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The Riddles of Monism: An introductory essay

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Recent developments in the cognitive sciences point to a convergence, for some a clash, of the humanities and natural science. In 2004 a group of leading neurobiologists published a manifesto in the German journal *Gehirn und Geist* (Brain and Mind), claiming that their discipline had succeeded in explaining and predicting many psychological processes and would now tackle the problem of free will. A parallel advance can be observed in the growing field of evolutionary psychology, where the leading research question “what is the evolutionary good of God?” indicates that religion has already been subsumed under the explanatory framework of Darwinian natural selection.² In the humanities, meanwhile, some scholars are looking to the physiology of affective response to support new theories of emotions, subjectivity and cognition, while others have argued that historians need to expand their inquiry beyond written and archaeological sources and examine the brain itself as a historically evolving social product, where the “features of culture” have been “wired in human physiology.”³ In addition to crossing over the disciplinary boundaries of natural science and the humanities, these varied scholarly endeavors represent a common challenge to the Cartesian conception of mind and body as essentially separate domains. Rejecting the dualistic understanding of human reality, they seek to analyze nature and culture from a single disciplinary vantage point based on the assumption that mind and matter as parallel but conjoined manifestations of a single substance. This philosophical stance is monism.⁴

The cognitive scientists and evolutionary psychologists, who believe that they are on the verge of solving key philosophical problems such as the origin of free will, consciousness, and religion premise their claims on extrapolations into the future of

current scientific trends. This makes their monism appear novel. Yet over a century ago the German biologist Ernst Haeckel (1837-1919) argued that natural science had essentially already solved these problems, which he called the “world riddles” and thereby provided empirical verification of Baruch Spinoza’s (1632-1677) philosophical proposition that mind and matter, or thought and extension, were but two modes of a single substance. Darwinian evolution provided, in Haeckel’s interpretation, a master theory linking the multiplicity of biological life to the development of human consciousness and civilization as a single meaningful totality. For Haeckel, the unity of matter and spirit in substance was mirrored by the unity of knowledge in natural science. Haeckel had begun to use the term monism in 1866 and his efforts to propagate monism as the sole viable modern worldview culminated in his international best-selling monist manifesto *The Riddle of the Universe* in 1899 and the formation of the German Monist League in 1906.

Today’s monists appear largely unaware of the monist movement of a century and more ago, despite the many similarities. Both have featured struggles between natural science and philosophy over jurisdiction and method, and both have been allied to sometimes latent, sometimes overt attacks on revealed religion. Then as now, the popular scientific media have provided the chief arena in which monists have staked their claims. Yet the differences are striking. Whereas today’s monism largely lacks overt political connotations, between the mid-nineteenth and the mid-twentieth century naturalistic monism provided an important epistemological foundation to actors in host of social and political movements. It was an undercurrent in the history of international socialism that had a formative influence on more than one generation of socialist leaders from August Bebel and Karl Kautsky to Walter Ulbricht and Mao Zedong. Whereas today’s feminist movement has remained suspicious of socio-biological thought, naturalistic monism was a source of inspiration for the early women’s movement and for pioneers of the homosexual rights movement, who made it into the foundation of an inclusive humanism. Other monists argued that history was driven forward by those races who had evolved more advanced cultures. Their monism served as an ideology of imperialism.

Monists like Haeckel promised to clear up the “world riddles” created by dualistic thinking with a good dose of empiricism and common sense, yet in science, culture and

religion, monism presented itself as a philosophy with its own riddles. While anticlerical, monism developed a clear religious project of immanent transcendence. This took on a scientific hue in Haeckel's definition of God as the summation of the laws of causation or in the "monist Sunday sermons" delivered by chemist Wilhelm Ostwald during his tenure as chairman of the Monist League. In the theosophical visions of Annie Besant and Rudolf Steiner, by contrast, monism proved capable of providing the foundation for an anti-materialist spiritualism that identified itself nonetheless with scientific research. Spiritualistic and naturalistic monism intermingled in the manifestoes of avantgarde aesthetic movements and in the creative works of artists like Isadora Duncan and Wassily Kandinsky, George Eliot and Rainer Maria Rilke.

The political and religious valence of monism has shown strong geographic variation. Whereas the "culture wars" of the United States provide a ready market for the monistically minded "new atheists" of today, a century ago naturalistic monism proved most radical in Germany and Russia, where monarchical rule was inseparable from the power of the state churches.

Following the Second World War, the passions surrounding monism cooled. The term itself largely vanished from public usage and returned to the marginal vocabulary of philosophy from whence it had come. Not only was the monist movement largely absent from popular memory in the postwar period, scholars working in historical disciplines also paid it scant attention. Given developments in science and scholarship during the Cold War, it is easy to understand why monism became hard to see. Its holistic, spiritualized understanding of science ran counter to methodological trends within the natural sciences and contradicted the functional differentiation that was assumed to govern the relationships between the disciplines. As the certitudes of modernization have eroded, however, phenomena like naturalistic monism have become increasingly visible to the historical gaze.

Scholars are now interested in historical monism, not as a dry branch on the tree of scientific evolution, but rather as a symptomatic expression of an age that was marked by secularism but was not yet secular. Following the cultural turn in the history of science, that discipline in particular has found in the monist movement an exemplary case for investigating how late nineteenth-century natural science spilled over into religion,

philosophy, politics and culture. We now have some excellent studies on what might be termed the “narrow” history of monism, i.e. on the activities and philosophy of Ernst Haeckel and the Monist League between the late nineteenth century and the First World War.

It was with the aim of extending this research and mapping out the contours of naturalistic monism in a wider chronological, disciplinary and geographic framework that a colloquium was convened on October 2 and 3, 2009 at Queen’s University Belfast under the auspices of the Wiles Trust. The essays in this volume represent the fruits of the discussion in Belfast between scholars from history of science, intellectual and cultural history, religion, geography, political science and literary studies.

By way of framing these their essays, my own introductory essay will take a step back and provide an overview and evaluation of the broad trends in research into monism. In so doing, I want to make the case that study of monism places in a new light some of the chief intellectual, cultural, religious and political questions and conflicts in the period between the 1840s and 1940s, making this in many ways a “monist century.” I will pursue two lines of argument. The first is that we have in monism a peculiar type of socially-embodied knowledge that is little understood and yet which illuminates one of the important ways in which religion, science and philosophy coalesced in social and political movements in this period. I approach this task through an analysis of two key terms in *The Riddle of the Universe*. In the term “world riddles,” i.e. those points of conflict between dualistic and monist philosophical system, I find the nodal points upon which the entire monist edifice was erected. Viewed from the perspective of these riddles, modern monism did not belong to a sole discipline, be it science, philosophy or religion. Turning to the social embodiment of monism, I will argue that monism was linked to too many movements and social interests to be usefully analyzed an ideology. Rather than approaching it as philosophy, religion, scientific paradigm or ideology, monism is best understood as a novel formation of knowledge captured in the second key term “worldview.” Indeed, in many ways the German concept of *Weltanschauung* developed in tandem with and through the history of monism, so that monism offers a particularly rich avenue for exploring what made the monist century also an age of worldviews.

The second approach this essay takes to expanding our understanding of monism is to sketch out a map of the monist century by surveying the many temporal, social and geographic locations in which monism manifested itself outside of the realms of science and philosophy. Here, I begin by looking at some of the qualitative changes in the articulation of monism in the 1840s and 1850s, when it went from being an esoteric philosophical position to a worldview that organized a host of dissenting movements. As two examples of late nineteenth century dissent, I delve briefly into the role of monism in the early women's and homosexual rights movements. The essay then charts some of the public controversies that surrounded monism in the field of ethics before turning to aesthetics. Artists and writers revealed an important aspect of monism, namely the coexistence and ongoing competition of Haeckel's naturalistic monism with other forms of monism, whether idealistic, spiritualistic or neutral. Finally, I consider the international fate of monism in the competing worldview regimes of twentieth-century Germany and the USSR before ending with some preliminary conclusions about what the changes wrought by the end Second World War tell us about the conditions that had sustained the culture of popular monism over the previous century.

The “narrow” history of monism

Because the other contributors explore border zones, chart out new areas of research, and engage in comparative study, it falls to this introduction to first outline the “narrow” history of monism, which has focused justifiably on the figure of Ernst Haeckel.⁵ Although he did not invent the term monism, he did most to popularize it. It is generally agreed that the term first appeared in German in a 1721 treatise by the early Enlightenment philosopher Christian Wolff. Monism remained, however, an obscure philosophical term that came to be used increasingly, but still infrequently, in the first half of the nineteenth century by theologians and philosophers to describe or decry aspects of contemporary pantheism, spiritualism or Hegelian speculation.⁶ Having discovered the word monism in the work of philologist August Schleicher, a friend and colleague in Jena, Haeckel applied it to a naturalistic worldview based chiefly on the theory of biological evolution. In 1866, five years before the publication of Darwin's *Descent of Man*, Haeckel argued in his *General Morphology* that natural selection accounted for the development of humans from lower life forms. As proof, Haeckel

showed how the human embryo passed through stages of development recapitulating the lower life forms from which it had evolved.⁷ The book culminated in a description of “the unity of nature and the unity of science” in a “system of monism.” Monism not only encapsulated Haeckel’s faith that the universe was united in a single substance and governed by a single set of laws. By linking mind and body, matter and spirit, naturalistic monism allowed Haeckel to make claims in the realms of philosophy and religion. In his *Natural Stories of Creation* (1868) Haeckel spoke simply of his natural scientific worldview as “a monistic religion.”⁸

Although other scholars employed the term monism in the 1870s and thereafter, Haeckel’s definition remained the dominant one, particularly in the German-speaking world. A further testament to Haeckel’s centrality was the role he played in the formation of monist organizations. When he began to withdraw from active research and devote himself to propagating monism in the 1890s, Haeckel’s philosophy found an enthusiastic audience among the secularists, freemasons and republicans, who had united in 1880 in the International Congress of Freethinkers to oppose clerical influence in public life.⁹ Haeckel turned down an offer to assume the helm of German Freethought League in 1899. Instead, he called for the formation of a new organization at the International Congress of Freethinkers in Rome in 1904. A German Monist League (DMB) was duly formed under Haeckel’s aegis in 1906. Led by a handful of prominent scientists and philosophers, this organization attracted a membership of around 5,500, composed primarily of university trained professionals: physicians, secondary-school teachers, writers, and engineers.¹⁰

The Monist League, like its founder, displayed what today might be considered contradictory tendencies towards emancipation and social control. This contradiction reflects, in part, the predicament of bourgeois liberals in Germany, whose cultural hegemony had not translated into political dominance. The prominence of racial hygiene and anticatholicism in the League’s early public work coincided loosely with the 1906 government coalition that brought liberals together with conservatives under a program of imperialism and confessional antagonism.¹¹ The collapse of this coalition in 1909 cut liberals adrift and contributed to the leftward turn of the Monist League. A public debate sponsored by the League in Berlin in 1910 on the question “Did Jesus live?” signaled a

shift from anticatholicism towards a broad anti-Christian campaign. In December 1910 Haeckel announced his withdrawal from the Protestant Church and the following year the League became the chief sponsor of the Committee of the Confessionless, a secularist alliance of liberal monists and social democratic freethinkers who waged a three-year campaign to encourage mass desertion from the state churches. The high point of this campaign came in 1913, when the League's chairman, Wilhelm Ostwald, and the future founder of the Communist Party, Karl Liebknecht, jointly denounced the state churches before a crowd of thousands at an open-air rally in Berlin.¹²

When Ostwald, a Nobel laureate in chemistry, assumed leadership of the Monist League in 1911, he brought along his own monistic system of "energetics". Whereas Haeckel's monism proposed biological evolution as the central framework for the progressive organization of substance, Ostwald described different manifestations of energy. Where Haeckel sought the unity of all science under the umbrella of Darwinian theory, Ostwald developed a hierarchical model of the sciences, allocating to each discipline responsibility for explaining a different level in the organization of energy. As a placeholder for the discipline that would study the highest level of complexity in human society, Ostwald proposed the neologism "culturology."¹³

Ostwald also sought to redefine the ethical and political program of Monist League according to his energetics. Haeckel based ethical judgments on the health of the species, making eugenics his ultimate ethical system. Ostwald proposed a monist ethics based on what he called the "energetic imperative" which was "waste no energy, utilize it." He promoted an array of practical applications of monism, such as international standardization of industrial norms and artificial language (he favored Ido over Esperanto). In 1913 the League named as its chief areas of operation: natural science and medicine, technology, school reform, the protection of mothers and sexual reform, land reform, the peace movement, the abstinence movement, and the cooperative movement.¹⁴

Presiding over the International Monist Congress in Hamburg in May 1911, Ostwald outlined the promise of monism as the key to "world-organization." This was to be a technocratic solution of world problems. Ostwald summed up this global ambition by declaring the opening of a "monist century." The monist heyday under Ostwald's leadership was, however, very short-lived. As an organizational form, German and

international monism broke up on the reefs of the First World War. The majority of the Monist League opposed the war, causing Haeckel and Ostwald, the former champions of pacifism now turned expansionist nationalists, to resign in 1915. Ostwald's replacement was the psychiatrist and sociologist Franz Müller-Lyer, who offered evolutionary sociology as yet another principle for unifying all science in a single worldview.

Most studies of the “narrow” history of monism have ended with the First World War. After the war, the estranged nationalists did not rejoin the Monist League, though some took their monist theorizing into völkisch circles.¹⁵ Some of the better-known leftwing monists, like the editor of the *Weltbühne* Carl von Ossietzky, the feminist Helene Stöcker, and the sexologist Magnus Hirschfeld, did not remain active. Although it continued to operate until it was banned by the new regime in 1933, the Monist League failed to recapture the public imagination during the Weimar Republic.¹⁶

Two methodological approaches to the riddles of monism

The title of my essay alludes to Haeckel's monist manifesto *The Riddle of the Universe* (published in 1899 in German with the title *Die Welträtsel*). This book was, by some accounts, the most popular work of science hitherto published in Germany.¹⁷ By 1914 it had sold three hundred thousand copies in German and by 1931 it had been translated into twenty languages. Haeckel's archive contains thousands of letters received from inspired readers. Asserting that monism could crack the key problems of science and philosophy—the “world riddles”—the book heralded a coming age when natural science would solve modernity's most vexing issues. Like many monist tracts, its popular appeal rested on the ability of a scientific authority to assure readers that its philosophical claims were really self-evident and easily verifiable by simple empirical observation and the use of common-sense. Today these claims appear anything but self-evident. They throw up a host of paradoxes. Here was a scientific philosophy that resisted falsification and an anticlerical movement associated with a mix of religious innovations. Here was a movement that advocated technocratic social control as a means to emancipation, the leaders of which have been tarred with the brush of ethical nihilism and yet saw themselves as the genuine inheritors of humanism. These are some of the “riddles” of naturalistic monism that make it a challenging subject for historical analysis.

The riddles of monism are best approached through the joint consideration of the two aspects that gave the naturalistic monism of Haeckel's era its particular historical signature and showed it to be quite different from monisms that preceded and succeeded it. First, naturalistic monism was a totalizing philosophy bent on eradicating the boundaries between other forms of knowledge in the name of science. Second, it was mobilized within sharp social, religious and institutional conflicts and even developed autonomous organizational forms, of which the Monist League was the most prominent. I would now like to link these two aspects in an exploration of two key concepts used by monists: "world riddle" and "worldview". A brief conceptual historical treatment of each can demonstrate in an exemplary fashion the intimate connection between philosophical claims and dissent. Moreover, once contextualized, these terms can provide a vocabulary for the interdisciplinary analysis of monism. For the "world riddles" and "worldview" reveal some of the paradoxes or riddles at the heart of naturalistic monism as a peculiar form of knowledge.

The "world riddles"

The term "world riddle" and its centrality to monism emerged out of a dispute between two eminent German scientists over the proper boundaries of natural science. Speaking to an audience of several thousand gathered at Germany's largest annual conference of scientists and physicians in 1872, the Berlin physiologist Emil du Bois-Reymond compared natural science to "a world-conqueror of ancient times." Just as his imagined warrior chief might pause "in the midst of his victorious career" and survey the "boundaries of the vast territories he has subjugated" to discern whether some "natural barrier that cannot be overcome by his horsemen" might "constitute the true limits of his power," du Bois-Reymond told his listeners that it was fitting "if Natural Science, the world-conqueror of our times, resting as on a festive occasion from her labor, should strive to define the true boundaries of her immense domain."¹⁸

As one of the best-known and most powerful scientists in the capital of recently unified Germany, Du Bois-Reymond was well placed to speak on behalf of the empire of science. He pinpointed two "two widely-diffused errors with regard to the limits of natural science" that threatened its legitimacy. The origin of movements (first causes) and the origin of consciousness were two questions not open to empirically verifiable,

quantitative, mechanical explanations, hence their investigation did not belong to the realm of natural science. These marked the limits of natural knowledge and he named them “world riddles.” To illustrate the folly of any attempt to cross these limits, he argued that even a scientist with a perfect understanding of neural chemical processes could no more explain the brain’s thoughts than a balloonist could reach the moon. Whereas scientists were used to saying “ignoramus”—we do not know—in the face of presently inexplicable scientific problems of a mechanical nature, when faced with “world riddles”, they must turn back and utter “ignorabimus”—we will not know.¹⁹

In a second major speech on the subject given eight years later, du Bois-Reymond expanded the number of “world riddles” to seven, some of which science could not presently solve and some of which could never be solved and were hence “transcendent.” The seven riddles were: the relationship of matter and force, the origins of motion, of life, of sensation, of consciousness and of free will, as well as the apparently purposeful order of nature. He also noted the wide public echo of his earlier “ignorabimus.” Rather than leading to the acceptance of his riddles as boundary stones, the word had become “a type of natural philosophical shibboleth.” As in the biblical story, where shibboleth was the word used to weed out the members of a hostile tribe who could not pronounce it, du Bois-Reymond’s “ignorabimus” had succeeded in flushing out enemies, most particularly Ernst Haeckel.²⁰

Haeckel responded with speeches and essays, countering Bois-Reymond’s “ignorabimus” with his own Latin slogan “impavidi progrediamur!” (we must proceed without fear).²¹ When Haeckel finally published a complete system of naturalistic monism in 1899, he took du Bois-Reymond’s *Welträtsel* as the title of his book. Haeckel’s book also opened with an imaginary map, a survey of the transformations of “the whole of our modern civilization, not only by our astounding theoretical progress in sound knowledge of nature, but also by the remarkably fertile practical application of that knowledge in technical science, industry, commerce, and so forth.” Haeckel’s map too was drawn to characterize a threat to modern civilization, albeit a threat arising from a lack rather than an excess of scientific zeal. Insufficient progress in “moral and social life” threatened “grave catastrophes in the political and social world” that could be averted only through the spread and application of a scientific “natural worldview.” This

worldview was monism. Haeckel claimed that the theory of substance and evolutionary biology could solve all of the riddles that du Bois-Reymond had posed. In successive chapters, Haeckel offered clear and simple examples from scientific research to prove these points.²²

Haeckel and du Bois-Reymond represented two competing conclusions about the meaning of modern science for culture. Each claimed that his was a “mechanical worldview” derived entirely from empirical observation. However, where du Bois-Reymond’s map of science halted by an act of “manly renunciation” at the boundary of the world riddles, Haeckel’s map was unbounded, whole and total.

In a narrow sense, this was a debate about what constituted good scientific method, however, it was also a debate over the relationship between disciplines. Du Bois-Reymond rejected Haeckel’s claim that he was a “dualist” and in league with Kantian philosophy and religious orthodoxy. However, by calling some of the world riddles “transcendent,” Du Bois-Reymond was indeed setting up an argument for separate spheres of influence for science and theology, something Stephen Jay Gould (with similar anti-monistic intent) would later call “non-overlapping magisteria.” Parallel conclusions were being reached by Neo-Kantian philosophers, who developed clear methodological boundaries between the empirical sciences, which sought general laws, and the cultural sciences, which were concerned with historical explanation.²³

The proposed inviolability of the “world riddles” allowed room for a transcendent sphere outside of the natural world, and for a human subject outside of natural scientific determinism. It also strengthened the disciplinary boundaries of theology, philosophy and science thereby preventing the “pollution” of science by religion and philosophy. Conversely, Haeckel quite consciously saw that the eradication of these barriers was essential, if monism was to act as a religion and philosophy of immanent transcendence. Monism was, as Haeckel declared in a major speech of 1892, “a link between religion and science.”²⁴

The debate between du Bois-Reymond and Haeckel demonstrates paradigmatically how two versions of scientific secularity defined one another through conflict. On the one hand, out of opposition to monism, du Bois-Reymond developed an argument for a secular order based on scientific self-restraint and disciplinary differentiation. Haeckel’s

position, by contrast, might be called secularist rather than secular, as it sought to replace religion with a new universal creed based in empirical natural science.

The “world riddles” marked the key points of friction between monism and dualistic systems; they also formed the epistemological and spiritual nodal points of the monist system. Thus both as a social formation and as a philosophical system, the scientific, social and religious struggles over these boundaries were what made monism operational. Exploration of the world riddles naturally formed a research agenda for monist science. Because monist philosophy posited that the universe was an interconnected and unitary order of being raised to self-consciousness through human culture and crowned finally by monist worldview, it fell to natural science to prove that the “world riddles” were merely points of transition and not boundaries between the domains of this order.

Two of these points of transition stand out as key targets of monist science. The first was the transition from inorganic matter to organic life. Following Spinoza’s dictum that “all things have souls,” Haeckel argued that crystals were matter striving for life. His last book *Crystal Souls* of 1917 put forward the theory that the universal substance consisted not only of matter and motion, but also of psychic energy, or “psychom.”²⁵ According to Haeckel, the highest form of psychic organization was human self-consciousness. This connection of consciousness to biology was the second and more central question in the work of monist scientists. In psychology, the reigning Kantian model of cognition separated off the operations of the mind from the perceived world outside. This model enticed monist mediation. One line of monist thought led into psychophysics, as proposed theoretically by physiologist Gustav Fechner and pursued in experimental science by Ernst Mach and Wilhelm Wundt. Psychophysical parallelism was considered on the philosophical side by the likes of William James and Bertrand Russell.²⁶ The desire to connect the cultural products of the human mind with biology also informed the dogged defense by naturalistic monists of Neo-Lamarckianism. Whereas the germ plasma theory of August Weissmann rejected biological learning and thereby erected a wall of separation between biology and culture, monists favored the theory of the “inheritance of acquired characteristics” that allowed communication between the organism and the environment.²⁷

Monism as worldview

Unpacking the term “worldview” is necessary if one wants to understand how monists dealt with one of the chief paradoxes of their philosophy, namely how unbounded scientific explanation remained curiously resistant to scientific criticism. A window into the relationship of worldview and monism is offered by the monist philosopher Arthur Drews. In his 1908 essay on the varieties of monism, Drews demonstrated the shortcomings not only of Haeckel’s hylozoism (from the Greek “matter” + “life”), but of at least eight other contemporary and historic varieties of monism as well. At the end, Drews offered Eduard von Hartmann’s philosophy of the unconscious as the only successful monist system. Yet Drews’s summary of this older philosophical work was so limp and so brief that the reader must conclude that Drews did not find Hartmann necessary to support the claim that “the world belongs to the monist idea.” Indeed, in his preface Drews argued that critics who focused on the weakness of each system were missing the point. Monists, he wrote, have many perspectives (*betrachtungsweise*) they have only one view (*anschauungsweise*). In other words, perspectives could be wrong without invalidating the view. The varieties of monism were just passing forms, giving way to a higher worldview.²⁸ “Worldview” thus paradoxically preceded the science that supposedly produced it.

On a basic level, most monists understood the relationship of worldview to science within a positivist cognitive model, which held that free reason and empirical observation would lead to a uniform understanding of the world as a whole. If theories were erroneous that was not the fault of nature, it simply meant that monists had to learn to listen better to nature’s symphony.²⁹ This was a correspondence theory of knowledge that saw the mind’s function as the mirroring of the laws of nature. Hence Frederick Gregory terms monism a nineteenth century mode of knowing.³⁰ However, if we leave the realm of academic knowledge and consider monism as a popular knowledge in the form of worldview, we find that it was compatible, indeed paradigmatic, of trends in the first half of the twentieth century as well. Here it is worth considering the specific meanings of the German term “Weltanschauung” which was ubiquitously used not just by monists, but by many other political, cultural and religious groups to describe their respective philosophies. When Germans invoked the term in the period between the 1840s and

1940s, they understood *Weltanschauung* to be more than just a shared cultural-cognitive framework of perception, which is how social scientists often use the English term “worldview” today. *Weltanschauung* was understood to be a systematic understanding of the world as a meaningful totality that formed the basis of a community. It was a form of knowledge that not only explained the present state of the social and physical world, but was expected to contain a normative system and a program of salvation on many fronts.³¹

In order to meet these expectations, secular worldviews such as monism used structuring paradoxes to reconcile science, which promised a rational explanation of the world, with potentially irrational plans of salvation. Whereas monotheistic religions offer redemption in a transcendent sphere accessed in an afterlife, secular worldviews placed redemption in history at the end of a period of intentional struggle. Of the two best-known twentieth century worldviews, Marxism posited a universal class that required revolution to become truly universal, while National Socialism was premised on the belief that an act of purification through violence would restore the German people to health and power. Monists ascribed to the belief that Nature and Humanity already existed as totalities, yet were paradoxically denied to the faithful at present. These universal subjects would be redeemed and achieve self-consciousness through a two-fold struggle: a political struggle against dualist reactionaries in the public sphere and an intellectual struggle through scientific discovery and education. In the former case, worldview was the banner of secularism, in the latter, worldview was the draft sketch for the edifice of unified knowledge that science would construct. Scientific worldview thus carried the promise of redemption and the explanation of why this redemption had not yet occurred. Always on the cusp of being solved, the world riddles were both the neuralgic points and the central pillars of this worldview. By retaining the tension between solution and the “not yet,” the riddles functioned as paradoxes that allowed the monist worldview to be an object of faith that could be reconciled with the rational principle of scientific modernity.

Although the argument has just been made that monism represents a quintessential expression of the religious dimensions of modern worldview, it would be wrong to assume that religion was the secret source of monism. Walter Benjamin famously likened another worldview, historical materialism, to an invincible, chess-playing automaton,

operated by a hunchbacked dwarf called theology, who crouched hidden under the table.³² This allegory fits the basic approach to worldview taken by theorists of “political religion.”³³ However, it does not apply as well to monism for two reasons. First, whereas Soviet Marxism had erased its own religious origin in Feuerbach’s criticism, monism made no secret of its desire to operate in the field of religion. Secondly, while Marxism staked out its domain in the political and economic realms, naturalistic monism did not have a privileged domain. If we use the term worldview, we can find a position for monism that is, in some sense, outside of all the domains, transgressing each and seeking to eradicate its boundaries. Monism is neither false ideology nor political religion, because both of these terms presuppose a mask and an essence behind it.

What I am suggesting here is a perspectival shift in the analysis of monism. Because critics have hitherto viewed monism from observer positions within one of the domains of knowledge, be it science, philosophy or religion, they have interpreted monism as an intrusion by an outside interest. Unmasking naturalistic monism as bad philosophy prompted by scientific hubris has been a relatively easy game for philosophers, like Habermas, who suggested that the neurobiologists who penned the 2004 declaration had succumbed to “metaphysical temptation” and been “pulled into the undertow of philosophical speculation.” This is but a recent iteration of a long tradition of teasing the emperor science for his new philosophical clothes. Responding to Haeckel’s attempt to place his monism in the great tradition of German idealist systems, feuilletonist Fritz Mauthner wrote that Haeckel’s writings revealed that “semi-educated” minds were “nowhere more terrible than in the realm of philosophy.” In 1937 the theologian Walter Nigg similarly discounted the turn to monism by some Protestant dissenters as a devolution into “religious cretinism.”³⁴ These judgments may or may not be correct but they are certainly incomplete, because monism was not just a scientific intrusion into philosophy and religion. It was also a philosophical and religious intrusion into science. Both as a development in the history of ideas and as a social movement, monism cannot be adequately understood from a single perspective. To reduce it to one of its component parts or disciplinary foundations would be to misrepresent it. Given that all knowledge is produced in variegated discursive and social networks, this conclusion will sound like a truism. However, what differentiated monism from many philosophical

or scientific movements is that its coherence as a worldview coincided with a marked disciplinary homelessness.

The homelessness of worldview also helps account for monism's position between academic and popular science. In his classic study of popular science, the Polish philosopher of science Ludwik Fleck concluded that "[t]he pinnacle, the goal of popular knowledge is worldview." Fleck explained worldview as a byproduct of the essential processes of science popularization: simplification, valuation and visualization. He also described the feedback loop between popular and academic science through which worldview helps pre-form the "style of thought" of the scientific community.³⁵

Fleck's ahistorical, functional model of the relationship of worldview and popular science has been enormously influential. Writing as he was in Central Europe of the 1930s, a society without worldview might have been inconceivable to Fleck. Since then the concept of worldview has undergone massive transformations, so that we must look beyond the processes of popularization to understand the audience's hunger for worldview in the first half of twentieth century. In particular, we should consider the attachment of worldviews to the social and political movements of the period. Monism was certainly an expression of the cultural power of natural science, but also a medium through which social movements could claim scientific legitimacy for their positions. The pressure exerted on science is revealed in the opening line of Dretske's essay: "At present the *need* for a monistic understanding of reality is one that is generally felt and that seeks expression through a variety of channels."³⁶ It would be more accurate to speak of "needs" here, as monism responded to multiple needs. Some of these needs were widely diffused and may be best approached through biographical and periodical literature, while some needs were organized in discrete formations of social dissent.

Investigations that take such needs into account will go beyond the usual methods of the history of scientific and philosophical ideas and view monism as a socially embodied, novel form of knowledge, best captured in the term worldview, i.e. one that is approached from any number of disciplinary systems, religious positions, social interests, or biographical histories. This understanding of monism allows historians to consider the conditions that accompanied the rise and survival not only of this particular worldview but of the project of worldview overall.

From “narrow” monism to a monist century

Worldviews make universal claims but leave discrete historical imprints. In the following, I survey the particular imprints of monism that have been revealed by recent scholars, including the authors of this volume. The provisional map that emerges of the various geographical, social, scientific or chronological locations of monism shows provide some contours to what may be seen as a monist century.

The origins of modern monism

Where does the history of modern monism begin? Certainly there was a strong monist current in German thought around 1800. Idealism, Naturphilosophie, and Romanticism all questioned assumptions of Cartesian philosophy and Newtonian physics, while contending with the epistemological dualism of Immanuel Kant’s model of human cognition. Key thinkers like Schelling, Goethe and Hegel drew heavily on the early modern monism of Baruch Spinoza and Giordano Bruno, but gave it a nineteenth-century historicist twist by adding the dimension of becoming, of evolution.³⁷ If dated from its emergence as a popular worldview, however, we can identify the 1840s as the starting point of what might be termed a “monist century.” It was then that a number of factors converged, leading to a qualitatively different monism, one which reached a mature expression in Haeckel’s first clear articulations of his monist theory in *General Morphology* of 1866.

The qualitative shift at mid-century can best be explained with reference to an antinomy identified already in 1721 by philosopher Christian Wolff. Whereas monists generally purport to have overcome the terms of the mind-body dualism with a neutral third term, Wolff noted that monists in fact tend to locate universal substance in one or the other: either the mind or the body, the soul or matter. Historians of philosophy have followed suit and generally differentiate between materialistic or naturalistic monism, on the one hand, and idealistic or spiritualistic monism, on the other.³⁸ According to Georgi Plekhanov, the founder of Russian Marxism and Lenin’s mentor, monism was a central aspect of all nineteenth century thought, but whereas the first half of the century “was dominated by *idealistic* monism,” “in its second half there triumphed *in science*—with

which meanwhile *philosophy* had been completely fused—*materialistic* monism, although far from always consistent and frank monism.”³⁹

There is ample evidence from the 1840s and 1850s to support Plekhanov’s claim that the turn from idealistic to materialist monism was accompanied by a second qualitative change. The chief field of the production of monism shifted, as philosophers and natural scientists alike looked to experimental science to answer philosophical problems. When Ludwig Feuerbach called for a humanist anthropology to replace Christian theology in *The Essence of Christianity* (1841), he not only reversed the predication of God and man, he called for the integration of the sciences of man, including biology, into philosophy. According to philosopher Friedrich Harms in 1845, however, rather the opposite was happening. Whereas Hegel had swallowed all of the sciences in his system, Harms feared that through Feuerbach’s anthropology “the experiential sciences would devour philosophy.”⁴⁰

Radical epistemological conclusions were also being drawn by empirical scientists. In the mid 1840s, a group of physiologists in Berlin, including Hermann Helmholtz, Rudolf Virchow and the young Emil du Bois-Reymond, demanded that scientists allow only mechanical explanations of life processes and exclude reference to outside forces inaccessible to the senses. This direct attack on the deductive methods of natural history and natural philosophy had wider implications as Virchow noted in lecture in Berlin in December 1846: “at a time when philosophy has turned to nature and to life, [...] medicine has discarded faith, quashed authority, and banned the hypothesis to domestic inactivity.”⁴¹

Monism and dissent

If scientists and philosophers were both moving towards monism in the 1840s, the real crucible of the formation of worldview was not in the halls of the university, but the public sphere. Popular science emerged as one important vector, as shown the enormous influence of Alexander von Humboldt’s *Kosmos* of 1845. As the world-famous Prussian biologist and explorer put it in his introduction, his aim in this work was to provide the reader with a “worldview” or a “general natural painting descending from the farthest nebulae and rotating double stars of the universe to the telluric phenomena of the geography of organisms (plants, animals and human races).”⁴²

To understand the emergence of naturalistic monism as a historical force in the 1840s and 1850s one must also consider its rooting in the dissenting religion and politics. In 1845 a significant number of Catholic, Protestant and Jewish dissenters broke off from their respective churches in the name of an anti-confessional rationalism. Within the space of ten years many came to embrace immanent conceptions of the divine and, already in 1852, the preacher of the Hamburg Free Congregation Karl Kleinpaul had described “our monist religion of nature” as the celebration of “the spirit in nature and the spirit in history.”⁴³ The key to understanding the adoption and dissemination of monism by Free Religion lay, as I have argued elsewhere, in the dynamic tension produced by religious schism and ecclesiastical and state persecution.⁴⁴

Just as London’s South Place Chapel and its Unitarian dissent formed the seedbed of British secularism, Free Religion lay the foundation for organized secularism in Germany. Constitutive of Free Religion, Freethought and the Monist League was the combination of anticlericalism and the propagation of a natural-scientific worldview. Even the socialist freethinkers, who in the 1920s and 1930s complained bitterly about the “bourgeois” monists and swore fealty to Marxism as the only legitimate socialist worldview, remained indebted to monism in their cultural work. Likewise the Free Religious groups that were allowed a niche existence in the anti-Christian German Faith Movement during the Third Reich transformed their monism into an immanent Germanic religion of blood.⁴⁵

If it had remained confined to secularist organizations, monism would constitute a footnote, however interesting, in German and European cultural and scientific history. One finds, however, a similar constellation of secularism and natural-scientific monism in a host of social and political movements that similarly took form in the 1840s. As historian Peter Caldwell has noted, some of the key German theorists of the revolution of 1848, men and women such as Moses Hess, Louise Dittmar, Gustav von Struve and Ludwig Feuerbach, took a keen interest in religious reform, natural scientific investigation and even dietary regimens alongside politics. Whereas later observers often found this combination to have been a deviation from true politics, the idea of a revolutionary role for biology, either in the form of scientific popularization or dietary praxis, makes perfect sense from a monist perspective.⁴⁶ The history of monism reframes

some of the period's better known intellectual movements of materialism and positivism. In many ways, these were monisms *avant la lettre*.

The connection between monism and radical dissent also help explain the centrality of monist rhetoric to social movements such as pacifism, early radical feminism and the homosexual rights movement, as well as the so-called life-reform movements.⁴⁷ All of these groups had in common the conviction that a dualistic illusion was being foisted on the unwitting population by the repressive forces of orthodoxy, whether in the churches, the state, the urban social elite or the universities. The utility of monism in dissent underscores the importance of understanding the role of sociological factors in the evolution of this particular form of knowledge.

One entry point into the sociological articulation of monism is the outcome of the debate between du Bois-Reymond and Haeckel, in which two scientific secularisms were on offer. 1872 was perhaps the high point of acceptance of empiricism and monism among German liberal circles, as witnessed by the popularity of that year's bestseller *The Old Faith and the New*. In this book the no longer young Hegelian David Friedrich Strauss made the case for abandoning Christianity in favor of naturalistic monism.⁴⁸ Despite the fact that monist thinkers like Haeckel and Strauss understood themselves to be supporting the dominant spirit of modernity, their version of secularism ultimately did not prevail. They won the heart of organized secularism but failed to define the secular order. Thus monism became, in fact, a heterodox voice.⁴⁹ In the defeat lay the key to its success as an ideology of dissent.

One of the recurrent tropes in elite condemnations of monism and organized secularism more generally, was that its leaders and followers were only "semi-educated" (*Halbgebildete*). This charge obfuscated the social threat represented by monism, as a systematic form of knowledge readily available to those with limited education. It is no accident that the rising crescendo of liberal critiques of monism and liberalism from the mid 1870s onwards coincided with the growing defection of the urban "half-educated," i.e. the ambitious lower-middle and working classes, from the liberal parties to Social Democracy. They took with them their materialistic monism and anticlericalism.⁵⁰

Monism, early feminism and the homosexual rights movement

Alongside the workers' movement, early German feminism provides another example of a dissenting movement of the "semi-educated" drawn to monism. In the nineteenth century elite humanistic learning was largely monopolized by the men who had access to the grammar schools (*Gymnasien*) and universities where the classics were taught.⁵¹ Women were generally self educated or obtained their educations in vocational colleges or lyceums, which often taught popular science. Monism offered women an alternative form of educational capital with which they could challenge traditional forms of learning, whether religious or humanistic.

In addition to the social leverage that empiricist knowledge offered the semi-educated, we must also recognize the specific way in which monist theories were appropriated by each form of dissent. Among the numerous letters of praise sent to Ernst Haeckel, there is a photograph of a woman from Portland, Oregon, who had written on the reverse: "One of the 1000's of young Women, whose minds are being emancipated by Haeckel's works."⁵² Here again is one of the surprises of monism. How could a thinker associated with social Darwinism, like Haeckel, have inspired feminist theory? Because biology is often invoked to fix sexual characteristics, many of today's feminists are critical of the role of popular biology and socio-biology in naturalizing relations of sexual domination.⁵³ In the late nineteenth century, however, monist biology provided feminists with a new epistemological foundation for grounding their own identity in the natural order and outside of moral-clerical discourse. The developmental, comparative biology advocated by Haeckel gave feminists a socio-biological framework that explained the commonly accepted constitutional inferiority of women as a consequence of environmental factors, in particular the familial, economic and religious structures of male domination. The same neo-Lamarckian theory of the inheritance of acquired characteristics that explained the social roots of supposed female deformations also offered a means to their amelioration. Hence we find that monist biology played a role in the rethinking of sexual identity and ethics by a host of feminist theorists, including Annie Besant and Constance Naden in Britain and the sexual reformers Helene Stöcker and Grete Meisel-Hess in Germany.⁵⁴

Another prominent sexual reformer active in the Monist League was the Berlin sexologist Magnus Hirschfeld, who is considered Germany's most important pioneer of homosexual rights. As Hirschfeld wrote to Haeckel in May 1912, he wished to place his empirical studies of sexuality "into the great connections of natural life."⁵⁵ Specifically, Hirschfeld placed homosexuality within a series of "intermediary sexual stages" that gave it a natural and therefore legitimate place within the totality of human sexuality.⁵⁶

A further incentive for the biologization of sexuality by dissidents was to remove it from the sphere of religion. Where science governed, Hirschfeld argued, the churches no longer had the right to impose moral edicts. In 1913 Hirschfeld celebrated that "the times have finally passed, in which theologians and jurists were nearly alone in leading discussion of questions of human sexual life," and that doctors and scientists were now stepping up who worked "on the only possible natural, biological-anthropological foundation."⁵⁷

Monist ethics

These examples of dissenting interpretations should not lead to the conclusion that monism had a single, leftwing political valence. Far from it. Adherents of naturalistic monism often took sides against one another. A chief flashpoint of the controversy was the implications of monism for ethics and Haeckel's own stance, in particular, elicited and continue to elicit great attention. His starting point bears some similarity to that of his contemporary, the self-avowed "Free Spirit" Friedrich Nietzsche. Both men believed that in the absence of a transcendental authority, ethics had to be refounded beyond Christian notions of good and evil. And, like Nietzsche, Haeckel proposed that ethics be guided by the question: what is good for life? However, where Nietzsche sought a "revaluation of all values" from the perspective of the individual's responsibility to his own life, Haeckel judged life from the point of view of the species or the race. Hence his ethics was most radical in its biological dimension, where it became tied up in the collective and eugenic possibilities of directed reproduction.

The debate over Haeckel's ethics has continued to dominate recent literature on monism. On the one hand, as already mentioned, Haeckel offered early German feminist and gay-rights movements a foundation for critiquing the traditional ethics of reproduction and homosexuality. On the other hand, Haeckel was an advocate of

imperialism, who applied natural selection to race relations. He justified the ongoing elimination of the Native Americans, by noting that those European settlers who bore culture (*Kulturvölker*) had a higher “life value” (*Lebenswert*) for the human species than the “natural races” (*Naturvölker*). Haeckel’s concept of “life value” was later picked up and used as a rationale in the Nazi Euthanasia program to kill the mentally and physically handicapped, whom they called “life unworthy of life.”⁵⁸

To decide the ethical debate for or against Haeckel misses a key point. “Left” and “right” eugenics rubbed shoulders, often quite literally, as shown, for example, in the brief participation of leading eugenicist Alfred Ploetz in Helene Stöcker’s feminist Mothers’ Protection Society. By applying scientific rationality to ethical decisions, monists could devalue human life, while at the same time claiming the mantle of the radical humanism from thinkers like Ludwig Feuerbach. Because the overall ethical legacy of monism remains a riddle that reveals no single logic, contextualization is crucial.⁵⁹

Monist aesthetics

Aesthetics was another area of inquiry where interesting interactions of idealist, spiritualist and materialist monisms manifested themselves. Alexander von Humboldt and Haeckel considered natural beauty a guarantee that the universe was an ordered meaningful totality, a cosmos. Hence they believed that the aesthetic faculty was crucial for the subjective assimilation of a naturalistic worldview. Naturalistic monism began to make a notable impact on literature in the 1880s, when the young English writer Constance Naden sought to explore the “land where Science and Poetry meet.” Her satirical poem “Scientific wooing” in the cycle “Evolutional Erotics” describes a young scholar who drops his studies to pursue love, only to find in love – and in poetry – the unity promised by science.⁶⁰ Here the artist-scientist entered into Nature’s own play of attraction. Typical of monists, Naden conceived of beauty as an integral part in the evolutionary process guided by sexual selection. Similar ideas were being explored in Germany by Naden’s contemporary Wilhelm Bölsche, a long-time confidant of Haeckel. At the start of his writing career in 1886, Bölsche issued a naturalist manifesto, in which he demanded that poetry subject itself to the new worldview provided by Darwin.⁶¹

By the time he helped found Germany's first monist club, the Giordano-Bruno Society for Unified Worldview, in 1900, Bölsche had published his influential *Lovelife of Nature*, a work linking the erotic life of animals with cosmic unity. He was also popularizing Gustav Fechner's psychophysical monism, through which he and other artists found a bridge between their natural scientific worldview and mysticism, spiritualism and other "irrational" practices. It was precisely in literary and life reform circles that the more radical implications of the monistic unconscious were explored. The naturalist avantgarde moved from the "spiritualization of the body" to the "incarnation of the soul."⁶²

Writer Julius Hart argued that a "new" and "supersensory seeing" could expand the "field of vision" of the mystical seer to reveal spiritual connections inaccessible to "philosophical schools and systems," which only saw only "half and quarter world pictures."⁶³ Hart, like Bölsche and Naden, sought to break down the distance between observer and the natural world through depictions of mystical unions based on the monist identity of subject and object.⁶⁴ Such unions were to be achieved, on the one hand, through exercises in imagined empathy with animate and inanimate nature.⁶⁵ On the other, the fin-de-siècle avantgarde advocated sexual love between humans as a key experiential means of awakening the panpsychic potential of the unconscious. Psychologist and writer Lou Andreas-Salome found in sexuality a "bodily memory (Gedächtnis)" and means of "reawakening" the "primeval."⁶⁶ Through pan-psychism and "evolutional erotics," monism could remain an underlying point of agreement between symbolist and expressionist artists and the naturalists, whose "materialism" they rejected.

The geography of monism

Historical geography has an important role to play in expanding our understanding of monism. International comparison is needed in order to reveal the geographic distribution of the varieties of monism as well as to help explain the movement's strength in Germany.⁶⁷ As the essays in this volume show, monism appeared in quite different constellations in Britain, Russia and Germany in the first third of the twentieth century. How are we to account for the weakness of naturalistic monism in the Britain and the relatively greater interest in spiritualistic monism there points to different intellectual traditions in Britain and Germany. Already in 1834 Heinrich Heine had claimed that

whereas materialism had pushed religion from philosophy in France and Britain, in Germany materialism drove God underground, where he reappeared in all matter as philosophical pantheism. Or, as Bertolt Brecht put it more succinctly, yet no less humorously, a century later: “the Germans have a poor aptitude for materialism. Where they get it, they immediately turn it into an idea.”⁶⁸

Looking beyond the role played by differences in national intellectual culture, the relative weakness of naturalistic monism in Britain and the US strengthens the argument made above about the importance of secularism and the enterprise of worldview in Germany. By the early 20th century, when monism was most popular in Germany, religion was not a central political issue in Britain or the United States. One American monist in 1913 lamented that because of the separation of church and state, American freethinkers were too complacent to organize an effective monist movement.⁶⁹ By contrast, there was an avid reception of German monism among the political left of Tsarist Russia, which like Germany saw itself as a confessional state.⁷⁰

Monism after 1918

Some studies have depicted the First World War as the abrupt endpoint of naturalistic monism.⁷¹ While this catastrophe did mark the end of the type of unalloyed monism championed by the likes of Haeckel and Ostwald and which has been aptly described as a technocratic fantasy of scientific elites,⁷² it may be that in hybrid form monism grew in importance after 1918. Of particular interest to scholars have been the interactions of monism with two key political worldviews of the interwar period: Marxism and National Socialism.⁷³ These interactions form the subject of the final essays in this volume, which, taken together, return us to the ambiguity, now in the political sphere, of Haeckel’s monism. Despite Haeckel’s racism and support of German imperialism, his own political views did not determine his intellectual legacy. The same man who defended the Darwinian “struggle for life” as an aristocratic principle inimical to social democracy could be eulogized as the “German Encyclopaedist” in the socialist *Vorwärts* amidst the postwar revolutionary upheaval of 1919: “What Diderot, d’Alembert, Voltaire once accomplished for the French, that should also be said to Haeckel’s honor: he was a path breaker of the intellectual German revolution.”⁷⁴

Two worldviews informed the radical socialist movement in Germany and Russia: naturalistic monism and Marxism, or scientific and dialectical materialism. Their relation was one of competition, but also of cooperation. The biographies of the leading German socialists like August Bebel, Karl Kautsky, and Walter Ulbricht show that these men had been exposed to naturalistic monism before they became Marxists.⁷⁵ Although the social democratic leadership rejected any official endorsement of monism or anticlericalism for strategic reasons, these remained key elements of worker culture. The rank and file saw no clear distinction between monistic materialism and what they called “socialist worldview.”

At the height of the church-leaving campaign in October 1913, Ostwald informed the German-American monist and professor of biology Jacques Loeb that the Monist League had entered into “a type of cooperation” with Social Democracy. He hoped to deliver the socialists “the theoretical underpinnings for the new content [...] that they will desperately need after the exhaustion of their Marxism.”⁷⁶ With few exceptions, however, socialists remained leery of the “bourgeois” monist movement and criticized Haeckel for ignoring class struggle and thus supporting the “dualism” of the capitalist system. Little enthusiasm was generated by the synthesis of Marxism and monism in the “dialectical nature-monism” that was promoted in pre-war Germany by followers of Joseph Dietzgen, an autodidact known as the great “worker-philosopher” of the German Socialist movement.⁷⁷

Quite a different constellation emerged in pre-war Russia. The “empirio-monism” of Ernst Mach had become so influential amongst leading Bolshevik intellectuals that Lenin devoted an extensive theoretical book to its refutation.⁷⁸ Nonetheless, after 1917 natural-scientific monism was granted a wide berth in the new regime. Soviet monism arguably reached its apogee when Trofim Lyssenko’s Neo-Lamarckian evolutionary theory was made the cornerstone of official biology. Monism was even viewed positively by Chinese communists, such as Mao Zedong, who told the visiting West German chancellor Helmut Schmidt in 1975 that his views had been shaped by four great German thinkers: Hegel, Marx, Engels and Haeckel.⁷⁹

The relationship to National Socialism remains one of the most controversial issues in the history of monism despite—and because of—the fact that relatively little research

has been undertaken on the subject. In one of the first major studies of naturalistic monism, Historian Daniel Gasman argued the case in 1971 that Haeckel's monism was a "prelude to the doctrine of National Socialism."⁸⁰ Although Haeckel's "guilt" for Hitler's worldview has been widely disputed, and despite the fact that the Nazis disbanded the leftwing Monist League in 1933, it would be wrong to assume that monism was irrelevant to the history of National Socialism.⁸¹ If a general definition of naturalistic monism is applied, monistic elements of Hitler's worldview can be identified. For despite his frequent invocations of "the Almighty" and his "idealism" in speeches excoriating contemporary Germany for its submission to myriad forms of "materialism," when Hitler spoke more systematically, his conception of worldview proved to be naturalistic and monistic. At the height of the "Church Struggle" he stated: "Never before have the spiritual aims and direction of the will of our nation been so identical with the natural obligations to political self assertion as they are today. Never before for the German people has worldview been so identical with the eternal laws of nature and thus with the nation and its conditions of life."⁸² Pope Pius XI condemned Nazi monism in his 1937 encyclical "mit brennender Sorge" with the warning that "[w]hoever identifies, by pantheistic confusion, God and the universe, by either lowering God to the dimensions of the world, or raising the world to the dimensions of God, is not a believer in God."⁸³

Isaiah Berlin and Tzvetan Todorov are two political philosophers, who have employed monism as a synonym for totalitarianism to describe the antipluralistic and organicist essence of both by National Socialism and Soviet Communism. Although Todorov notes that both regimes shared a "cult of science," he, like Berlin, has used monism purely as an analytical category divorced from the tradition of naturalistic monism that would have been familiar to Soviet and German scientists in the 1930s and 1940s.⁸⁴ Clearly, the historical monism under consideration here could not be credited with such tremendous influence. As the essays in this volume demonstrate, each regime curtailed the development of overt monist movements. Nonetheless, National Socialism and Stalinism were worldview dictatorships that operated under conceptions of worldview that shared monistic assumptions. Under the umbrella of these assumptions, individuals and groups continued to elaborate theories building on naturalistic and spiritualistic monism more narrowly defined.⁸⁵

1945: The end of a monist century?

One of the issues discussed at the conference in Belfast was when and if monism ceased to be an intellectual, social and scientific movement of broad historical influence. Depending on the aspect of monism under consideration, different endpoints or transformations were put forward. Some forms of monism continued to evolve throughout the twentieth century. One such example is offered by spiritualistic monism. In the 1945 publication *Vedanta for the Western World*, the British writers Aldous Huxley and Christopher Isherwood invited Western intellectuals to embrace Indian philosophy precisely because its monism provided the “minimum working hypothesis” for spiritual research in a scientific age. This publication formed a bridge between earlier spiritualistic monism and the future New Age movements that would emerge in the new Californian home of two exiles.⁸⁶

In the case of West Germany, however, it can be argued that the monist century ended in the wake of the Second World War. Between 1945 and 1949 the framework broke down that had sustained interest in worldview and secularism over the previous century. National Socialism and Communism had discredited the political project of unity around worldview and the broad appeal of the “Christian West” as a program of moral rebuilding and European integration led to an end to political anticlericalism. Furthermore, the British and Americans who occupied Western Germany were decidedly hostile to worldview.

The situation in East Germany was quite different. The communist state resuscitated elements of monism, when it reintroduced the Free Religious youth confirmation ceremony or *Jugendweihe* as its central state rite. Yet, although it became embedded in the cultural policies and popular science of East Germany, state monism, like Marxism-Leninism, eventually fell victim to secularization. Long before the demise of the post-Stalinist state, the aura faded from the project of worldview.⁸⁷

Today we are experiencing something of a renewed monist convergence that extends well beyond the interactions of neuroscience and the humanities mentioned at the beginning of this essay. Monism appears resurgent in popular science, where Richard Dawkins has captured the public spotlight with his raids from natural science across the neo-Kantian firewall and into the realms of culture and religion. The New Age contains

many monistic elements. Spinoza and his concept of conatus, i.e. the drive for self-preservation expressed in all life action whether thought or metabolism, are exerting a powerful fascination on some radical social theorists, who find in them an immanent ontological foundation that can serve as site of resistance to social construction.⁸⁸ Arguably, dissent and the persuasive force of natural scientific metaphor, are again presenting themselves as shared features of many of these articulations of monism. However, despite the reappearance of some familiar combinations, contemporary varieties of monism are no longer embedded in structures and assumptions about worldview that sustained monism between 1845 and 1945.⁸⁹ They appear rather as goods in a secular marketplace of religious ideas. For not just religions but also worldviews have become untethered in our ‘secular age’.

Summary

This introductory essay has sought to demonstrate how monism as a form of knowledge connected natural science with the social tensions and religious questions of its century. Haeckel was acutely aware of this connection. In *Riddle of the Universe*, he described “an uneasy sense of dismemberment and falseness” felt by liberal intellectuals as the signature of the age.⁹⁰ He intended naturalistic monism as a solution to this malaise. On the level of metaphysics, monism sought to eliminate the notion of transcendent mind or deity but reclaim transcendence in the immanent material world by declaring the unity of all being. In contrast to earlier philosophical monism, modern naturalistic monism argued that this totality was not speculative supposition, but an empirically verifiable scientific theory. On the level of epistemology, naturalistic monism proposed the eradication of disciplinary boundaries and the unification of all branches of knowledge, including the sciences of culture, under a sole natural-scientific theory. In terms of social organization, monism stood for the amelioration of all social conflicts through the application of scientific rationality.

In this light, monism offered itself as a solution to what Georg Lukács famously termed the “transcendental homelessness” of modernity. However, when we shift perspective and view monism relationally as a form of knowledge instantiated in specific historic conflicts, it is monism itself that appears homeless. Rather than redefining

science, monism was defined by the enticements and resistances offered at the boundaries it sought to transgress. Biographically, monism proved attractive to individuals with mystical, heretical or antiauthoritarian dispositions, to ambitious individuals in marginal positions, and to those subject to discrimination. It was carried into a myriad of dissenting movements that were challenging social, religious and cultural boundaries, where the transgressive, secularist aspects of monism could be leveraged. In the field of science, the monist efforts to colonize other domains of knowledge contributed to a “conflict of the faculties.” Although it provided a research agenda, monism developed an uncomfortable relationship to natural science itself. Operating more in the realm of popular than academic science, monism proved to be homeless in a disciplinary sense. It took the guise of philosophy, religion, science without belonging properly to any one. It sometimes eluded scientific rationality, in whose name it operated, in order to serve as the basis for worldview. The “world riddles” functioned simultaneously as foundational pillars of this worldview and as shibboleths dividing it from its competitors. As such, the world riddles are a fitting entry point for exploring the riddles of monism.

The essays in this volume

The naturalistic monism of Ernst Haeckel forms the central point of reference, but also a common point of departure for the essays of this volume. They push our understanding of monism beyond its “narrow” history as a development within late nineteenth century natural science in Germany. The first two essays examine the prehistory of Haeckel’s monism. **Frederick Gregory** opens up what he calls the transition from idealistic to naturalistic monism that occurred in the second third of the nineteenth century. His essay compares the proto-monism of philosopher F.W.J. Schelling and theologian Friedrich Schleiermacher with the innovations of thinkers like Ludwig Feuerbach and David Friedrich Strauss.

Nicolaas Rupke draws in the social context of the emergence of naturalistic monism through his analysis of the reception of Alexander von Humboldt’s *Kosmos* (1845), which was an immensely popular attempt to write a natural history of the universe as a meaningful and organized unity. Though *Kosmos* was heralded as a milestone in the formation of monist worldview, Rupke argues that it was largely

political leftists and pantheist preachers in the 1850s and 1860s who turned Humboldt into a monist prophet and a Darwinist *avant la lettre*.

The next two essays show that, although dominant, Haeckel's was not the only monism on offer in the late nineteenth century. The development of eclectic spiritualistic philosophies were one such monist alternative, and as **Gauri Viswanathan** shows in her essay, leading theosophists were articulated their philosophy against naturalism. While the movement's leader Helene Blavatsky called scientific materialism "bastard monism," her follower Annie Besant reveals a more ambiguous relationship towards naturalism. Besant had been England's second most famous atheist after Charles Bradlaugh in the 1870s, and, had, like him, embraced naturalistic monism at that time. While her conversion to theosophy in the 1880s represented an abrupt change in her position on naturalism, Besant retained her monism. As an antimaterialist philosophy with a secularist, immanent conception of the divine, theosophy merged monistic evolutionary thinking with elements of Indian philosophy and esoteric sources. In her essay, Viswanathan reveals how Besant and the other female writers and reformers articulated an ethical critique of masculine materialist science through their theosophically informed opposition to vivisection.⁹¹

The writings of Baruch Spinoza provided the essential philosophical foundation of nineteenth-century monism, yet, as **Tracie Matysik** demonstrates in her essay, the reception of the Dutch philosopher led to divergent forms of naturalism. Her point of entry is Wilhelm Dilthey's attempt to liberate Spinoza from interpolations that ascribed to him a vitalistic understanding of nature more properly applicable to the monistic systems of Giordano Bruno and Shaftesbury. The mechanistic and vitalistic variations had, Matysik argues, important ethical implications that became apparent in the twentieth century.

We cannot look to Haeckel if we wish to understand how monism impacted natural scientific research during the heyday of monist organizing in the first decades of the twentieth century. By the time *The Riddle of the Universe* appeared in 1899, Haeckel's days as an active scientist were essentially behind him and his hylozoistic philosophy had changed little since its original formulation in 1866.⁹² To explore the impact of monism

on science in the first half of the twentieth century, the third pair of essays examines a younger generation of scientists.

Sander Gliboff examines efforts by Haeckel's acolytes—Paul Kammerer, Richard Semon and Ludwig Plate—to defend and further substantiate Haeckel's monistic evolutionary theory in the early twentieth century. Kammerer's work on the inheritance of acquired characteristics and Semon's theory of a biological memory have generally been interpreted as prime examples of the overdetermination of Haeckelian biology by worldview. Semon's work was not widely accepted despite positive reviews by the "neutral monist" Bertrand Russell, and Kammerer's career ended in a more spectacular fashion, when after being accused of manipulating his research data in 1926, he committed suicide.⁹³ Against the typical reading, Gliboff argues that adherence to monist worldview and participation in monist organizations did not necessarily make monism less "scientific" or more ideological than competing biological paradigms of its day. He uses Ludwig Plate as a counter example. Plate's Darwinian orthodoxy helped him become Haeckel's successor in Jena, though he later successfully jettisoned affiliation with the monist movement, when it might have damaged his career.

Like Gliboff, **Paul Ziche** challenges the view of many historians of science that commitment to worldview led monists to be out of touch with developments in twentieth century science. Ziche focuses on one aspect of Wilhelm Ostwald's wide monist oeuvre, his work on the unification of the sciences. Against accounts that have correlated Ostwald's turn to monism to his marginalization as a scientist,⁹⁴ Ziche shows that Ostwald's effort to reorganize the sciences was compatible with the much wider and well-respected unity of science movement that continued into the 1930s to 1950s in the work of Rudolf Carnap and Otto Neurath.⁹⁵

Gliboff and Ziche open up new territory with their studies of the place of monism in twentieth-century natural science by showing that monism could also form the framework for research that was innovative despite, or because, of the worldview interests of the scientists. In this vein, historian of science Robert Bud has argued that the monist interests of his mentors provided the young Francis Crick with a research agenda that started him on the path to the discovery of DNA in 1953.⁹⁶ Similarly, the monist

commitments of physiologists and philosophers like Ernst Mach and Richard Avenarius led to theoretical work on cognition that continues to be influential to this day.

The last three essays open up a subject in the history of monism about which we know least, that is, how prewar monism developed further in 1920s and 1930s, the decades in which the conflicts between rival worldview regimes reached their ideological highpoint. Focusing on Britain, Russia and Germany respectively, the essays provide a basis for comparative analysis.

In his essay on British popular science, **Peter Bowler** finds that the dissemination of naturalistic monism concentrated, as it did in Germany, in the currents of leftist dissent. The term monism itself failed, however, to be embraced by the workers' education movement, in part due to the strength of idealistic and spiritualistic monisms in Britain. One exception was the English geneticist and science popularizer J.B.S. Haldane, who declared himself to be a monist in 1932, at a time when he came to embrace communism as well.⁹⁷

Igor Polianski charts the fate of two-fold monism in Tsarist Russia and the early Soviet Union. First he revisits the heated polemic of 1908 between the leading Bolsheviks Vladimir Lenin and Alexander Bogdanov. The latter's empirio-monism stood in stark contrast to the monism of most German socialists, who embraced Haeckel's materialism. Bogdanov and his allies argued that the unity of mind and matter led not just to a rejection of idealism, but to a rejection of the simple empiricism underlying Haeckel's materialism as well. While Bogdanov was defeated and his philosophy subordinated to Marxism, monism led a flourishing existence in various "niches" in the Soviet Union, including the biological sciences and medicine, as well as anticlerical action and popular science.⁹⁸

Establishing the relationship between the general "monistic" thrust of National Socialism and the specific tradition of monism proper presents a serious methodological challenge, given the disparate origins of National Socialist thinking. In his essay, **Heiner Fangerau** has found an elegant solution to this challenge through a comparative examination of those biologists who identified with monism and those who developed the field of racial hygiene. Fangerau shows that while the mechanistic predilections and political commitments of its advocates made monistic biology unpalatable to National

Socialists, it nonetheless shared a common epistemological framework with racial hygiene.

Taken together, the essays of this volume reveal some of the key tensions around which modern monist positions were articulated. Thus the rivalry between idealistic and naturalistic monisms in early nineteenth century Germany is relevant for understanding the definition of the term in early twentieth century Britain. We gain a better understanding of the varieties of naturalistic monism, if we consider how the mechanistic and vitalistic interpretations of Spinoza resonate with mechanistic and organicist preconceptions among German natural scientists. Bogdanov's philosophy shows that "neutral monism" had continuing appeal, but lacked popular articulation. Finally, among both theosophists and the early popularizers of Humboldt, we see the dynamics created when religious and political dissenters contest scientific authority and its monopoly on the cultural interpretation of Nature.

The following essays will likely take the reader into unfamiliar areas of research. Because the riddles of monism still have much to offer scholars interested in the history of modern science, philosophy, religion and politics, this book is meant as an opening rather than a culmination of this research.

¹ This essay was composed during my sabbatical leave from Queen's University Belfast, while I was a fellow at the Simpson Center for the Humanities at the University of Washington. I would like to thank Center's director, Katherine Woodward, and my interlocutors in Seattle, who have included Charles LaPorte, Michael Rosenthal and John Toews. For useful comments on earlier versions of this paper, I would like to thank my colleagues in the Queen's research group "Religion in Modernity" Eric Morier-Genoud, Veronique Altglas and Matthew Wood, as well as Tracie Matysik, Igor Polianski and Andreas Daum, who joined me on conference panel on monism in 2009. Particularly helpful suggestions were made by Suzanne Marchand.

² "Das Manifest: Elf führende Neurowissenschaftler über Gegenwart und Zukunft der Hirnforschung," *Gehirn und Geist*, no. 6 (2004): 34. Daniel Dennett, "Appraising Grace: What evolutionary good is God," *The Sciences*, 37, no. 1 (1997): 39.

³ Two recent books linking affect theory and cultural studies are Patricia Ticineto Clough with Jean Halley, *The Affective Turn: Theorizing the Social* (Durham: Duke UP, 2007) and Brian Massumi, *Parables for the Virtual: Movement, Affect, Sensation* (Durham: Duke UP, 2002). The quotation on the brain as an object of historical inquiry is taken from Daniel L. Smail, *On Deep History and the Brain* (Berkeley, Los Angeles, London: UC Press, 2008), 8. An insightful critique of the shortcomings of Smail's approach is provided by William H. Reddy, a leading scholar in the history of emotions, in his review

essay “Neuroscience and the Fallacies of Functionalism,” *History and Theory* 49 (October 2010): 412-425.

⁴ Jürgen Habermas, “The Language Game of Responsible Agency and the Problem of Free Will: How Can Epistemic Dualism be Reconciled with Ontological Monism?” *Philosophical Explorations* 10, no. 1 (2007): 13-50. Two recent avowals of a new monism in the sciences have been made by the socio-biologist E. O. Wilson and the philosopher of biology Michael Ruse. In 2000, Wilson claimed that over the prior two decades the gap between literary and scientific cultures had been closing and that the neurosciences, genetics, and evolutionary psychology mark borderland disciplines that were leading towards a unity of science. Edward O. Wilson, “How to Unify Knowledge,” in *Unity of Knowledge : the Convergence of Natural and Human Science*, ed. Antonio Damasio (New York: New York Academy of Sciences 2001), 13. Ruse stated that “[m]ost philosophers and scientists today are inclined to monism rather than to dualism.” Michael Ruse, *The Evolution Wars* (New Brunswick, NJ: Rutgers UP, 2001), 200.

⁵ Four monographs on Haeckel have appeared between 2005 and 2008 alone. The most important are Robert Richards, *The tragic sense of life : Ernst Haeckel and the struggle over evolutionary thought* (Chicago: University of Chicago Press, 2008) and Sander Gilboff, *H. G. Bronn, Ernst Haeckel, and the Origins of German Darwinism* (Cambridge, Mass.: MIT Press, 2008).

⁶ The term monism was used in histories of religion, for instance to celebrate mankind’s breakthrough to its first unified worldview via monotheism or to characterize the threat of Gnosticism. The conservative Lutheran Friedrich Julius Stahl favorably compared the “monism” of Protestantism to the “dualism” of Catholicism, while another advocate of the “Christian State” argued that the Prussian unity of church and state was a “the proper monism of our Christian national life” and superior to the dualism of a secular state. Friedrich Julius Stahl, *Die gegenwärtigen Parteien in Staat und Kirche*, 2 ed. (Berlin: Wilhelm Hertz, 1868), 363; August Petersen, “Zur Lehre von der Kirche. Eine Replik,” *Litterarischer Anzeiger für christliche Theologie und Wissenschaft überhaupt*, no. 31 (18 May), 32 (23 May) (1844): 243. One of Hegel’s students, the legal scholar Karl Friedrich Goeschel, published a work in 1832 entitled *Der Monismus des Gedankens* (The Monism of Thought). On Hegel’s logic as a “monism” or better a “pantheism.” Johann Eduard Erdmann, “Französische Werke über die Philosophie,” *Allgemeine Literatur-Zeitung*, no. 99 (May) (1849): 792.

⁷ Haeckel’s “biogenetic law” and recapitulation theory more generally came under sustained attack in the twentieth century. However, recent interest in epigenetics and evolutionary development have placed his work in a more positive light.

⁸ Ernst Haeckel, *Generelle Morphologie der Organismen*, vol. 2 (Berlin: Reimer, 1866), vol. II, 450. Ernst Haeckel, *Natürliche Schöpfungsgeschichte*, 7th ed. (Berlin: G. Reimer, 1879).

⁹ On the European Freethought movements see: Jacqueline Lalouette, *La Libre Pensée en France, 1848-1940* (Paris: Albin Michel, 1997). Guido Verucci, *L’Italia laica prima e dopo l’Unità* (Rome-Bari: Laterza, 1996); Jochen-Christoph Kaiser, *Arbeiterbewegung und organisierte Religionskritik: proletarische Freidenkerverbände in Kaiserreich und Weimarer Republik* (Stuttgart: Klett-Cotta, 1981).

¹⁰ The most comprehensive history of the Monist League has been written by Rosemarie Nöthlich et al., “Weltbild oder Weltanschauung? Die Gründung und Entwicklung des Deutschen Monistenbundes,” in *Jahrbuch für Europäische Wissenskulturr*, ed. Heiko Weber and Maurizio Di Bartolo, vol. 3 (Stuttgart: Steiner, 2007), 19-68. See also, Richard Weikart, “‘Evolutionäre Aufklärung’? Zur Geschichte des Monistenbundes,” in *Wissenschaft, Politik und Öffentlichkeit: von der Wiener Moderne bis zur Gegenwart*, ed. Mitchell Ash (Vienna: WUV Universitätsverlag, 2002), 131-148; Gangolf Hübinger, “Die monistische Bewegung. Sozialingenieure und Kulturprediger,” in *Kultur und Kulturwissenschaften um 1900* (Stuttgart: Steiner, 1997), 246-259; Volker Drehsen and Helmut Zander, “Rationale Weltveränderung durch ‘naturwissenschaftliche’ Weltinterpretation? Der Monistenbund - eine Religion der Fortschrittsgläubigkeit,” in *Vom Weltbildwandel zur Weltanschauungsanalyse. Krisenwahrnehmung und Krisenbewältigung um 1900*, ed. Volker Drehsen and Walter Sparr (Berlin: Akademie Verlag, 1996).

¹¹ One of the first major public events of the League was the 1907 debate in Berlin with the Jesuit entomologist Erich Wasmann. See Prof. Dr. L. Plate, *Ultramontane Weltanschauung und moderne Lebenskunde Orthodoxie und Monismus. Die Anschauungen des Jesuitenpaters Erich Wasmann und die gegen ihn in Berlin gehaltenen Reden*. (Jena: Fischer, 1907). On the resurgence of Kulturkampf in the period between 1906 and 1914, see Helmut Walser Smith, *German Nationalism and Religious Conflict. Culture, Ideology, Politics 1870-1914* (Princeton: Princeton UP, 1994).

¹² Arthur Drews, *Berliner Religionsgespräch: Hat Jesus gelebt? Reden über ‘Die Christusmythe’ gehalten am 31. Januar und 1. Februar von Prof. Dr. Arthur Drews* (Berlin: Verlag des Dt. Monistenbundes, 1910). On the Kirchnaustritt movement, see Jochen-Christoph Kaiser, “Sozialdemokratie und ‘praktische’ Religionskritik. Das Beispiel der Kirchnaustrittsbewegung 1878-1914,” *Archiv für Sozialgeschichte* XXII (1982): 263-298. On the participation of monists in this movement, see Todd Weir, “The Fourth Confession: Atheism, Monism and Politics in the ‘Freigeistig’ Movement in Berlin 1859-1924” (PhD, Columbia University, 2005), 515-545.

¹³ A biting critique of Ostwald’s theory was penned by Max Weber, “‘Energetische’ Kulturtheorien,” in *Gesammelte Aufsätze zur Wissenschaftslehre* (Tübingen: Mohr, 1988): 400-426. For historical treatments of Ostwald’s monism, see Eckard Daser, *Ostwalds Energetischer Monismus* (Constance: PhD Dissertation, 1980); Britta Görs, Nikolaos Psarros, and Paul Ziche, eds., *Wilhelm Ostwald at the Crossroads Between Chemistry, Philosophy and Media Culture* (Leipzig: Leipziger Universitätsverlag, 2005).

¹⁴ *Das monistische Jahrhundert* (The Monist Century), the League’s journal declared in April 1913 that “[a]ccording to its understanding of monism not only as a method of thought and life but also as a cultural goal,” the journal has “not limited itself to natural science and natural philosophy—the basis of our worldview—by has systematically attempted to incorporate one realm of life after another into its work. Monism appears more and more as the organizing principle of all practical cultural work, even if the inner connections between thought and action, between science and economics, between ethics, technology and politics are not clear in the general consciousness, also not among all monists.” *Das monistische Jahrhundert. Zeitschrift für wissenschaftliche Weltanschauung und Weltgestaltung*, volume 1, 5 April 1913.

¹⁵ Two monists who drifted into völkisch circles were Max Maurenbrecher and Otto Gramzow. Maurenbrecher was a Protestant pastor, who joined the SPD in 1903 and became a Free Religious preacher and monist in 1907, only to reject these causes during the war, when he joined the ultra-right Fatherland Party and reentered the Protestant clergy. After the war he preached a Nietzschean-Christian synthesis and antisemitism. Gramzow was a philosopher of worldview, who after conversion to völkisch nationalism during the war became embroiled in a losing struggle in 1926 for control of Berlin's premier popular scientific institution, the Humboldt Hochschule. Gramzow was able to assume control with the help of the National Socialists in 1933. On Maurenbrecher, see Justus Ulbricht, "Kulturrevolution von Rechts. Das völkische Netzwerk 1900-1933," in *Nationalsozialismus in Thüringen* (Cologne: Böhlau, 1995), 29-48. On Gramzow, Dr. Oskar Stillich, *Die Humboldt-Hochschule am Scheideweg! Eine Denkschrift an die Dozenten und Hörer* (Berlin: Hensel & Co., 1926). Landesarchiv Berlin, B Rep. 042, Nr. 26111, nos. 186, 229, 243.

¹⁶ On Ossietzky's monism, see Dieter Fricke, "Ossietzky und der Monismus," in *Carl von Ossietzky und die politische Kultur der Weimarer Republik*, ed. Gerhard Kraiker (Oldenburg: Bibliotheks- und Informationssystem der Universität Oldenburg, 1991), 123-146.

¹⁷ Alfred Kelly, *The Descent of Darwin* (Chapel Hill: UNC Press, 1981), 25.

¹⁸ Emil du Bois-Reymond, "The Limits of our Knowledge of Nature," *The Popular Science Monthly* V, no. May (1874): 17-32, quotation 17.

¹⁹ Emil du Bois-Reymond, "The Limits of our Knowledge of Nature."

²⁰ Emil Heinrich Du Bois-Reymond, "Die sieben Welträthsel," in *Reden von Emil Du Bois-Reymond*, vol. 1 (Leipzig: von Veit & Co., 1886): 381-411, on Haeckel as the "Prophet of Jena" 388-389, 396. On the echo of the "Ignorabimus" in German science and culture, see the essays in Kurt Bayertz, *Weltanschauung, Philosophie und Naturwissenschaft im 19. Jahrhundert: vol. 3, Der Ignorabimus-Streit* (Hamburg: Meiner, 2007) and Hermann Lübbe, "Wissenschaft und Weltanschauung: Ideenpolitische Fronten im Streit um Emil Du Bois-Reymond," in *Die Aufdringlichkeit der Geschichte: Herausforderung der Moderne vom Historismus bis zum Nationalsozialismus*, ed. Hermann Lübbe (Graz, Vienna and Cologne: Styria, 1989), 257-274.

²¹ Ernst Haeckel, with a preface by Thomas Henry Huxley, *Freedom in Science and Teaching* (New York: Humboldt Pub. Co., 1888).

²² Ernst Haeckel, *The Riddle of the Universe at the Close of the Nineteenth Century* (New York, London: Harper & Brothers, 1900).

²³ In 1894 the philosopher Wilhelm Windelband developed the opposition of nomothetic and idiographic science. The former pursue general laws, i.e. natural science, the latter historical explanation, i.e. the "Geisteswissenschaften." The philosopher Heinrich Rickert further elaborated this idea, stating that cultural sciences were concerned with value, while natural science was concerned with laws. Herbert Schnädelbach, *Philosophie in Deutschland 1831-1933* (Frankfurt a. M.: Suhrkamp, 1983): 77-79. Stephen Gould, "This View of Life: Nonoverlapping Magisteria," *Natural History* 106, no. 2 (1997): 16-22.

²⁴ Ernst Haeckel, *Monism as Connecting Religion and Science: the Confession of Faith of a Man of Science* (London: A. and C. Black, 1895).

²⁵ Ernst Haeckel, *Kristallseelen: Studien über das anorganische Leben* (Leipzig: Alfred Kröner, 1917).

²⁶ Katherine Arens, *Structures of Knowing: Psychologies of the Nineteenth Century* (Dordrecht: Kluwer, 1988).

²⁷ Haeckel's monism was not an isolated development in biological thought. Vitalism, Gestalt psychology, and other schools of thought also sought holistic explanations of discrete biological phenomena. Like Haeckel, who invented the work ecology, they advanced environmental theories. See Anne Harrington, *Reenchanted Science: Holism in German Culture from Wilhelm II to Hitler* (Princeton: Princeton UP, 1996).

²⁸ Arthur Drews, "Vorwort" and "Die verschiedenen Arten des Monismus," in *Der Monismus : dargestellt in Beiträgen seiner Vertreter* (Jena: E. Diederichs, 1908), vi-vii, 1-46.

²⁹ Ernst Troeltsch's insightful commentary on freethinkers can be applied to monists as a whole: "The characteristic feature of free-thought, as distinguished from modern science, properly so called, is its pervading sense of an axiomatic unity amongst its adherents, based upon the assumption of certain self-consistent, universally binding, and 'natural' truths. The sociological aspect of ethical and religious thought manifests itself here in the assumption – 'natural' and self-evident' that all independent thinkers will inevitably arrive at the uniformity in their convictions and modes of thought. On the foundation of natural religion arises, so to speak, a 'natural' Church of free-thinkers." Ernst Troeltsch, "Free-Thought," in *Encyclopaedia of Religion and Ethics* (New York: Scribner and Sons, 1908): 120-124.

³⁰ See Gregory's essay in this volume.

³¹ Herbert Schnädelbach, "Weltanschauung," in *Lexikon zur Geschichte und Politik im 20. Jahrhundert* (Cologne: Kiepenhauer & Witsch, 1971), 842-43; Andreas Daum, "Das versöhnende Element in der neuen Weltanschauung: Entwicklungsoptimismus, Naturästhetik und Harmoniedenken im populärwissenschaftlichen Diskurs der Naturkunde um 1900," in *Vom Weltbildwandel zur Weltanschauungsanalyse. Krisenwahrnehmung und Krisenbewältigung um 1900*, ed. Volker Drehsen and Walter Sparr (Berlin: Akademie Verlag, 1996), 203-216; Herbert Schnädelbach, "Der Blick aufs Ganze. Zur Optik der Weltanschauung," in *Philosophie in der modernen Kultur, Vorträge und Abhandlungen*, ed. Herbert Schnädelbach (Frankfurt a.M., 2000), 150-162.

³² Walter Benjamin, "Theses on the Philosophy of History," in *Illuminations: Essays and Reflections* (New York: Schocken, 1969): 253-264.

³³ Recent examples of work on "political religion" include: Hans Maier and Michael Schäfer, *Totalitarismus und Politische Religionen: Konzepten des Diktaturenvergleiches* (Paderborn: Schönigh, 1997); Michael Burleigh, *Earthly Powers: The Clash of Religion and Politics in Europe from the French Revolution to the Great War* (New York: HarperCollins, 2005). For a critical review of this literature: Wolfgang Hardtwig, "Political Religion in Modern Germany: Reflections on Nationalism, Socialism and National Socialism," *GHI Bulletin* 28 (2001): 3-27.

³⁴ Jürgen Habermas, "The Language Game of Responsible Agency"; Fritz Mauthner, "Monismus," in *Wörterbuch der Philosophie: Neue Beiträge zu einer Kritik der Sprache*, vol. 2 (Leipzig: Felix Meiner, 1924): 338-357; Walter Nigg, *Geschichte des religiösen*

Liberalismus: Entstehung - Blütezeit - Ausklang (Zurich and Leipzig: Max Niehans, 1937), 367.

³⁵ Ludwik Fleck, *Entstehung und Entwicklung einer wissenschaftlichen Tatsache: Einführung in die Lehre vom Denkstil und Denkkollektiv* (Basel: Benno Schwabe, 1935), 121.

³⁶ Drews, "Der Monismus," 1.

³⁷ Jakob Stern, a former rabbi who went on to become an influential monist in the Social Democratic camp, noted that while Spinoza's concept of the conatus, the drive for self-preservation made his system dynamic, it was thinkers like Hegel and Schelling, who made a significant correction by introducing the idea of "continual development" into the picture. These statements were made in Stern's additions to the book he edited: Albert Schweigler, *Geschichte der Philosophie im Umriss* (Leipzig: Reclam, 1889), 470.

³⁸ Christian Wolff, *Vernünfftige Gedanken*; Rudolf Eucken, "Monism," in *Encyclopaedia of Religion and Ethics*, ed. James Hastings (New York: Scribner and Sons, 1908-1926), 809; "Monismus" in Horst Robert Balz et al, eds. *Theologische Realenzyklopädie*, Vol. 23 (Berlin: W. de Gruyter, 1994), p. 213.

³⁹ G. Plekhanov, *The Development of the Monist View of History*, trans. Andrew Rothstein (Moscow: Foreign Languages Publishing House, 1956 [1895]), p. 15.

⁴⁰ Friedrich Harms, *Der Anthropologismus in der Entwicklung der Philosophie seit Kant und Ludwig Feuerbachs Anthroposophie* (Leipzig: Otto Wigand, 1845), 204, 10. Confirming Harms's predictions, in 1848 Feuerbach now claimed that theology was not just anthropology, but "anthropology plus physiology." Cited in Van Harvey, "Ludwig Feuerbach and Karl Marx," in *Nineteenth Century Religious Thought in the West*, Ninian Smart, et al. eds., vol. 1 (Cambridge: Cambridge University Press): 291-328, 314.

⁴¹ David Galaty, "The Philosophical Basis of Mid-Nineteenth Century German Reductionism," *Journal of the History of Medicine* 29, no. July (1974): 300. Virchow cited in: Constantin Goshler, *Rudolf Virchow: Mediziner, Anthropologe, Politiker* (Cologne: Böhlau, 2002), 46.

⁴² Alexander von Humboldt, *Kosmos: Entwurf einer physischen Weltbeschreibung*, vol. I (Stuttgart, Tübingen: Cotta, 1845), xii, iv, xiii

⁴³ Karl Kleinpaul, "Die philosophische Naturreligion," *Neue Reform* (1852), 515. I would like to thank Peter Ramberg for locating this early usage of "monism" by the Free Religious.

⁴⁴ Todd Weir, "Towards a History and Sociology of Atheist Religious Community: The Berlin Free Religious Congregation 1845-1921," in: *Die Gegenwart Gottes in der Modernen Gesellschaft*, eds. Lucian Hölscher, Michael Geyer (Göttingen: Wallstein 2006): 197-229.

⁴⁵ On the organized secularist movement in Germany, see Horst Groschopp, *Dissidenten. Freidenkerei und Kultur in Deutschland* (Berlin: Dietz, 1997); Frank Simon-Ritz, *Die Organisation einer Weltanschauung: die freigeistige Bewegung im Wilhelminischen Deutschland* (Gütersloh: Kaiser, 1997); Todd Weir, "The Fourth Confession". For the legacy of secularism in the Nazi period, see the essays by Ulrich Nanko, "Das Spektrum völkisch-religiöser Organisationen von der Jahrhundertwende bis ins 'Dritte Reich'" and Matthias Pilger-Strohl, "Eine deutsche Religion? Die freireligiöse Bewegung - Aspekte ihrer Beziehung zum völkischen Milieu," in *Völkische Religion und Krisen der Moderne*:

Entwürfe "arteigener" Glaubenssysteme seit der Jahrhundertwende (Würzburg: Königshausen & Neumann, 2001): 208-226; 342-366.

⁴⁶ Caldwell, by contrast, sees in the eclecticism of the Feuerbachian radicals the "birth of politics neither from pure reason nor from theology, but from the contradictory, scattered pieces of an antiliberal, antiformal counterculture." *Love, Death, and Revolution in Central Europe: Ludwig Feuerbach, Moses Hess, Louise Dittmar, Richard Wagner* (New York: Palgrave Macmillan, 2009), 7.

⁴⁷ Diethart Kerbs and Jürgen Reulecke, eds. *Handbuch der deutschen Reformbewegungen: 1880 - 1933* (Wuppertal: Hammer, 1998).

⁴⁸ David Friedrich Strauss, *The Old Faith and the New: A Confession*, vol. 6 (New York: Holt, 1873).

⁴⁹ Gauri Viswanathan has challenged scholars to recover the heterodox voices that have been occluded the assumption inherent in secularization thesis that the religious history of modernity boils down to a conflict between secularism and orthodox religion. Gauri Viswanathan, "Secularism in the Framework of Heterodoxy," *Publications of the Modern Language Association of America*. 123, no. 2 (2008): 466-476.

⁵⁰ On *Halbbildung* and monism, see Weir, "Towards a History and Sociology of Atheist Religious Community," 215-224.

⁵¹ One of Berlin's first women's organizations Frauenwohl initially recruited from among sales clerks, a typical occupational category of the modern middle classes, who tended like Frauenwohl's leaders to associate with left-liberalism. Minna Cauer, *25 Jahre Verein Frauenwohl Groß-Berlin* (Berlin: W. & S. Loewenthal, 1913), p. 25.

⁵² Schmidt, *Ernst Haeckel: Denkmal eines großen Lebens*, p. 91. The acclaimed innovator in modern dance, Isadora Duncan was reportedly another American female Haeckelianer. Otto Lehmann-Rußbüldt, one of the chief promoters of the monist Giordano Bruno-Bund in Berlin wrote to Haeckel on 11 March 1903 that "Miss Isadora Duncan [...] in an enthusiastic adherent of monism," who knows "Darwin's works very well and is an admirer especially of your activities in German and in the international cultural world." Ernst Haeckel Haus, Jena, Haeckel papers.

⁵³ For a critique of socio-biology for its unscientific ideological affirmation of male domination, see the chapter "Putting Woman in Her (Evolutionary) Place" in Anne Fausto-Sterling, *Myths of Gender: Biological Theories about Women and Men*, 2 ed. (New York: Basic Books, 1992): 156-204. See also Donna Haraway, *Simians, Cyborgs, and Women: the Reinvention of Nature* (New York: Routledge, 1991).

⁵⁴ A recent article points out the significance of monism to the women's movement but fails to examine why natural science was important: Edward Ross Dickenson, "Reflections on Feminism and Monism in the Kaiserreich, 1900-1913," *Central European History* 34, no. 2 (2001): 191-230.

⁵⁵ Letters from Magnus Hirschfeld to Haeckel, 21 Feb. 1912, 6 May 1912, Ernst Haeckel Haus, Jena, Haeckel papers. Hirschfeld gave a course on monism and sexual reform at a scientific retreat of the DMB in May 1914.

⁵⁶ Hirschfeld pushed fellow monists to accept homosexuality as a central plank of the monist project, arguing that anyone committed to overcoming "oppositions like force and matter, God and nature, one and all, body and soul" also had to abandon the "dualism of the sexes." For the sexes existed in a "eternally present fusion of both in one." Their

“infinitely variable ratio of mixture ... begins [with the fact] that already the male sperm and the female egg are male-female hermaphroditic formations, this monism of the sexes is the center of the origin and essence of personality.” Cited in a review of Hirschfeld’s book on transvestites in: *Diskussion. Kultur-Parlament. Eine Monatsschrift für aktuelle Kulturfragen. Herausgegeben von Hans Ostwald*, (Berlin: Eberhard Frowein, 1910), no. II, p. 83.

⁵⁷ Magnus Hirschfeld, *Die Homosexualität des Mannes und des Weibes: Nachdruck der Erstauflage von 1914 mit einer kommentierenden Einleitung von E. J. Haeberle* (Berlin, New York: Walter de Gruyter, 1984 (1914)), pp. XI-XII, 973-1026. On Hirschfeld, see Kevin Amidon “Sex on the brain: The rise and fall of German sexual science” in *Endeavour* 32, no. 2 (2008): 64-69.

⁵⁸ Ernst Haeckel, *Die Lebenswunder: Gemeinverständliche Studien über biologische Philosophie (Volks-Ausgabe)* (Stuttgart: Alfred Kröner, 1906), 157-164. Richard Weikart, “Darwinism and Death: Devaluing Human Life in Germany 1859-1920,” *Journal of the History of Ideas* 63, no. 2 (2002): 323-344.

⁵⁹ The Deutscher Bund für Mutterschutz was founded in 1905 by Helene Stöcker, who gave the organization’s journal a name suggestive of its eugenic and emancipatory orientation: *Die Neue Generation*. Whether women’s liberation or eugenics had a priority in this organization remained a matter of ongoing debate. Grete Meisel-Hess argued in 1909 that the women’s movement would be replaced by Mothers’ Protection, which had “adopted the goals of highest racial welfare.” Ursula Ferdinand, *Das Malthusische Erbe: Entwicklungsstränge der Bevölkerungstheorie im 19. Jahrhundert und deren Einfluß auf die radikale Frauenbewegung in Deutschland* (Münster: Lit-Verlag, 1999), 208, 257.

⁶⁰ Constance Naden, *The Complete Poetical Works of Constance Naden* (Kessinger Publishing, 2004), 84, 203; Marion Thain, “‘Scientific Wooing’: Constance Naden’s Marriage of Science and Poetry,” *Victorian Poetry* 41, no. 1 (March 1, 2003): 151-169; Charles LaPorte, “Atheist Prophecy: Mathilde Blind, Constance Naden, and the Victorian Poetess,” *Victorian Literature and Culture* 34, no. 2 (2006): 427-442.

⁶¹ Wilhelm Bölsche, *Die naturwissenschaftlichen Grundlagen der Poesie* (Tübingen: DTV, 1976); Wilhelm Bölsche, “Fechner,” in *Hinter der Weltstadt* (Leipzig: Eugen Diederichs, 1901), 259-347.

⁶² Monika Fick, *Sinnenwelt und Weltseele: der psychophysische Monismus in der Literatur der Jahrhundertwende* (Tübingen: Niemeyer, 1993), 128. Like Fick, Claudia Bibo argued that the transformation of the literary naturalists of the 1880s into neo-Romantics and symbolists of the fin-de-siècle occurred within the natural scientific and monistic premises of naturalism. Claudia Bibo, *Naturalismus als Weltanschauung? biologistische, theosophische und deutsch-völkische Bildlichkeit in der von Fidus illustrierten Lyrik (1893-1902): mit einem Anhang: Organisationen der Deutschgläubigen Bewegung* (Frankfurt a. M.: Peter Lang, 1995), 7-8.

⁶³ Hart, *Die neue Welterkenntnis*, cited in: Fick, *Sinnenwelt und Weltseele*, 138.

⁶⁴ Bölsche wrote in the preface to his “Weltblick” in 1904: “All depends on One, connects in One. Through this whispering of the branches blows world-wind. World-eyes peer large and deep through these gaps in the leaf work. Press your forehead on the moss, close your eyes, there lies in you as deep as the abyss, surging shapes, questions, calls,--World. And there is no more two.” Quoted in Bibo, *Naturalismus*, 34.

⁶⁵ The following statement shows both the cognitive assumptions of psycho-physical parallelism and their potential for aesthetic mysticism: “The penetrating sympathy (Einfühlen) of the Ego in the object is only possible, if components of the object lay within the Ego. [...] Just as the sound of the voice across an open piano only causes the vibration of strings of the same pitch, thus in the cells of men only those strings vibrate that are given to them by nature.” Wilhelm Liepmann, *Weltschöpfung und Weltanschauung* (Berlin: Wegweiser-Verlag, 1923), 98.

⁶⁶ Andreas-Salome quotations in Fick, *Sinnenwelt und Weltseele*, 133. Writer and anarchist Gustav Landauer points to the impossibility of reaching the union promised by the biogenetic principle through consciousness and offers self-actualization and erotic love as alternatives: “I am the cause of myself, because I am the world. I am the world, when I am entirely myself. The course of the evolutionary stream comes from the source that originates in eternity; the chain has never been broken though the stream cannot of course flow backwards, and the superficially thinking part of our human brain cannot remember the origin upon which it developed, cannot perceive the source from outside, as an object, which flows through it, in the eternal present. [...] However, we find this infinite in ourselves, when we become infinite, become entirely ourselves and draw our deepest foundation out of ourselves. And there is a path to this feeling of infinity, [...] love. [...] It is the deepest and most glowing form of perception of the world (Welterkenntnis), [...] when the fire spark penetrates two people.” Gustav Landauer, “Durch Absonderung zur Gemeinschaft,” in *Das Reich der Erfüllung: Flugschriften zur Begründung einer neuen Weltanschauung*, ed. Heinrich Hart and Julius Hart (Leipzig: Eugen Diederichs, 1901): 65-66.

⁶⁷ On monism in an international context, see the essays in Heiko Weber and Maurizio Di Bartolo, eds., *Jahrbuch für Europäische Wissenskulturr*, vol. 3 (Stuttgart: Steiner, 2007).

⁶⁸ Heinrich Heine, *On the history of religion and philosophy in Germany and other writings* (Cambridge; New York: Cambridge University Press, 2007). Bertolt Brecht, “Flüchtlingsgespräche,” in *Bertolt Brecht Werke*, ed. Werner Hecht et al. (Berlin: Aufbau and Suhrkamp, 1995), 205.

⁶⁹ James Morton, Jr., “Das Freidenkertum in den Vereinigten Staaten,” in: *Das monistische Jahrhundert*, vol. 2 (1913), 983.

⁷⁰ Robert Crews, “Empire and the Confessional State: Islam and Religious Politics in Nineteenth-Century Russia,” *American Historical Review* 10, no. 1 (2003).

⁷¹ For example, Arens, *Structures of Knowing: Psychologies of the Nineteenth Century*. Monika Fick, “Sinnstiftung durch Sinnlichkeit: Monistisches Denken um 1900” in: Wolfgang Braungart/Gotthard Fuchs/Manfred Koch (eds.) *Ästhetische und religiöse Erfahrungen der Jahrhundertwenden*. vol. 2 (Paderborn 1998): 69-83.

⁷² Hermann Lübke, *Säkularisierung. Geschichte eines ideenpolitischen Begriffs*, 2 ed. (Munich: Karl Alber, 1975), 45-46.

⁷³ “Christian Monism” forms a third area of hybrid monism. German Protestants of the Weimar era went much further than their Catholic counterparts in borrowing elements of the monist worldview in order to combat it. During the mid 1920s the defensive agency of the Protestant Church—the Apologetic Central—offered “worldview weeks” for the educated laity on topics such as “Between Matter and Spirit” and sought out cooperation

with conservative völkisch circles, such as the Fichte Society. In 1926 the Church sponsored the foundation of the Research Center for Worldview Studies in Wittenberg under the leadership of theologian and ornithologist Otto Kleinschmidt. An ardent opponent of Haeckel, Kleinschmidt sought to fuse biology and Protestant theology in a unified worldview, which at the end of the Weimar Republic embraced racial science. Given shared interest in a spiritualized concept of human biology and opposition to secularism and socialism, National Socialists and Christian monists initially found much common ground, however frictions between them grew following the consolidation of Nazi power in Spring 1933, when the new regime began to turn on its erstwhile allies. Matthias Pöhlmann, *Kampf der Geister: Die Publizistik der "Apologetischen Centrale" (1921-1937)* (Stuttgart: Kohlhammer, 1998), 89.

⁷⁴ Cited in: Franz Meffert, *Ernst Häckel der Darwinist und Freidenker: Ein Beitrag zur Charakteristik des modernen Freidenkertums* (M. Gladbach: Volksverein-Verlag, 1920), p. 245. The East German leader Walter Ulbricht, who was educated in an workers education association, was probably recalling his own experiences when he declared in 1960, "Rarely has a book had more lasting impact than Haeckels *Welträtsel*." From his speech at the 15th anniversary of the refounding of the Friedrich-Schiller University in Jena and cited in an advertising insert in the 1960 reprint of Ernst Haeckel, *Die Welträtsel* (Berlin: Akademie, 1960 (1899)). V.I. Lenin approvingly cited Franz Mehring's positive review of the *Welträtsel*, that the book was important not for its veracity, but for its political tendency, which made it, in Lenin's words, "a weapon in the class struggle." Vladimir Lenin, *Materialism and empirio-criticism*. (New York: International Publishers, 1927), 362.

⁷⁵ August Bebel began his career as a member of a workers' education society Vorwärts led by German Catholic preacher and monist Emil Roßmäßler. In 1882 Karl Kautsky sounded out Haeckel on the possibility of submitting a dissertation to him, while the future leader of East Germany, Walter Ulbricht had received religious education as a child from Deutschkatholiken in Leipzig. On the role of Freethought and Free Religion in early socialism, see Sebastian Prüfer, *Sozialismus statt Religion: Die deutsche Sozialdemokratie vor der religiösen Frage 1863-1890* (Göttingen: Vandenhoeck & Ruprecht, 2002).

⁷⁶ Ostwald to Loeb, 14 Oct. 1913, Ostwald papers, no. 1828, Berlin Brandenburg Academy of Sciences.

⁷⁷ In his attempt to ground a dialectical monism, the German-American socialist Ernest Untermann criticized Haeckel for failing to account for class as a dualism requiring liquidation. Ernest Untermann, *Dialektisches. Volkstümliche Vorträge aus dem Gebiete des proletarischen Monismus*, (Stuttgart: J.H.W. Dietz, 1907). His book *Science and revolution* (Chicago: C. H. Kerr & Company, 1905) contains a chapter entitled "Materialist Monism: The Science And 'Religion' Of The Proletariat" with the passage: "Only the universe is immortal, and it cannot be destroyed. If the human mind wishes to share in this immortality, and avoid being hurled into the abyss of oblivion, it has only one course open before it: The conscious promotion of an environment in which an organ of understanding can develop which will succeed in controlling the universal process. It is only the philosophy of the proletariat which furnishes a scientific basis for the realization of the most daring dreams of the thinkers of all ages. The proletarian mind,

conscious of its origin, its present and future place in society and universe, its social, terrestrial, and cosmic mission, can exclaim triumphantly: ‘I was, I am, and I shall be!’”

⁷⁸ Vladimir Lenin, *Materialism and empirio-criticism*.

⁷⁹ Klaus Mehnert, *Twilight of the young : the radical movements of the 1960's and their legacy : a personal report* (New York: Holt Rinehart and Winston, 1977).

⁸⁰ Daniel Gasman, *The Scientific Origins of National Socialism: Social Darwinism in Ernst Haeckel and the German Monist League*, xiv.

⁸¹ See the critiques of Gasman and Weikart in Richards, *The Tragic Sense of Life*, 506-509.

⁸² Cited in T. Schirrmacher, *Hitlers Kriegsreligion*. (Bonn, Verlag für Kultur und Wissenschaft, 2007) 108

⁸³ “Mit brennender Sorge,” March 14, 1937. Taken from Papal Encyclicals Online. <http://www.papalencyclicals.net/Pius11/P11FAC.HTM>.

⁸⁴ In one of his last essays, Berlin wrote that “the enemy of pluralism is monism—the ancient belief that there is a single harmony of truths into which everything, if it is genuine, in the end must fit.” *New York Review of Books*, Vol. XLV, Number 8 (1998). Several of the contributors to a commemorative volume considered “anti-monism” to be Berlin’s chief political legacy. See, Mark Lilla, Ronald D. Dworkin, and Robert B. Silvers, *The Legacy of Isaiah Berlin* (New York Review of Books, 2001). Tzvetan Todorov, *Hope and Memory* (Princeton, N.J.: Princeton UP, 2003), 14, 20-22.

⁸⁵ Todorov chose the term monism simply as an antonym for pluralism. His functional explanation of monism is based on Eric Voegelin’s theory of political religion, whereby monism ensues when a properly dualistic understanding of the relationship of the divine and the secular breaks down. *Ibid.*, 14-26.

⁸⁶ In his essay, Huxley argued that the Vedantic idea that behind reality lay an “unmanifested principle of all manifestations” “at once transcendent and immanent” was the optimal “minimum working hypothesis” for personal religious research. Too little hypothesis led to superficiality, while the problem of Western revealed religions is that they had “too much working hypothesis” or “dogma.” “Catholics, Jews and Moslems,” wrote Huxley, could only find what they “already know to be there.” This foreclosed experimentation and rational inquiry, making these religions a scientific dead-end. Aldous Huxley, “The Minimum Working Hypothesis,” in *Vedanta for the Western World* (Hollywood: Vedanta Society of Southern California, 1945), 33-35.

⁸⁷ On monist developments in postwar East Germany, see Igor J. Polianski, “Das Rätsel DDR und die ‘Welträtsel’”, *Deutschland Archiv* 2/2007, 265-274. According to geographer Mark Bassin, the ecological understanding of ethnicity in the tradition of Haeckel and his student Friedrich Ratzel was sustained between the 1960s and 1990s by the Soviet scholar Lev Gumilev: Mark Bassin, “Nurture Is Nature: Lev Gumilev and the Ecology of Ethnicity,” *Slavic Review* 68, no. 4 (2009): 872-897.

⁸⁸ Michael Hardt and Antonio Negri advocate a politics based on the Spinozan concept of love as conatus articulated through reason. This love “is not only an ontological motor, [...] but also an open field of battle.” *Commonwealth* (Cambridge, Mass.: Harvard UP, 2009), 195. As similar approach to emotion is taken by Eve Kosofsky Sedgwick, who seeks to correct a dualism in deconstruction and gender theory that stemmed from an antiessentialist impulse that led scholars to separate physicality from linguistic or social

construction and privilege the latter. She proposes to no longer subsume “nonverbal aspects of reality firmly under the aegis of the linguistic” and draws on affect theory to investigate a nondualistic understanding of the emotions. *Touching Feeling: Affect, Pedagogy, Performativity* (Durham: Duke UP, 2003), 6. These recent monistic tendencies in critical theory were brought to my attention by Tracie Matysik, whom I would like to thank for allowing me to read her unpublished paper “From Sexuality to Affect: Reflections for the Intellectual History of Sexuality.”

⁸⁹ Church historian Hugh McLeod specified the 1960s as the point at which “Christendom” ended and the secular age began. Building on this periodization, we may identify an age of secularism that opened around 1840 and ended with Christendom in the secular age. That is a period in which secularist movements critiqued and competed with Christianity in Europe. I have suggested two terms to sum up the specificity of these secularist movements, those are worldview and monism. Hugh McLeod, “Introduction,” in *The Decline of Christendom in Western Europe, 1750-2000*, ed. Hugh McLeod and Werner Ustorf (Cambridge: Cambridge UP, 2003).

⁹⁰ Haeckel, *The riddle of the universe*, 34.

⁹¹ A similar turn was taken by the Austrian Rudolf Steiner, who had been a Haeckelian and taught workers in freethinking circles around 1900 before he founded his own theosophical school of anthroposophy. Helmut Zander, *Anthroposophie in Deutschland* (Vandenhoeck & Ruprecht, 2007), vol 1, 881-889. There are many other cases, which suggest that problems raised by naturalistic monism and secularist dissent formed a key context for the reception of Asian philosophy in Europe. For example, a leading monist-freethinking journal *Das Freie Wort* was launched in 1900 by the Free Religious preacher of Frankfurt a. Main Carl Sanger, The Quran translator Max Henning and one of Germany’s leading Buddhists Arthur Pfungst. Groschopp, *Dissidenten*, 28-41.

⁹² Against this interpretation, Niles Holt argued that Haeckel’s monism developed in four stages. Niles Holt, “Ernst Haeckel’s Monistic Religion,” *Journal of the History of Ideas*, no. 32 (1971).

⁹³ A sympathetic portray of Kammerer is found in: Arthur Koestler, *The Case of the Midwife Toad* (New York: Random House, 1971).

⁹⁴ On Ostwald’s marginalization from the scientific community see Weir, “The Fourth Confession: Atheism, Monism and Politics in the ‘Freigeistig’ Movement in Berlin 1859-1924,” 458-462.

⁹⁵ A sign of the impact of Ostwald on young intellectuals can be taken from letters addressed to him in 1912 and 1913 by the future economist and political theorist Karl Polanyi, in his function as secretary of the Central Association of Hungarian Freethinkers. On 19 May 1913, Polanyi wrote that their newspaper, *Szabad Gondolat* (Free Thought) “strove to extend the monist worldview and, in particular, the ethical world picture that this entails.” Ostwald papers, no. 4119, Berlin Brandenburg Academy of Sciences.

⁹⁶ Robert Bud, “A sword from the field of battle: The Double Helix and debates over the secret of life,” conference paper presented on October 3, 2009 at Queen’s University Belfast.

⁹⁷ Haldane’s position paralleled that of many continental monists, such as Viktor Stern, who had started out prior to the First World War as a monist philosopher and by the

1920s become a functionary of the Czech communist party and leader of their Freethought movement. For further details on Haldane, see Peter Bowler's essay in this volume.

⁹⁸ A sign of the welcome German monism received in the early Soviet Union is shown by the Russian part in the drama around Paul Kammerer. Following the revelations that he had manipulated his research data, Soviet officials came to his rescue by offering him directorship of an institute. Following his suicide, Anatoly Lunacharsky, one of the prewar Bolshevik monists and now Minister of Enlightenment, wrote the script for a film that portrayed Kammerer as the victim of clerical-conservative intrigue. Arthur Koestler, *The Case of the Midwife Toad* (New York: Random House, 1971).