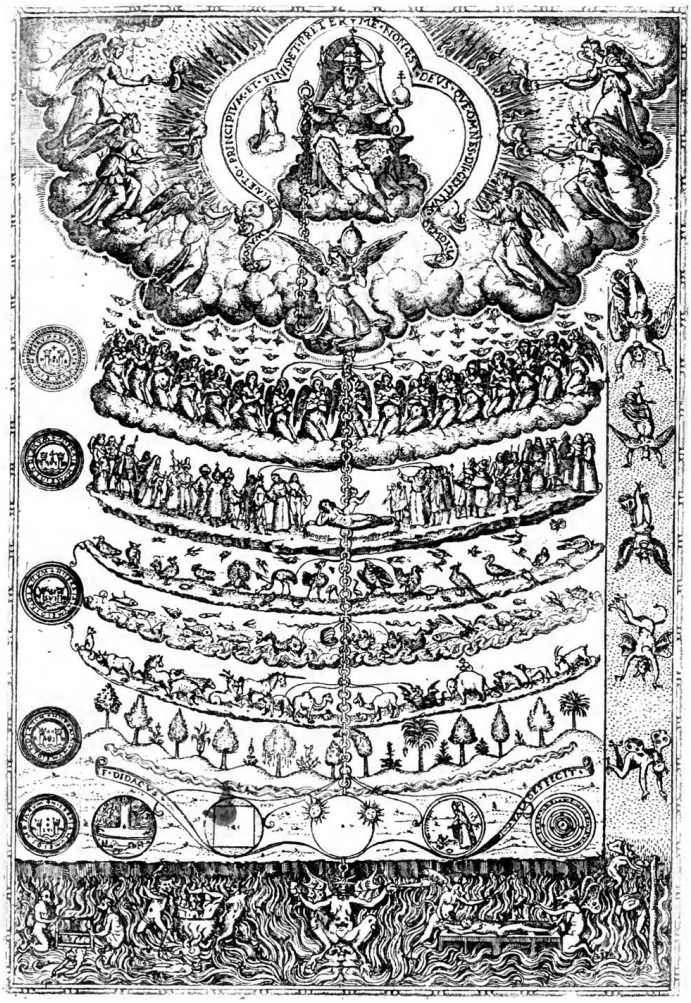

Figure 1. The great chain of beings as presented by Diego Valadés (1579, p. 220).

later unified with the "chain" by writers such as Meister Eckhart and Johannes Reuchlin (cf. Wyder, 1998, pp. 26–32). For our discussion, however, it suffices to say that by adopting the image of the "chain," Christian scholasticism built upon one of the major metaphysical pillars of ancient thinking.

Within the visual order of the "chain," the human being is located neither at the top nor the center of the world but represents just *one* link of a chain of indefinite length. Every single one of these links is just as necessary as every other, irrespective of their degree of perfection. As a whole, the "chain" depends on its creator—literally hanging from it. All different links of the "chain," in their manifoldness, bear witness to its indefinite power. Many supporters of the "chain," such as the Catalan philosopher Ramon Llull, in his work *On the Ascension and Descent of the Mind* from 1305 (Llull, 1305/1744), argued that by discovering all of God's creations (see Figure 3) from stones and plants up to the angels and God, one would also come closer to God and achieve the highest form of knowledge: wisdom (*sapientia*). In Llull's image, increasing our knowledge of nature and learning about God represented two steps heading in the same direction—upward. As a metaphysical scheme, Figure 3 represents the iconic representative of the Renaissance worldview that endorsed empirical research in the name of religion. Within the hierarchical framework of the "chain," as one

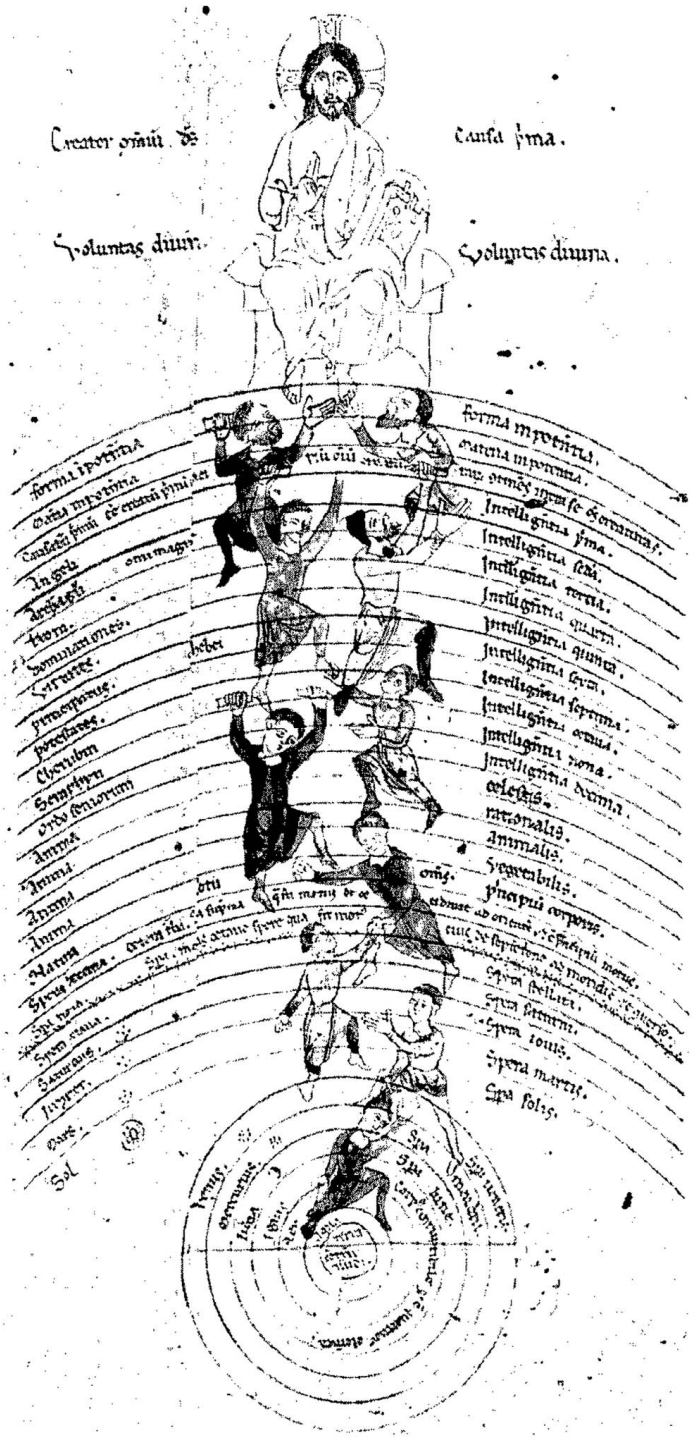

Figure 2. Anonymous. "Ascension of Celestial Order." Anonymous treatise on the destiny of the soul, early 12th century. Reprinted from Philipowski and Prior (2006, p. 71).

historian argued, everything is connected to everything else by God's power, and therefore "science does not appear as an endeavor to modify or undermine traditional images of god and the world, but as an effort to affirm this worldview" (Wyder, 1998, p. 18, translation by author).

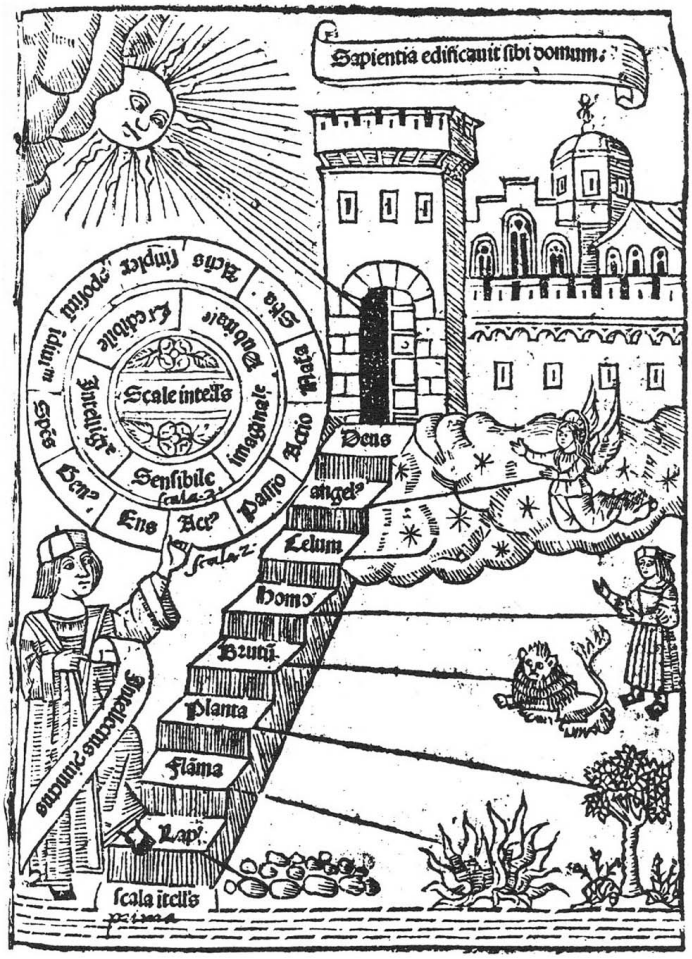

Figure 3. Llull's (1305/1744) hierarchical visual order of being as a route to gain knowledge and wisdom.

One of the most influential philosophers and supporters of the "chain" at the dawn of enlightenment was Gottfried Wilhelm Leibniz, whose lex continua and the "principle of sufficient reason" were direct successors of the chain and played a key role in his metaphysical theory of "monads." The law of continuity, in Leibniz's words, states that "nothing is accomplished all at once, and it is one of my great maxims, and one of the most verified, that *nature makes no leaps*; a maxim that I called the *law of continuity*" (Leibniz, 1765/1896, p. 50, italics in original). In Leibniz's determinist worldview, nothing happens by accident because every event is a link within an infinite chain of cause and reaction, gradually proceeding over time: "The fatality is that everything is joined together like a chain . . . the old poets, Homer and others, called it the golden chain . . . a chain of cause and reaction" (Leibniz, 1695/1906, p. 129).

The renewed "chain" was not just a syncretic image that mashed together Greek and Christian metaphysics with deterministic mechanicism into a static and closed ontological system. On the contrary, it became one of the most fruitful theoretical frameworks for natural philosophers during the enlightenment, who aimed to complete the "chain" by seeking all those "missing links" between stones and plants, fish and amphibians, and even man and ape, which had not yet been found. Through the 18th century, a large number of eminent natural philosophers considered their research as part of an endeavor to support

a unified, rational, and hierarchical worldview by collecting and classifying minerals, plants, and animals, searching for their proper place within the "chain": Charles Bonnet's *Contemplation de la nature* [Contemplation on Nature] from 1746 featured a hierarchical depiction of all natural beings, from minerals at the bottom to man at the top, whose head is stuck in the clouds to symbolize his second home in the spiritual realm (see Figure 4). Carl Linnaeus' famous taxonomic system of nature (1735), Comte de Buffon's epochal *Histoire Naturelle* [Natural history] (1749–1789), Jean-Baptiste Lamarcke's *Système des animaux sans vertèbres* [System of animals without vertebra] (1801), and Johann Wolfgang von Goethe's and Gottfried Herder's biological writings were also heavily inspired by the "chain" as the metaphysical foundation for their evolutionary and zoological studies (cf. Wyder, 1998). At the end of the 18th century, support for the "chain" was still going strong, although it was gradually transformed from a static image of the universe (wherein everything that could exist did so from the beginning of time) into a temporal "process of increasing diversification" (Lovejoy, 1936/2001, p. 296), a gradual unfolding from the simple and lower up to more complex and higher forms of being. Reinterpreting the principle of plenitude as an evolutionary process, even Darwin affirmed Leibniz's law of continuity:

> As natural selection acts solely by accumulating slight, successive, favorable variations, it can produce no great or sudden modification; it can act only by very short and slow steps. Hence the canon of "Natura non facit saltum," which every fresh addition to our knowledge tends to make more strictly correct, is on this theory simply intelligible. (Darwin, 1859, p. 471)

In light of Darwin's theory of evolution and the writings of Herbert Spencer, the "chain" was reinterpreted in the 19th century as a *natural* process that unfolds over time just by itself: "God himself was temporalized—was, indeed identified with the process by which the whole creation slowly and painfully ascends the scale of possibility" (Lovejoy, 1936/2001, p. 317). Although God and higher spiritual beings were taken out of the picture, we can still find remnants of this hierarchical, unified metaphysical system in the middle of the 19th century: Gustav Theodor Fechner presented his metaphysical worldview of a continuous, hierarchical scale of being in works such as *Zend-Avesta* from 1851

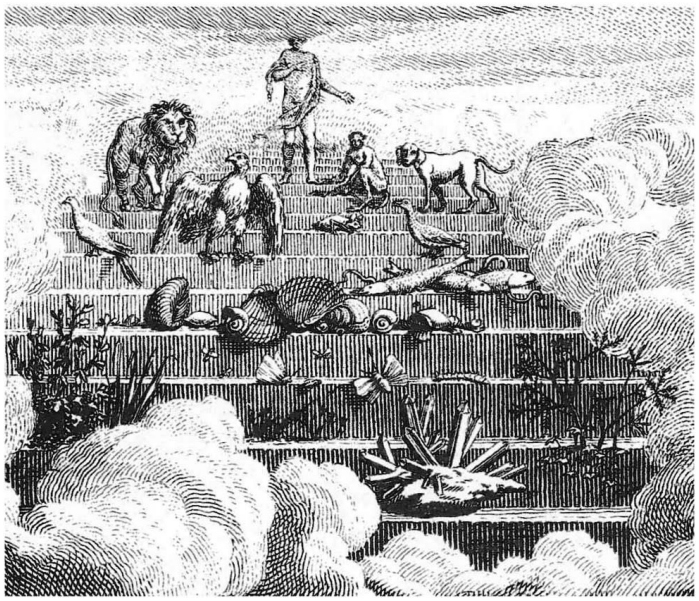

Figure 4. The enlightened version of the scala naturae, as presented by Bonnet (1781, p. 1).

or *On the Question of the Soul* in 1861, an idea that played a key role in his search for a mathematical formula of the relation between mind and matter (cf. Heidelberger, 2004).

Lovejoy repeatedly emphasized the stimulating role of the "chain" for empirical research, arguing that despite all its inner inconsistencies, logical contradictions, and objections that were raised against the "chain," it had influenced and challenged a great number of Western theologians, philosophers, and scientists. "The utility of a belief," as we can see from this example, Lovejoy argued, "and its validity are independent variables" (Lovejoy, 1936/2001, p. 333). Lovejoy's narrative of the "chain" halts at the beginning of the 19th century, creating the impression that the "chain" was finally cast off after the triumph of scientific progress and the rise of positivism and materialism. In the following sections, however, I want to argue that neither the "chain" nor the wish for a coherent image of the world was forgotten during the 20th century: By turning the image of the "chain" upside down, stratification theorists relocated the genesis of all beings from the bottom to the top while retaining the idea that the universe as a whole is a coherent, hierarchical, lawful, and rational system.

From the "Great Chain" Toward a Universe of Layers: The Emergence of the Image of Stratification

One of the links between the "chain" and modern theories of stratification can be found in a work that was just mentioned: Charles Bonnet's *Contemplation de la nature* (Bonnet, 1781), which suggested that the elements of the "chain" could be categorized into four general classes: the inorganic (stones), the inanimate organic (plants), the animate organic (animals), and the animate organic with reason (humankind; Bonnet, 1781, p. 28). Proponents of Leibniz's law of continuity, such as Robinet (1766, p. 4), harshly criticized Bonnet for the use of stages, because any kind of discrete gradation would contradict the law of continuity. However, 150 years after the publication of Bonnet's *Contemplation*, when support of the "chain" had significantly declined, philosophers breathed new life into Bonnet's idea. The first who did so was the French philosopher Émile Boutroux, an eminent critic of materialism and positivism, who wanted to prove that religion and science as well as free will and determinism do not stand in opposition to each other but can be reconciled by his theory of an accumulation of "contingency" within the world. In his dissertation thesis *The Contingency of the Laws of Nature* from 1874, Boutroux (1874/1916) argued that the world consists of different levels of being, each one governed by its distinct and irreducible qualities and laws:

> In the universe, there can be distinguished several worlds, forming, as it were, stages superposed on one another. These are—above the world of pure necessity, of quantity without quality, which is identical with nonentity—the world of causes, the world of notions, the mathematical world, the physical world, the living world, and lastly the thinking world. (Boutroux, 1874/1916, pp. 151–152)

Every "stage," in Boutroux's metaphysical system, "lies" upon those beneath it, without which it could not exist (e.g., life could not exist without matter, thinking could not take place outside of a living body). One important feature of Boutroux's metaphysical system is the proposition that the laws of each realm cannot be reduced to those of lower ones (e.g., biology cannot be reduced to physics, and the laws of thought cannot be explained on pure biological grounds):

> Each given world, then, possesses a certain degree of independence as regards the lower worlds. To a certain extent, it may be an element in their development, may exploit the laws peculiar to them and determine therein forms which were not required by their essence. (Boutroux, 1874/1916, p. 154)

The universe, in Boutroux's philosophy, is not a mere quantity of equal and interchangeable elements but forms a hierarchical and harmonious "scale of beings" (Boutroux,

1874/1916, p. 177), because each stage prepares the ground for the next higher and more complex one. Going up his "scale," Boutroux finds an ascending degree of freedom and "contingency" within nature, from the physical realm up to the immaterial world of thinking: "In the lower worlds law occupies so wide a field that it may almost be substituted for being; in the higher worlds, on the other hand, being almost causes law to be forgotten" (p. 160).

Boutroux did not hide the Christian-scholastic background of his metaphysical system, as he saw his theory of ascending contingency within nature as the true alternative to an atheist, materialist, fatalistic, and reductionist determinism. Boutroux emphatically affirmed the "power and beauty" (Boutroux, 1874/1916, p. 163) of a layered universe and acknowledged its "simplicity, harmony, and greatness" (p. 161). Just as his Renaissance forefathers did, Boutroux argued that with increasing empirical knowledge, the human being would come closer to God.

Although God would soon be taken out of the equation and the religious background consigned to oblivion, Boutroux's theory of "contingency" became a major inspiration for a vast intellectual current within the German-speaking world. A hierarchical visual order of the universe soon transgressed the boundaries of philosophy and metaphysics, and wandered into the natural and social sciences as well as the arts and humanities. Nicolai Hartmann was the most influential representative for a philosophical theory of stratification from the 1920s onward. Hartmann, who held chairs in philosophy at the Universities of Marburg, Cologne, Berlin, and Göttingen, was one of the representatives of critical realism, a philosophical movement aimed at developing a reformed, post-Kantian, and postidealistic ontology that would avoid the metaphysical traps that Kant had pointed out in his critique of traditional metaphysics. As a "critical realist," Hartmann argued that as a philosophical analysis of the "real world," the same world that is also the object of scientific investigations, ontology still represents a feasible philosophical endeavor (Morgenstern, 1992). The earliest version of his ontology was published as part of a "general theory of categories" (Hartmann, 1925), and his most systematic account can be found in *The Structure of the Real World* (Hartmann, 1940/1949).

Hartmann's ontology distinguishes between four layers of being—matter, organic, soul, and mind—which form a hierarchical whole and altogether constitute the extent of the "real world" (Hartmann, 1940/1949, pp. 188–199). Whereas physics and chemistry analyze the first layer, biology the second, psychology the third, and the humanities the fourth, ontology focuses on the world as a whole, wherein the lower layers just present the material for the higher ones. Just as Boutroux had, Hartmann rejected all attempts to reduce higher layers to lower ones (e.g., reducing psychological laws to biological or physical processes) or splitting the world into a Cartesian dualism wherein mind and matter represent completely separate realms (Hartmann, 1925, p. 224). The major part of Hartmann's ontology is concerned with the relation between different "layers of the real" and the laws that are unique to each layer. Hartmann's concept of "category" plays an important role here, as it is not used in Kant's sense: The categories of time, space, and causality, in Hartmann's terminology, are categories that structure the *world* and not just our perception of it. Above matter, the foundation, an organic layer is seated, "overforming" and "reshaping" it by reorganizing its components. The categories of time, space, and causality affect and determine both of them, but the category of "causality" is modified when entering the realm of the biological (Hartmann, 1925, p. 259): Cause and effect within the physical world are not the same as stimulus and reaction, because a stimulus just presents a mere *incentive* for action, not the cause for a living being to act (e.g., the sun does not *cause* a plant to grow, it just *enables* it to do so). Going further up, the category of space comes to an end: Sensations and perceptions do take place in time but not in space. Although the layer of the "soul" depends on the biological to exist, feeling is not simply "composed" out of living material, it "builds upon" it. Therefore, the relationship between the second and the third layer is one of "overbuilding" and not of

"overforming." The same goes for the highest layer, the layer of "mind": Thinking and recognizing cannot take place outside of animate beings, even though they are not just a "reorganization" of perceived material; they constitute processes of their own. Within this hierarchical and multilayered system of knowledge of the "real world," Hartmann finds a harmonious relation of all beings, just like his philosophical ancestors did within the "chain":

> In this way, the organic towers above the inorganic. It does not float freely by itself, but requires the laws of physics. . . . From layer to layer, across all incisions, we find the same relations of resting above, a conditionality "from below, " and at the same time an autonomy of the upper layer, maintaining its own form and law. This relation is the actual unity of the real world. (Hartmann, 1940/1949, p. 198, translation by author)

Hartmann cites Plato, Aristotle, and "systems of the middle age" as forerunners of his ontology (Hartmann, 1940/1949, p. 192; cf. Hartmann, 1943), but in contrast to proponents of the "chain," he insists on the fact that there is a discontinuity within his hierarchy of layers ("the law of distance between layers"; Hartmann, 1940/1949, p. 507) and disregards speculations about any spiritual layers above the "mind." Lower layers, in Hartmann's terminology, are "indifferent" to the "overforming" or "overbuilding" by higher layers (e.g., the laws of physics are the same within living beings and outside of them), but higher layers also show some degree of autonomy. Every layer maintains some attributes of the lower ones (e.g., being extended in space, taking place in time), but also presents a "novum" with new characteristics that distinguishes it from all others. With every new layer, the universe increases in differentiation and complexity. Furthermore, the concept of "controlling from above" plays an important role within Hartmann's theory of stratification: Higher layers depend on lower ones to "rest upon them," but they also steer and control them (e.g., biological functions control the amount and distribution of physical substances in the organism, the mind can consciously facilitate or inhibit biological processes).

This was just a rough outline of Hartmann's metaphysical system (cf. Morgenstern, 1992) that he saw as a true alternative to Cartesian dualism, 19th-century materialism (which had become popular in the life sciences and in Marxism alike), as well as German idealism, whose proponents—such as Fichte, Schelling, and Hegel—had been heavily criticized for their speculative excesses. Although Hartmann's publications show no images, his use of the concepts of "above," "below," "piling up," and "foundation" bear witness to the visuospatial logic of his metaphysical system. Hartmann (1940/1949) argued that "there are fields of research which show a stratified structure within themselves (such as those of anthropology, ethnology, social sciences etc.)" (p. 198), emphasizing the power of his visual scheme to elucidate the layers within other disciplines—a call that was answered by many of Hartmann's contemporaries. In the following section, the reader will be taken on a tour through the German academic landscape of the first half of the 20th century to get an impression of the wide dissemination and popularity of an image that has been almost forgotten today—the image of a stratified world.

From Deep Feelings to Higher Meanings: Systems of Stratification in the Arts and Humanities

As early as in 1916, Max Scheler, who had worked together with Hartmann in Cologne, presented his theory of the "stratification of feelings" as part of his concept of a "material ethics." From a phenomenological perspective, Scheler argued that feelings represent the sources of ethical values, though not their justification (Scheler, 1916, p. 342), as they constitute the necessary anthropological precondition for the recognition of ethical values. Feelings, as Scheler (1916) argued, "do not just possess distinct qualities, they also have different *depths*" (p. 343), and from this perspective, he distinguished (in ascending

order): (a) sensual feelings (which are tied to distinct parts of the body, e.g., pain), (b) a "feeling of life" (*Lebensgefühl*; which is connected to the body as a whole, e.g., feeling exhausted or comfortable), (c) "spiritual feelings" (*seelische Gefühle*; which have less physical components and are closely tied to one's self, e.g., "I *am* sad"), and, finally, (d) "mental feelings" (*geistige Gefühle*; wherein the ego vanishes, e.g., beatitude, peace of mind, or desperation). According to Scheler, each one of these emotional layers possesses unique qualities, and they do not mix with each other (e.g., one can feel pain and still be in a generally good mood). As a whole, Scheler's theory of the "stratification of feelings" was designed as a foundation for an ethical "hierarchy of values" (from pleasant/unpleasant, which are connected to the lowest layer of feelings, up to holy/profane, which represent to the highest layer).

In 1927, shortly before his death, Scheler extended his theory of stratification from a layered scheme of feelings onto the whole sphere of the psyche. In his work *The Human and His Place in the Cosmos* (Scheler, 1947, pp. 11–33), he analyzed the hierarchical order of psychical functions. The lowest layer, the "urge to feel" (*Gefühlsdrang*), represents a mixture of "drive" and "feeling" that result in impulses of "approaching" or "moving away." This layer is shared by all living beings, from plants (which strive toward the sunlight and water) up to humankind. The second layer of the psyche, the "instinct," can be found within all creatures who act in a "meaningful" way, who show a species-specific kind of behavior that is based on a regular rhythm (e.g., squirrels collecting food for the winter), a kind of behavior that is triggered by specific situations to ensure survival without any previous learning processes. The third layer, which Scheler calls "associative memory," is present in all living beings that change their behavior after several trials, adapting to different situations in order to maintain only those acts that were successful in the past—Scheler refers to Pavlov's experiments on the conditioned reflex as an example of this capability. The ability to associate ideas, in Scheler's view, is a necessary precondition for all higher functions of the psyche—but these higher functions go beyond pure association. The fourth layer, "practical intelligence," can be found in all living beings that show insight and anticipation, who are able to understand and modify a situation without instinctual or trial-and-error behavior (Scheler cites Wolfgang Köhler's experiments with chimpanzees as evidence that nonhuman intelligence exists, Scheler, 1947, p. 31). Only the fifth and highest layer is exclusive to human beings: "Mind," in Scheler's sense, transcends the boundaries of the organic and enables the human being not just to live in a species-specific environment but also to be "world-open." Only man, Scheler argued, is able to perceive and analyze objects independently of his personal needs and situational instincts. "Man integrates all grades of being, in particular of life itself, into himself," Scheler argued, expressing his conviction that a nonreductionist perspective of the human being is gained by visualizing it as a layered whole, and that "the opposition which dominated for many centuries" is transcended within this layered image of mankind: "The opposition between 'teleological' and 'mechanistic' explanations of reality" (Scheler, 1947, p. 64).

Just one year after the publication of Scheler's major work, a very similar anthropological theory of stratification was introduced by Helmut Plessner in *The Levels of the Organic and Man* (Plessner, 1928). While Scheler was concerned with different layers of psychical *functions*, Plessner focused on the differentiation of the *relationship* between the organism and its environment. Plants, the lowest layer of the organic, possess neither a central nervous system nor specialized organs; they do not show instinct, drive, or will and do not form collectives. Every plant, according to Plessner, "stands on its own," its relationship with the environment is characterized as "open," as the plant is unable to change or modify its environment. Animals, the second layer of the living, show a "closed" relationship toward their environment, as they are more autonomous from their environment; they can change it (by modifying or moving out of it) because they possess differentiated organs, a central nervous system, as well as a will and drives. The first two

layers, plants and animals, are characterized by a "centered" relationship toward their environment, whereas only the human being is defined by its "excentric positionality": It not only *has* a "self" like the animal but is also able to *transcend* its "self" by consciously reflecting upon it. From this stratological perspective, Plessner formulates several "anthropological laws" peculiar to the human being, such as the law of "natural artificiality," which states that the "nature" of being human is "artificial" (it is not defined by biological heritage, instincts, or drives). Humankind, Scheler argued, cannot find its home *in* nature but can (and must) construct one for itself. Just as Scheler did, Plessner also aimed to transcend the dualism of mechanism and teleology, the opposition of natural sciences and humanities, of object and subject, by defining the human being as a part of an integrated, multilayered hierarchy, reserving a special position for man at the top without denying the biological foundation out of which he grew (and on which he still depends).

A similar line of argumentation can be found in the works of Eduard Spranger, one of the most influential philosophers and proponents of *Geisteswissenschaftliche Psychologie* [humanistic psychology] in the interwar era. In his essay "Ancient Layers of the Consciousness of Reality" from 1934, Spranger argued that the modern ways of indifferent, rational analyzing of the world represents only the youngest and highest form of the subject–object relationship. Older and more primitive layers, Spranger argued, still live on. From "sensual identity," a primitive form of sensual recognition that has no strong subject–object division, up to the "rational layer of thinking" of modern man, older and younger layers of recognition exist simultaneously: "Beneath the region of dominating ways of thinking, ancient forms of recognition still live on, forms that we depend on, forms that recur in a transformed way in higher forms of recognition" (Spranger, 1934/1974, p. 263). By studying the mind and behavior of animals and "primitive people," Spranger argued, we can also increase our knowledge of those older layers that have been "overformed" by rationality in the civilized man of the West.

A hierarchical scheme of layers was also introduced to elucidate the structure of human collectives in *The Social Stratification of the German Nation* by the sociologist Theodor Geiger in 1932 (Geiger, 1932). In opposition to a dualist concept of class struggle between capitalists and the working class, Geiger proposed a stratified image of society, which distinguishes between different parts of a society by their "mentalities" (e.g., common beliefs, norms, habits, forms of social organization). Geiger compared these mentalities with objective socioeconomic factors (such as income and employment relationship) and came to the conclusion that the German society of his time consists of five layers (capitalists, new and old middle class, proletarians, and "proletaroids") and that a dualistic image of society, which assumes that the socioeconomic position determines the mentality of "class-consciousness," fails to capture the diversified and stratified structure of modern society. Furthermore, Geiger's concept of social stratification would enable the sociologist to analyze and compare the evolution of different systems of stratification across civilizations and times (e.g., the evolution of Caste in India, the medieval estates of the realm in Europe).

Concepts of stratification also spread into theories of art. Roman Ingarden, a Polish philosopher and student of Husserl in Göttingen, presented a stratified theory of *The Literary Work of Art* (Ingarden, 1931). In this work, Ingarden focuses on the question how written language creates, conserves, and transforms meaning. "The characteristic feature of the literary work," Ingarden writes,

> lies in the fact that it is a structure formed by multiple, heterogeneous layers . . . despite the heterogeneity of the material of each layer, the literary work of art is not a loose amount of elements, but an organic structure whose unity is based on the characteristic feature of each single layer. (Ingarden, 1931, p. 24, translation by author)

Ingarden (1931) distinguishes between four layers of the written language: The bottom layer is defined as the "linguistic structure of sounds" (sounds, rhythms, rhymes), the

second as the "layer of meaningful units" (names, concepts and sentences), the third as the layer of "presented objects" (*dargestellte Gegenständlichkeiten*; e.g., figures, objects, and their narrative positioning), and the fourth represents the "layer of schematized views" (the way a situation or object is presented, e.g., in the form of a metaphor or analogy). Only through the compilation and interaction of these layers, Ingarden argued, does the literal work of art become meaningful and polyvalent. From sound to word, from basic phonological structures up to the complex nuances and hidden allusions that every piece of language conveys, the overall sense and meaning of the written text is based upon its layered structure, each layer building upon the other but functioning along its own principles.

The second scholar who advanced the concepts of stratification in the field of art theory was Erwin Panofsky. In his lecture "On the Problem of Describing and Interpreting Works of Visual Art" from 1931 (Panofsky, 1931/1985), Panofsky argued that every visual work of art is comprised of three layers. Panofsky's first layer represented "phenomenal meaning" (*Phänomensinn*), a layer that can be accessed by recognizing visual patterns as familiar objects (e.g., a pattern of red and green representing an apple). Analyzing the second layer, the region of "conceptual meaning" (*Bedeutungssinn*), requires some background knowledge about the traditional meaning of persons and object (e.g., recognizing an apple as a symbol of sin). The third layer of "existential meaning" (*Wesenssinn*) is defined by the unique context, time, and place of its creation, as every image also expresses a "fundamental perception of the world, which is characteristic for its creator as well as the epoch and culture of its creation" (Panofsky, 1931/1985, p. 93). The main task of the art historian, in Panofsky's view, is to permeate the layers of an artwork by ascending from an analysis of the geometrical shape and structure and the symbols up to the historical context to reach the "last and highest region," which represents a sedimentation of the "mind, character, origin, context, and biography" of its creator (p. 93). Panofsky's system of interpretation still represents one of the most popular methods for the analysis of visual art to this day, but its historical roots in the concept of stratification have been mostly forgotten.

Up to this point, it may seem that the image of stratification was a metaphysical system relevant mostly to philosophy, the arts, and the humanities. However, its largest realm has not even been mentioned yet. From neurology, psychiatry, and psychoanalysis to developmental psychology and personality psychology, the concepts and imagery of stratification became the most comprehensive interdisciplinary visual scheme within the human sciences during the interwar period. As such, theories of stratification were not just a mode of interpreting the world: They also affected and legitimized the practice of medicine, psychotherapy, and personality diagnostics. While philosophers, sociologists, and theoreticians in the arts and humanities explored the layers of the cosmos and all living creatures, of society and man's creations, neurologists and psychiatrists simultaneously began to discover and treat the layers *within* the human being.

Exploring the Layers Within Ourselves: Stratification Theories of Brain and Mind

As early as in 1909, the first professor of neurology in Germany, Ludwig Edinger, presented a comparative scheme of the development of cortical layers (Edinger, 1912). Figure 5 shows a progressive superimposition of the "Neencephalon," whose dominance, according to Edinger, is characteristic of "higher" vertebrates, whereas the older "Paläencephalon" is supposed to be dominant in "lower" animals (such as fish and amphibians). Edinger's interest was not purely anatomical, as he associated these different cortical layers with different mental abilities (basic motoric and sensory functions and instinctual behavior are executed by older layers, whereas associative learning and memory represent functions of the younger and higher layers). Figure 5 draws a linear, hierarchical order of species based on the size and position of cortical layers, a continuous line of neuronal

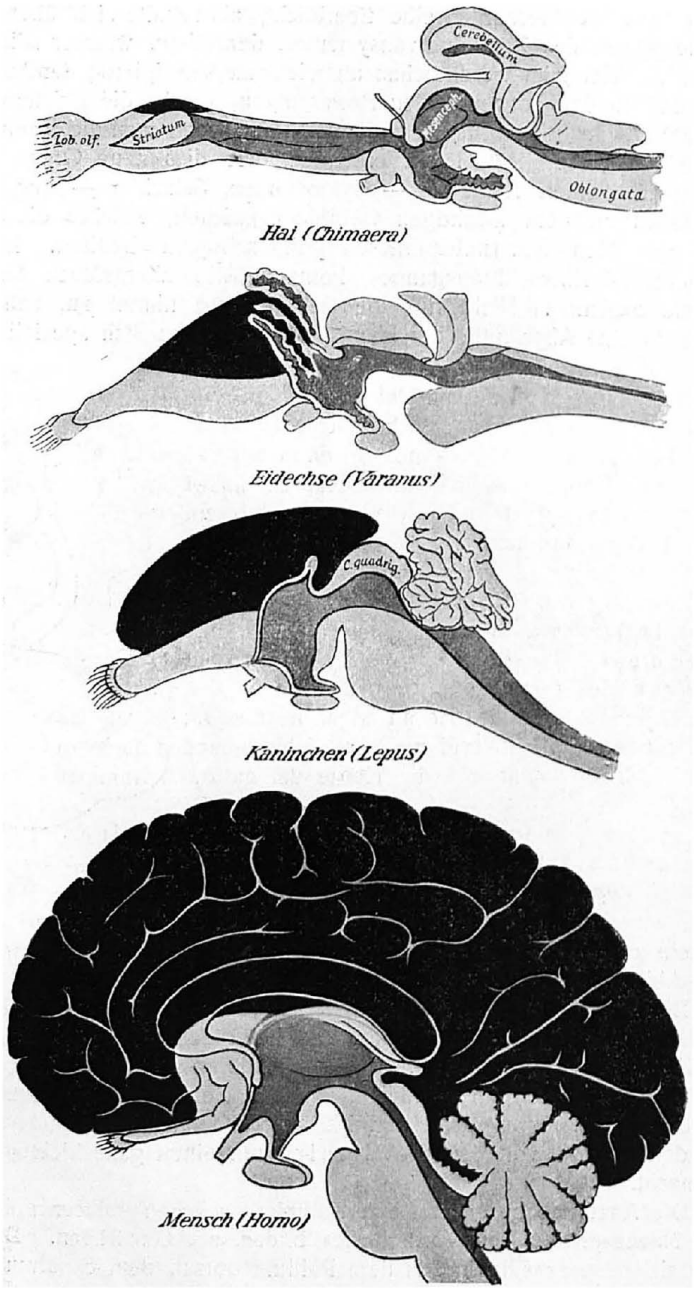

Figure 5. The development of the "Neencephalon" (black) on top of the "Paläencephalon" (gray) across different species (Edinger, 1912, p. 174).

proliferation running through phylogenetic evolution, from the lowest creature up to the only species dominated by the highest layer, the human being. Edinger was not the first to use concepts of neurological stratification to locate human's place in nature: Theodor Meynert, Sigmund Freud's superior during his employment at the Viennese university hospital, also distinguished between a "somatic ego" in the brain stem, steering organismic self-preservation and spontaneous muscular reactions, and a "mental ego" in the cerebral cortex, facilitating human behavior under moral and social rules and norms (Meynert, 1892). In Meynert's view, the proliferation of cortical layers through evolution

is intimately connected to the emergence of complex patterns of behavior and the ability to inhibit primitive patterns of behavior from "above."

In the United Kingdom, Herbert Spencer (1896) had described the evolutionary change in the nervous system as a continuous superimposition of layers within the nervous system. Before him, Spencer's compatriot, John Hughlings Jackson, had distinguished between three different layers of the nervous system: the spinal cord and the medulla, controlling vegetative functions; a motoric center in the cortex, steering automatic reflexes; and the prefrontal cortex as the layer that enables the organism to adapt dynamically to different situations (Hughlings Jackson, 1884). Evolution, in Spencer's and Hughlings Jackson's sense, meant a progression from lower, primitive, and automatic neuronal functions to higher, differentiated, and adaptive behavior: "Progress in evolution is from the most to the least automatic, and thus . . . the highest centers are the least automatic" (Hughlings Jackson, 1884, p. 705), whereas "dissolution" meant a pathologic regression "backwards." Hughlings Jackson identified this process of dissolution of higher layers as the root cause of epilepsy, hallucinations, and dreams. Similar suggestions can be found in the works of Russian-Swiss neurologist Constantin von Monakow, who not only described a functional differentiation between the brain stem (controlling basic vegetative functions of the body) and the cerebral cortex (enabling the inner-organismic association between stimulus and reaction) but also distinguished between several layers within the neocortex (i.e., a layer of association and a layer of projection; cf. Monakow, 1914, p. 125).

These were just a few examples from the fast growing neurological branch of stratification theories at the turn of the 20th century. Theories of neuronal stratification were also popular outside of the German-speaking world, but only in Germany did they represent a small mosaic stone in a wide landscape of layers. Although the names and numbers of layers and their sequence varied considerably among different theories of stratification, all followed an identical outline: Younger, flexible, and more differentiated layers are supposed to evolve out of older, more primitive and automatic ones, controlling and inhibiting them from "above" while also depending on their foundation in order to keep functioning. Each layer has unique characteristics and functions irreducible to any other, and the harmony of the whole system is maintained by a concerted interaction between "above" and "below," whereas dissolution and regression is explained by the loss of this integrative hierarchy.

From neurology, it was only a small step toward psychiatric theories of stratification. Based on his research on brain-injured soldiers during World War I, Karl Kleist, director of the psychiatric hospital in Frankfurt and former student of Carl Wernicke, associated distinctive parts of the brain with singular psychical functions (see Figure 6). Kleist drew more global parallels between neuronal layers and mental regions, based on the assumption that "from a *psychobiological* perspective, the *ego* is composed of several functional circuits (layers)" (Kleist, 1931, p. 344). In his major work, *Pathology of the Brain* (Kleist, 1934), a work famous for its detailed visual analysis of cortical functions (such as Figure 6), he identified six "psychobiological" layers: (a) a "thymopsyche" or "sensual ego" in the thalamus (regulating basic sensory motor functions), (b) a "body-ego" or "somatopsyche" in the cingulate cortex regulating global bodily affects and reactions, (c) an "orgopsyche" or "drive-ego" in the diencephalon (regulating acts of self-preservation), (d) a "self-ego" or "autopsyche" seated within the orbital cortex and defining the characteristics of the personality (e.g., courage or self-control), (e) the "koinopsyche" or "social ego" (also located within the orbital cortex) that controls moral attitudes and acts, and, finally, (f) a "world-ego" or "holopsyche," regulating feelings and attitudes of the individual toward the world as a whole (pp. 1167–1171). Each of these neuronal layers represents a specified level of organization of the organism and its relationship toward the environment (e.g., sensory motor coordination, satisfaction of needs, social bonding) but also represents a remnant of man's evolutionary past—a sedimentation of mental abilities

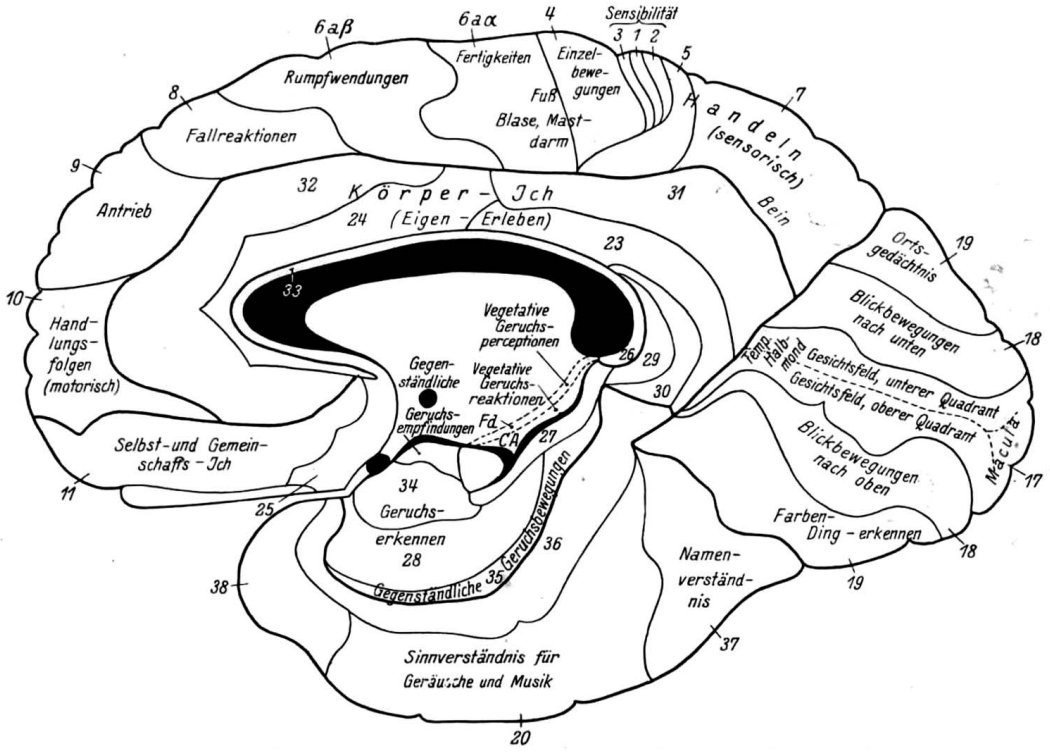

Figure 6. Karl Kleist's "psychobiological" mapping of the human brain. Three of six layers are shown here: the "body-ego" (*Körper-Ich*) in the middle center, and the "self-ego" (*Selbst-Ich*) and the "social ego" in the center left (Kleist, 1934, p. 1366).

that have accumulated through the course of human evolution and reappear again when higher parts of the brain are damaged.

Neurology played an important role in the development of a stratified vision of the mind and personality—but the correspondence between neuronal layers and mental functions, such as in Figure 6, are in fact rather global and vague. Since the differentiation between layers and their total numbers represented a topic of continuous debate within neurology, most psychologists, psychiatrists, and psychoanalysts preferred to emphasize the structural analogies between their theories and neurology rather than linking psychological regions with distinct neuronal layers. "The methodological basis," as Erich Rothacker, one of the most influential proponents of a psychological theory of stratification argued, "is not the anatomy and physiology of the brain, however indispensable the integration of these insights might be, but the observation of the living life" (Rothacker, 1948, pp. 346–347). Philosophers such as Hartmann, philosophical anthropologists such as Scheler, and neurologists like Meynert and Kleist were equally important for psychologists when they looked for additional confirmation of their theories of personality. Psychological theories of stratification were not a by-product of neurologically based theories of the mind—they should rather be seen as separate branches growing out of the same tree that bloomed in interwar Germany.

The psychiatrist Heinrich Hoffmann, for instance, combined neurological and philosophical perspectives in his essay "The Theory of Stratification" (Hoffmann, 1935). Hoffmann draws upon Hughlings Jackson, von Monakow, and de Crinis, as well as Plato, Hartmann, and Ludwig Klages, as supporters of his view that the human being rises from primitive stages of life to the highest division of the human form through ontogenetic and phylogenetic development. Through the proliferation of organic layers, Hoffmann argues,

the psyche rises "to more and more refined stages which finally become visible as the distinguishable layers of drive-soul-mind before our eyes" (p. 47). Hoffmann was well acquainted with neurological discourses of his time, but his threefold scheme of a primitive "drive" (satisfying the most basic needs for survival), the layer of the "soul" (enabling the organism to feel and strive), and the "mind" (the layer of conscious choice, rational thinking and self-control) was not created to correspond to specific regions of the brain but to present more of a general psychological interpretation of the unfolding of neuronal layers. Just as in the nervous system, every mental layer fulfills its distinct function and role according to its inner laws and structure, fulfilling its part to maintain the harmony of the whole, while "violations" of these laws represent "characteristics of a missing harmony between layers . . . weaknesses in higher layers dispose a blasting of the personality, an overpowering by lower layers" (Hoffmann, 1935, p. 38), a phenomenon he found in schizophrenia and other personality disorders.

With Hoffmann's writings, we have approached those two areas in which theories of stratification became most popular: psychoanalysis and academic psychology. We start out with the former, as it is probably the one branch of stratificationist thinking with which the majority of an English-speaking audience is still acquainted (although it is usually not remembered as a part of this movement). It is no secret that Freud started his career as a physiologist who was extensively trained in techniques to dissect and visualize invisible structures and layers within the nervous system of invertebrates and the human brain (Wieser, 2013). In his metapsychological writings, Freud still relied heavily on the same concepts to which he was introduced as a student of medicine and physiology. The psychical "apparatus" (see Figure 7) is depicted as a sequence of layers that evolved out of primitive and chaotic beginnings into a hierarchical system of the "id," the "ego," and the "super ego." While the lower regions represent the energizing component that keep the system going, higher regions have to control and steer the lower ones to maintain the functioning and integrity of the whole. The core of psychoanalytic practice also stems from the spatial logic of stratification: As a systematic exploration of and intervention into the lower layers of the personality, psychoanalysis aims to restore the harmonious hierarchy of the psychical "apparatus." "Clearing away the pathogenic psychical material layer by layer" is what he does, Freud argued in 1893, and compares this practice "with the technique of excavating a buried city" (Freud, 1893/1955a, p. 139). Only by the long-enduring treatments of "severe illnesses," psychoanalytic knowledge can be deepened, Freud argued, because only in these cases the analyst can "succeed

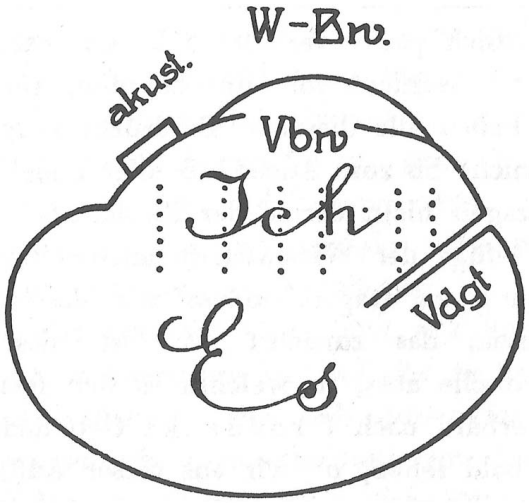

Figure 7. Freud's structural model of the mind (Freud, 1923, p. 26).

in descending into the deepest and most primitive strata [*Schichten*] of mental development and in gaining from there solutions for the problems of the later formations . . . only an analysis which has penetrated so far deserves the name" (Freud, 1918/1955b, p. 10).

Although Freud and many of his followers faced persecution under the Nazi regime, the concepts and imagery of stratification continued to thrive during the political ruptures. One of the most concise depictions of the "geology of the person" was drawn by a former colleague of Freud: Carl Gustav Jung presented his "geology of the personality" (see Figure 8) in 1925, connecting the individual with its family, clan, nation, the "monkey group," and, finally, the eternal "central fire" (Jung, 1989, p. 133), which transcends all layers. Jung's drawing had a remarkable career in psychoanalytic circles, reappearing in several publications (Figures 9, 10, and 11), including Corrie's and Jacobi's introductions to Jungian psychology as well as in Gustav Heyer's *The Organism of the Mind* from 1932. One of the most influential Jungian psychotherapists during the Nazi era at the so-called Göring-Institute in Berlin (cf. Cocks, 1985), Heyer emphasized the fact that "the power of deeper layers can rise like powers from a volcano . . . which can also cause mental diseases" (Heyer, 1937, p. 82). He expressed his conviction that older layers still live on within the adult mind and warns that "by not confronting . . . our collective mental layers, we are susceptible to neurosis" (Heyer, 1937, p. 82). In Freud's case, the layers reached down to the biological drives and needs, whereas in Jung's image, the "central fire" appears as the origin of the individual—but the hierarchical logic of a vertical conceptual and temporal order follows the very same basic structure.

One did not need to be a psychoanalyst to describe mental development as a process of continuous proliferation of layers. One of the most outspoken advocates of a theory of stratification in developmental psychology was Heinz Werner, assistant to William Stern at the Psychological Institute in Hamburg during the interwar era. In his introduction to developmental psychology from 1926, he argued (just as Spranger did) that "one and the same individual . . . depending on the situational conditions, can experience and think in different layers of his inner life" (Werner, 1926, p. 2), layers that had piled up during ontogeny and still remain active in the adult (Werner also reprinted Edinger's drawing as supporting evidence; cf. Werner, 1926, p. 35). In Werner's studies of mental development, the concept of progressive stratification served as theoretical background for his empirical studies of the development of thinking and perception: "Just as the process of thinking is running through layers in the normal human being, also human perception can be regarded as layered, and this stratification can be explored through psychological experimentation" (Werner, 1926, p. 31). To Werner, children, animals, "primitives," and the "madman"

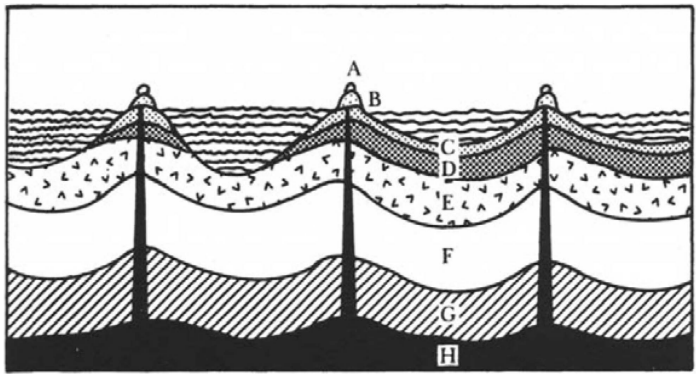

Figure 8. Jung's depiction of the "geology of a personality" from 1925 (Jung, 1989, p. 143). A = Individuals; B = Families; C = Clans; D = Nations; E = Large Group (European man, for example); F = Primate Ancestors; G = Animal Ancestors in general; H = Central Fire.

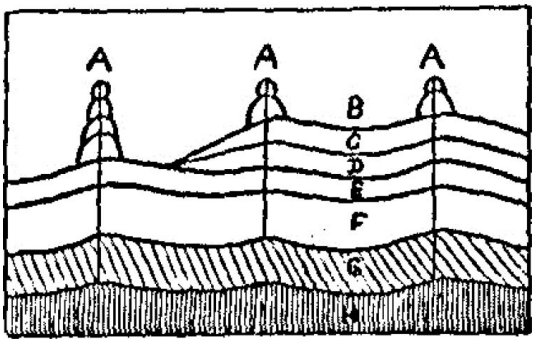

Figure 9. Corrie (1929, p. 22) using the same nomenclature as Jung but renaming "central fire" as "life in general." A = Individuals; B = Families; C = Clans; D = Nations; E = Large Group (European man, for example); F = Primate Ancestors; G = Animal Ancestors in general; H = Life in general.

served as examples of human beings that either had not (yet) developed higher regions of rational thinking or had fallen back to more "archaic" layers of mental development (pp. 297–337).

Putting different cultures, genders, age groups, and "abnormal" and "rational" human beings into a hierarchical order was a common notion of theorists of stratification. This vertical order was also strongly associated with its practical use in personality diagnostics, "characterology," and "expression psychology" from the 1920s until the 1950s. Erich Rothacker (Professor of Philosophy in Bonn from 1928 to 1956) and Philipp Lersch (Professor of Psychology in Leipzig and Munich from 1935 to 1966) were the two most outstanding proponents of a stratified perspective on human personality whose major works *The Layers of the Personality* (Rothacker, 1938/1941) and *The Structure of the Character* (Lersch, 1938/1942) were published in the same year. Rothacker distinguished between six different layers of the person: (a) the vital layer; (b) the vegetative layer; (c) the layer of drive, instinct, and emotion; (d) the "animalistic id"; (e) the "depth person"; (f) the "layer of the person"; and, finally, on top of it all, the focal "point of the ego" (which did not represent a distinct layer by itself but transcended all others). Lersch's system, on the other hand, got along with only three layers: the "vital base," the "endothym ground," and the "superstructure of the person." The basic structure of both

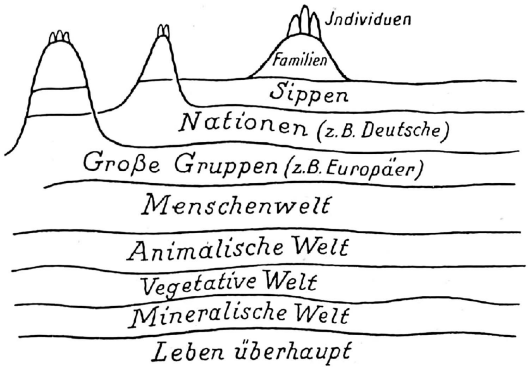

Figure 10. Heyer's (1937) depiction of the "general 'collective life' out of which the individual emerges" (p. 81), adding additional layers such as the "animal," the "vegetative," and the "mineral world."

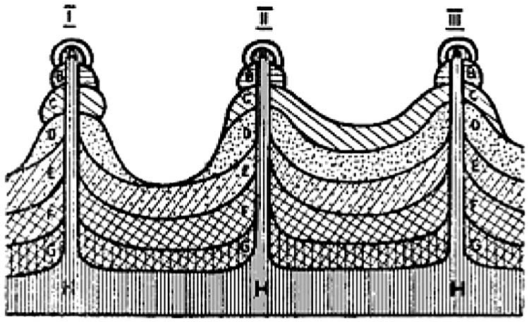

Figure 11. Jacobi described the pile on the left as an "isolated nation"; the two others represent "groups if nations" (e.g., Europe; Jacobi 1949, p. 70).

theories of the stratification of the personality was the same: emotional layers build upon instincts, drives, and vegetative regulation systems, while being towered over by intellect and reason. Within personality psychology, this stratological framework was of major importance for the explanation of differences between individuals. Men and women, according to Lersch, show a different "accentuation" of emotional and rational layers (Lersch, 1938/1942, p. 285). Both Rothacker and Lersch categorized persons based on the dominance of certain layers, that is, a "matter-of-fact person" (*Verstandesmensch*), the "emotional person," the "compulsive person" (*triebhafter Mensch*), and the "strong-willed person" (*Willensmensch*; Lersch, 1938/1942, pp. 280–290), and identified the root cause of mental diseases in a loss of harmony between these layers. The ideal, the "sane" person (commonly identified as the White, male adult) controls his "lower layers" from above while accepting his existential dependency on them. The same goes for Rothacker (1938/1941), who emphasized that "children, women, pyknics . . . and artists live more out of the id, the 'unconsious,' the 'archaic man' . . . than the modern rational-technic type of man" (p. 84).

During World War II, the promise to identify and explain differences of character and skill between persons met an urgent political and military need. In the military, qualified candidates for officers, pilots, engineers, and radio operators had to be found. In the arms industry, an increasing number of forced laborers and women had to be allocated to tasks that matched their abilities. In occupied territories like Western Poland, orphans were tested to determine whether or not they should be deported to Germany in order to be "Germanized" (cf. Benetka, 1997; Geuter, 1984/1992). The conceptual and visual scheme of stratification provided psychologists with a coherent set of tools to explain these differences, whereas works of "expression psychology" (like Philipp Lersch's *Face and Soul*; Lersch, 1932) linked the concepts of stratification with observable behavior, like face expression, gesticulation, conduct, voice, or handwriting, in test situations.

Not all researchers who saw the psyche as a system of layers were supporters of an ideology of superior races, and some of them (like Freud and Werner) had to emigrate in order to escape political suppression and persecution. However, there still might be a systematic reason why so many supporters of a psychological theory of stratification within their field made a career during the era of National Socialism, a reason that goes beyond its practical use as an explanatory framework for diagnostic purposes: By arranging its object into a hierarchy of "up/new/complex/controlling" and "down/old/simple/founding," theories of stratification were *open* (but not determined!) to a normative interpretation that put the self-controlled and strong-willed "Aryan" man above woman, the "archaic man," children, and the insane (cf. Teo, 2010, for an extended critical discussion of "epistemological violence" in psychological contexts).

Almost 10 years before the popularity of the image of stratification reached its peak in Rothacker's and Lersch's publications, Heinrich Heider had already proclaimed that "modern psychology has discovered the fundamental fact that consciousness is structured in layers, which is arguably implicitly accepted by all psychologists" (Heider, 1929, p. 409). Although Heider's claim might seem slightly exaggerated, the list of representatives of psychological theories of stratification was, doubtless, long. Police inspectors explored the layers within the mind of criminals (Maly, Matthes, Stiebitz, & Wehrheim, 1956). Schäfers (1943) and Kuhn (1944) analyzed literature preferences in the light of the stratification of personality. Theoretical essays on the structure of the personality were published by Rudolf Thiele (1940, 1951) and Vinzenz Rüfner (1947), and Ehrig Wartegg's (1953) inventory of "stratificational diagnostics" helped to connect these with diagnostic practice. Oswald Kroh (1936) and Kurt Strunz (1943) explored the connection of mental stratification from a pedagogical viewpoint. Many more works based on (or including) concepts and images of psychological stratification could be named. To deepen our understanding of the reasons for this popularity, however, prolonging this list might not do much service. Therefore, the next two sections will take a different angle by highlighting both the inner, iconic structure of theories of stratification as well as the historical context that provided a fertile soil for the extensive dissemination of images of stratification.

From the Bottom to the Top and Back Down Again: The Visual Structure of Stratification Imagery

As part of a series on the use and function of images in the history of psychology (Wieser, 2013, 2014a, 2014b, 2015; Wieser & Slunecko, 2013), this article adopts a media-centered historiography inspired by the works of Ludwik Fleck (1935/1979) and recent developments in image theory and the history of science (Daston & Galison, 2010; Heintz & Huber, 2001). This perspective challenges the widely spread presupposition that only written statements, hypotheses, and mathematical formulas should be considered the "inner core" of a scientific theory. Both logical positivism and critical rationalism implicitly support this view by focusing exclusively on the structure of protocol *sentences*, whereas images, drawings, and diagrams are devaluated as a mere decorative, aesthetically pleasant attachment to the "hard facts" of the written argument. This view is also widespread in historiography: Lovejoy's work did not include even one image in his analysis of the "chain," and the same goes for the small number of historical writings on theories of stratification (Gilbert, 1951, 1957; Stöwer, 2012). By ignoring images as relevant documents for our historiography of science, the specific "visual grammar" of images, the ways in which images construct meaning and scientific evidence, is disregarded, as well as the extent to which scientists rely on visual material to support their argumentation. As a medium in its own right, the image works fundamentally differently from the alphabet (cf. Mitchell, 1995; Przyborski & Slunecko, 2012): Images "show" what is there rather than argue what *might* be the case, presenting all that is to be recognized at once, whereas the written argument is unfolded in a sequential order. Images communicate meaning through their spatial structure, whereas texts (just like the spoken word) need to be processed serially. In doing so, images fulfill a distinct function in scientific controversies. Scientists use iconic material as a rhetorical instrument to point out what is supposed to be "out there," and as means to instruct their students on what they are supposed to see (Latour, 1990). The physician and historian of science Ludwik Fleck was one of the first to argue that the use of images is always connected to a distinct "thought style," a certain mode of recognizing based upon beliefs and norms that are inherited from a larger cultural background and shared by the members of a scientific community, or, as Fleck (1935/1979) named it, "thought collective."

Contemporary psychologists accustomed to the imagery of the cognitivist "thought

style"—flowcharts that visualize the storage, processing, and transmission of information in patterns of lines and rectangles—might see nothing other than a "free flight of fancy" (Fleck, 1935/1979, p. 141) when confronted with a stratified image of the psyche. The more self-evident and "imperative" (p. 141) it has become for cognitive psychologists to envision the human mind as a compilation of rectangles and lines, the harder it becomes for them to make sense of such an alien presentation of the psyche. However, it is no secret that the visual grammar of flowcharts, which are so common nowadays within experimental psychology, has its own history: It is deeply rooted in the metaphysic worldview of cybernetics, which, from the 1940s onward, postulated a distinct realm of "information" besides mind and matter (Wiener, 1948), a universal taxonomy of feedback loops that knew no qualitative difference between man, animals, and machines (Rosenblueth, Wiener, & Bigelow, 1943), and visualization techniques that were used in the 1950s by mathematicians and electronic engineers for the construction of electronic circuits (cf. Wieser & Slunecko, 2013). As Fleck argued, members of a "thought collective," by their academic training, grow so accustomed to a certain mode of representation that they become blind to the presuppositions connected to their imagery (e.g., that the human mind is a computer, that thinking is a mode of symbolic manipulation organized in serial feedback loops, that the human memory is a "store" of data). These "iconic presuppositions" are at least as powerful as the written argument, as they implicitly define what "is there" and what is supposed to be a "meaningful" research question (e.g., How long does Process A take in comparison to Process B?). Questions from a competing thought style (e.g., how much "psychical energy" is needed to lift a suppressed idea above the level of consciousness), on the other hand, represent meaningless phantoms in their perspective, because they cannot be represented in a meaningful way within their visual grammar.

Although images of stratification and information processing are based on a very different visual grammar to visualize the elements, structure, and dynamics of the human mind, they fulfilled an identical role: As representatives of a specific mode of thinking, they do not follow directly from, but *precede* and *structure*, psychological experimentation and observation. From a media-historical perspective, these images represent two examples of a long gallery of attempts to draw the same subject, all varying extensively in structure, shape, and content. To understand this variability, we need to take a look at the hidden "grids" behind these images, patterns of historically connected metaphysical, technological, and sociocultural preconditions that preformed, limited, and aligned these drawings. Although conventions and assumptions form a necessary background of all scientific images (as they need to be shared to create a meaningful image in the eye of the observer), they are usually not explicitly reflected upon within scientific textbooks and research articles—but can be brought to light again by focusing on their inner logic, structure, and references to other images, concepts, and texts.

Turning toward the iconic language of stratification, we can now state that it is obviously based on the spatial differentiation of "up" and "down," a mode it inherited from the great chain of being: Figures 1 to 4 (the images of the "chain") as well as Figures 7 to 11 (the psychoanalytical and psychological drawings) all show a central vertical axis as their main characteristic, aligning all the elements into one grand hierarchical order from the bottom to the top, whereas the horizontal axis plays a minor role in both series. The neurological images of Figure 5 and 6 show both similarities as well as differences compared with the images of the "chain" and the psychological images of stratification: In Edinger's depiction, the neuronal layers of the human cortex are arranged within a vertical hierarchy (Figure 5, bottom), but they are also shown as part of a chronological series, as the late product of a long-going evolutionary process of unfolding and piling up of layers. The spatial extension of each layer plays an important role in Edinger's and Kleist's images, signifying the impact and function of each layer within the whole system. Freud's depiction of the psychical apparatus (see Figure 7) takes an intermediary position between the biological and the psychological (reflecting Freud's background and interest

in both fields): Its curved outline and the addition of an acoustic center ("akust." on the top left) vaguely resemble the shape of the human brain. The realm of the id ("Es") takes up almost half of the whole system, marking its dominant role within the "apparatus." On the other hand, in Freud's drawing, different parts of the psychical apparatus are not clearly demarcated from each other (as is the case in Edinger's and Kleist's images) and their positioning is mainly differentiated vertically.

In Jung's drawing, the vertical axis (which is further emphasized by a "central fire" that connects all layers from the bottom to the top) also structures the order of the whole. In the series of Figures 8 to 11, the horizontal extension of each layer symbolizes the quantitative size of each category (e.g., the individual "rests" upon the larger "family," the "family" upon its "clan," and so on) as well as the connection between different parts of layers (e.g., in all four images, the two "Families" on the top right are connected by the layer of the "clan," and the "isolated nation" on the left is separated from the others). Heyer's drawing also expanded Jung's scheme toward the bottom, adding an "animalistic," "vegetative," and "mineral world" between human beings and the central fire.

The shared trait of all images shown is the arrangement of each element from the bottom to the top, revealing a hierarchy of increasing order, complexity, and power in the world. In the case of the "chain," this order goes from pure matter, the four basic elements, or the most primitive creatures up to the creator of all things, representing an ascending degree of "perfection" within the world. Bonnet's drawing from 1781 (see Figure 4) still suggests that there might be something "higher" above the material world (although it is concealed by clouds), but in the era of stratification (Figure 5 onward), the hierarchy stops with mankind, supporting the enlightened, naturalistic worldview that "there is no appeal to court above that of reason" (Freud, 1927/1961, p. 28): The neocortex (in Edinger's and Kleist's neuroanatomical drawings) and the "Perception-Consciousness" (which works under the "reality principle" in Freud's structural model) equally represent the highest of all layers. One remarkable feature of this vertical structure of knowledge is that it is easily transferrable from one discipline to the other: While Figures 8 to 11 depicture the overall position of the human individual in cosmos, the images of Edinger and Kleist could be the result of a "zooming in" into the neurological layers *within* the highest layer, and Freud's image would show their psychical counterparts. Layers at the bottom can be added (as Heyer did) or removed (as Bonnet did when covering everything above the human being in clouds) without discarding the general iconic structure.

Another important characteristic of iconic media is that they can gain new meaning by being turned upside down: While the "chain" showed "being" as an eternal emanation from above, the image of stratification reveals a continuous piling up of "being" from below. This conceptual and iconic switch from the top to the bottom implied a metaphysical shift from a timeless, fluid order onto a temporal succession of clearly demarcated layers that accumulated over time. The vertical axis thereby gained additional meaning in the images of stratification: "lower" does not just mean "less complex" but also older and more autonomous and fundamental.

In all of the images shown, the spatial order, that is, the positioning of all elements as well as their distance from one another, signifies a hierarchy of dominance and power. In the case of the "chain," the degree of "perfection" of each creature is defined by its proximity to the almighty creator at the top, whereas the images of Edinger, Kleist, and Freud associate a higher positioning with the ability to control and inhibit subjacent layers. "Controlling from above," "depending on below," and the continuous process of "stacking up" represent the central concepts of stratification, the metaphysical "grid" behind the image. Therefore, it is no wonder that images of stratification might seem alien to the modern psychologist: Within the cybernetic universe, questions of origin and development have lost most of their significance (because electronic circuits are built, not born, and do not evolve over time), whereas temporality and dominance play key roles in theories of stratification. The concept of "control" is also prevalent in cybernetics (Norbert Wiener

subtitled his first book in 1948 "Control and Communication in the Animal and the Machine"), but cybernetic thinking does not necessarily imply that more "complex" elements control more primitive ones, nor does it say that newer ones are necessarily more sophisticated or powerful, nor do elements need to take up more space within a flowchart to exert more control.

To sum up, the hidden "grid" of the image of stratification shows a close relationship to the chain of being, from which it inherited a vertical conceptual order supposedly encompassing all that exists. By cutting off the "chain" above mankind and relocating the source of being from the top to the bottom, the image of stratification introduced temporality in which a timeless order once was, while retaining an ascending hierarchy of complexity and control. As an iconic outline, the image of stratification proved to be easily transferrable from one field of knowledge to the other, compiling metaphysical, anthropological, neurological, and psychological insights into one general hierarchical order—a feature that, as will be addressed in the next section, proved to be highly appealing in the intellectual climate of the Weimar period.

The Search for Holism and Its aftermath: Stratification Theories in Cultural Context

This article began with the assertion that the interwar period was an extremely tense period in German academic psychology. Representatives of classical experimental psychology, Gestalt psychology, holistic psychology, psychoanalysis, and humanistic psychology competed with each other, while proponents of applied psychology simultaneously struggled for acknowledgment from other disciplines and the public. The fundamental conceptual and methodological differences between these psychological currents were perceived by many of their proponents as a "crisis" and a threat to the unity and progress of academic psychology (Wieser, 2016). However, this concept of "crisis" was not just an intrapsychological problem but must be understood as part of a wider cultural development in the Weimar Republic. After the heavy burdens of a lost World War and the Treaty of Versailles, culture-pessimistic works like Walther Rathenau's *On the Critique of Our Age* (Rathenau, 1913), which bemoaned the "mechanization of the world," Oswald Spengler's *The Decline of the West* (Spengler, 1918), which predicted that the West would soon fall behind other cultures, or Max Weber's (1922) famous notion of the "disenchantment of the world" by science and technology were widely read and discussed. All of these works gave fuel to a cultural climate that rejected rationalization, individualism, careerism, and mechanization and led to what Harrington (1996) characterized as a collective search for "wholeness" in a world that appeared fragmented and meaningless.

By propagating the image of a unified world of "layers," the image of stratification responded both to an intradisciplinary problem as well as to a broader cultural quest: the search for unity and wholeness within a discipline that seemed to have lost theoretical cohesion and a culture that expressed increasing suspicion toward scientific knowledge as a servant of technological rationalization and mechanization. By arranging biological, social, psychological and philosophical perspectives into one grand hierarchical image, theorists of stratification promised to fill a gap that was left open after the demise of the great chain of beings, as they promoted the image of a universal, hierarchical, and rational order in the universe. Beneath the chaotic, cold, brutal, and unjust world suggested by the notion of the "survival of the fittest" in evolutionary theory and the Marxist concept of continuous "class struggle," there is, as stratification theorists argued, a proper place for everything that exists. There is, they emphasized, a continuous process of proliferation and accumulation of complexity over time. But there is also continuity within this change: Older layers do not dissolve but have to live on to sustain younger ones. There is a place for drives, instincts and emotions within all of us, psychologists and psychoanalysts alike argued, but they need to be controlled and

integrated from "above" to keep us sane. There is a distinct layer of physical and chemical processes within nature, philosophers said, but man cannot be reduced to it. Visual and written works of art consist of dots and sounds, art theoreticians argued, but a complete analysis has to grasp their "higher layers" of meaning to understand what more there is to them beyond their mere physical structure.

Like every thought collective, theorists of stratification not only expressed the needs and longings of their culture but also inherited its ambivalences. On the one hand, the vertical hierarchy of the image of stratification was emphatically understood as a progression that is heading continuously *upward*: Rothacker, Lersch, and Werner saw the ability of Western European man to think rationally as the unrivaled climax of civilization, an ability that originated in the basic sensual reactions of primitive organisms, "magical" thinking processes of children, women, and "primitive man." On the other hand, many critical remarks on civilization, technology, and rationalization can be found in the writings of theorists of stratification (Ludwig Klages, one of the founding fathers of characterology, extensively propagated an antirationalist position in his major work *The Mind as the Antagonist of the Soul*; cf. Klages, 1929–1932), a longing for the "authentic" and "pure" in contrast to cold-blooded rationalism, a call for a unity of drive and will, emotion and reason. Besides its practical usefulness within German military psychology, this implicit ambivalence might have also played a significant role in the continuous rise of stratification theories during the Nazi era, for it permitted the location of the "Aryan" male at the highest stage of human development and, at the same time, supported the antirationalistic and antimechanistic stance that characterized national-socialist ideology. In this respect, stratification theories partially overlapped with holistic psychology (Ganzheitspsychologie) and humanistic psychology (Geisteswissenschaftliche Psychologie), which were also very influential during this time (Harrington, 1996).

Theories of stratification did not vanish immediately after World War II. Many of their proponents (e.g., Hartmann, Rothacker, Lersch, and Kroh) either kept their academic chairs or regained them shortly after. Lersch even became president of the German Psychological Society in 1954. Images and concepts of stratification were still prevalent during the 1950s, and several new issues of Lersch's and Rothacker's works were published. Albert Wellek presented his extended version of the stratification of the person by adding a vertical axis in 1950 (adding the dimensions of "inside" and "outside" in Figure 12). Kurt Lewin's (1936) work on topological psychology took a similar direction and can also be designated as an offspring of this thought style (see Figure 13). Just as Wellek did, Lewin visually divided the person into different "strata," differentiating between an "inner core" and a "peripheral surface" of the person and visualizing development as an increasing diversification of "layers."

Criticism of taking the metaphorical use of "layers" too literally had been published before the 1950s. The philosopher Erich Heyde repeatedly attacked Rothacker's use of spatial concepts to describe mental states and processes (cf. Heyde, 1947, 1949; Rothacker, 1948). Philosophical objections, however, could not seriously threaten the popularity of an idea that was still widely accepted across many disciplines. Other factors played a much more important role in the demise of theories of stratification during the 1950s. While empiricism and operationalism had become prevalent in the United States from the 1930s onward, German personality psychology had taken a completely different route in order to avoid the cultural disregard of mechanization and atomization of the individual. When these two traditions faced each other in the 1950s, disputes about the methodological and conceptual foundations of personality psychology were predestined.

The major confrontation was staged in Montreal, where the 14th Congress of the International Union of Scientific Psychology was held in 1954. The proceedings of this conference, published under the title *Perspectives in Personality Theory* (David & Bracken, 1957; published in German as Bracken & David, 1959), document the outcome of this encounter. German personality psychology was represented by Philip Lersch, Hans

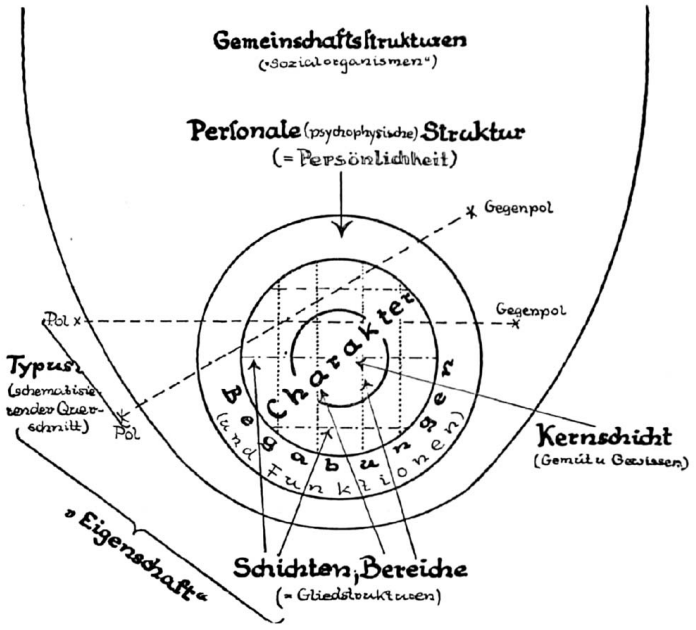

Figure 12. Wellek's (1950, p. 56) image of the "person," showing not just a vertical "stacking up" of layers but also a horizontal "inside" (the "core of the person," its "temper and conscience") and "outside" ("talents," "functions").

Thomae, Helmut von Bracken, and Albert Wellek, while Gordon Allport, Henry David, Hans-Jürgen Eysenck, and others represented the Americans. After all of the participants had presented their papers, Eysenck did not find much time for intercultural appreciation:

> The discussion of stratification theory is extremely obscure, fails to come to a sharp focus, and leaves the reader without any clear-cut definition of meanings of the terms used. The reader who expects to be told, briefly and succinctly, what it is that Wellek, Lersch and the other writers are advocating, will find it very difficult to obtain what he is looking for . . . the position adopted by these writers seems . . . to represent a philosophical belief, rather than a scientific theory. (Eysenck in David & Bracken, 1957, p. 324)

Eysenck argued that the "anti-scientific" stance of stratification theorists (like psychoanalysts and proponents of holistic psychology) could never be embraced by Anglo-Saxon psychologists, who preferred "to treat the study of behavior and personality as a branch of science" (Eysenck in David & Bracken, 1957, p. 324). The only advocate of the concept of stratification on American grounds was Albin Gilbert, who repeatedly prompted his American colleagues to take it more seriously than Eysenck did (Gilbert, 1951, 1957). However, it seems that Gilbert's appeal did not initiate any further reactions. In the meantime, Gordon Allport had developed his own theory of the rise of theories of stratification, one that did not put his German colleagues in a very favorable light:

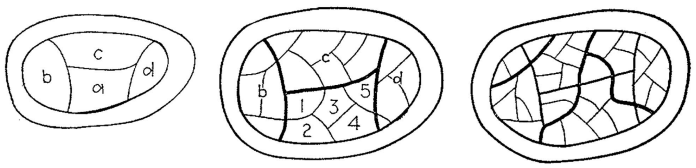

Figure 13. Kurt Lewin's (1936, p. 190) depiction of development as an increasing process of differentiation and demarcation of "sub-systems" within the personality.

> Psychologists felt forced to explain as best they could the sickening flight from rationality represented by Nazism. Deeper, more primitive, layers of personality had to be accounted for. Upon this dark *Unterbau*, the person develops to a greater or lesser degree an *Überschichtung*. (Allport in Gilbert, 1951, p. 3)

In the eyes of many American psychologists, psychological theories of stratification represented a metaphysical artifact made up from ancient beliefs and outdated methods. The Germans, on the other hand, saw in the American tradition a mere accumulation of isolated "factors" and "functions" that had nothing to with the concrete "whole" person we face in everyday life. Unsurprisingly, neither side could convince the other. However, the next generation of German psychology students was eager to distance themselves from a psychological current represented by professors who preferred to remain silent about their contribution to the rise of National Socialism—which is why the turning point of the history of stratification theories did not take place in 1945 but about 15 years later. The "Americanization" (Métraux, 1985) of German psychology, promoting a strong operationalist and empiricist attitude, left little room for grand harmonious images, and emphasized small-scale theories and meticulous statistical analysis instead. Even Wellek himself observed in 1956, not without a melancholic undertone, that the concepts and images of stratification might have started to collect some dust:

> It is a known pattern within the history of science that scientific ideas have not just reached their peak but transgressed it when they have become an article of fashion. . . . That the latter statement is applicable to the concept of layers, not only within sociology and general philosophy, but in particular within psychology, could have been said years ago. (Wellek, 1956, p. 237, translated by author)

Conclusion: On the Remnants of Theories of Stratification

From a historical perspective, we should not presuppose the workings of an ahistorical process of systematic falsification behind the disappearance of theories of stratification. Stratification theorists repeatedly emphasized that their thought style was well-founded in philosophy and neurology, methodologically sound, stimulating empirical research, useful in educational, clinical, and diagnostic practice, opening up interdisciplinary perspectives and overcoming the dead ends of dualism, materialism, and idealism. Most of their American colleagues, unsurprisingly, had a different opinion on that. Following Eysenck, they dismissed the idea of stratification altogether rather than trying to understand it from within, and as much as the ingratiation of many of its proponents with the Nazi regime contributed to its rise before 1945, the damage dealt to its reputation afterward was as great.

Remnants of stratification theory are still visible today. Orthodox Freudian and Jungian psychoanalysts managed to preserve their image of a layered personality, long after it was buried and forgotten within academic psychology. In sociology, notions of the "strata" of society still prevail (although they are used more cautiously nowadays in order to avoid the negative connotations of "higher" and "lower" layers; cf. Bolte, 1967), and within neurology, the concept of "layers" of the central nervous system are still common, although used more loosely (Kötter & Scherbaum, 1997). Now and then, new derivatives of stratification imagery reappear at the surface of scientific research: Paul Maclean promoted his image of the "triune brain" (the "reptilian complex" in the basal ganglia, the "paleomammalian complex" in the limbic system, and the "neomammalian complex" in the cerebral neocortex) until the 1990s (see Figure 14), arguing that "man has inherited the basic structure and organization of three brains, two of which are quite similar to those of animals" (MacLean, 1967, p. 375). In 2000, the German historian Reinhart Koselleck used the concept of "layers of time" to argue that history does not progress in a linear fashion but unfolds parallel within "temporal layers" of different origin and duration (Koselleck, 2000). Elements of Hartmann's philosophy were adopted by other theoretical currents, such as his law of "novum," which was revived within system theory as the concept of

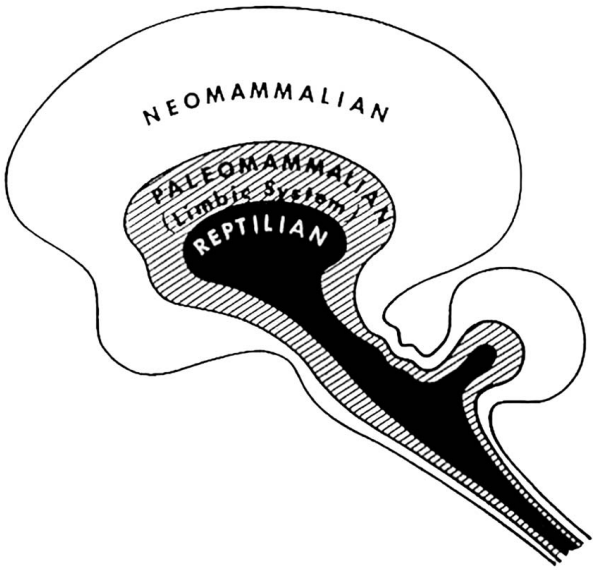

Figure 14. Paul MacLean's (1967, p. 337) concept of the "triune brain."

"emergence," describing the occurrence of new characteristics within systems (whether they are physical, biological, social, or mental), which cannot be reduced to the characteristics of their elements. However, the systematic connection between these scattered remnants of a once-coherent metaphysical image has been lost. The remains are not part of a unified worldview anymore. They have lost their status as a conceptual bridge connecting different areas of knowledge, as theories of stratification once did in interwar Germany, and as the great chain of being did in earlier centuries.

It would be naïve to assume that by adopting an operationalist and empiricist attitude, psychology has finally shaken off its metaphysical premises. Other ontologies and their imageries followed in the footsteps of theories of stratification, such as the cybernetic concept of "information" and its heavy use of flowcharts (cf. Wiener, 1948; Wieser & Slunecko, 2013), a metaphysical system that seemed more in line with the belief in the advancement of humankind through technological progress at the dawn of the Cold War. In retrospect, the rise and fall of theories of stratification were first and foremost cultural phenomena that cannot be properly understood without reflecting on their historical context. For only by getting to know the roots and contexts of our contemporary psychological knowledge and its premises can we fully understand the forces that are responsible for shaping its current outlook.

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Received December 11, 2016
Revision received May 17, 2017
Accepted May 20, 2017 ■