munist leaders in the 1920s was succeeded by totalitarian intolerance in the Stalinist 1930s. When the Bolsheviks came to power, Joravsky writes, they still had some of the universalism of the Russian radicals of the 1860s, whose "old-time amplitude of spirit" he admires, and "clung to the conviction that political leaders must be intellectual leaders as well." That conviction was one of the causes of Soviet "thought control" (Joravsky's phrase) and its specific manifestations in science such as the outlawing of genetics that accompanied the triumph of Lysenko. However, the Bolsheviks' tendencies toward cultural dictatorship were always inhibited by their 20th-century faith in science, Joravsky argues. Even in the Stalin period, Soviet leaders—including Stalin, with his puzzling denunciation of "Arakcheev regimes" in science in 1950—were observably succumbing to the modern disease and were willing "to let knowledge be compartmentalized and left to separate professional groups of technicians." True, Stalin and his like were "almost as narrow" intellectually as Western politicians. But at least they still took ideas seriously enough to persecute them from time to time.

To sum up: *Russian Psychology* is a rich, deeply reflective, original, and encyclopedic work that is also provocative, opinionated, and sometimes (in the opinion of this reviewer) wrongheaded. It is never boring and never predictable. Read it.

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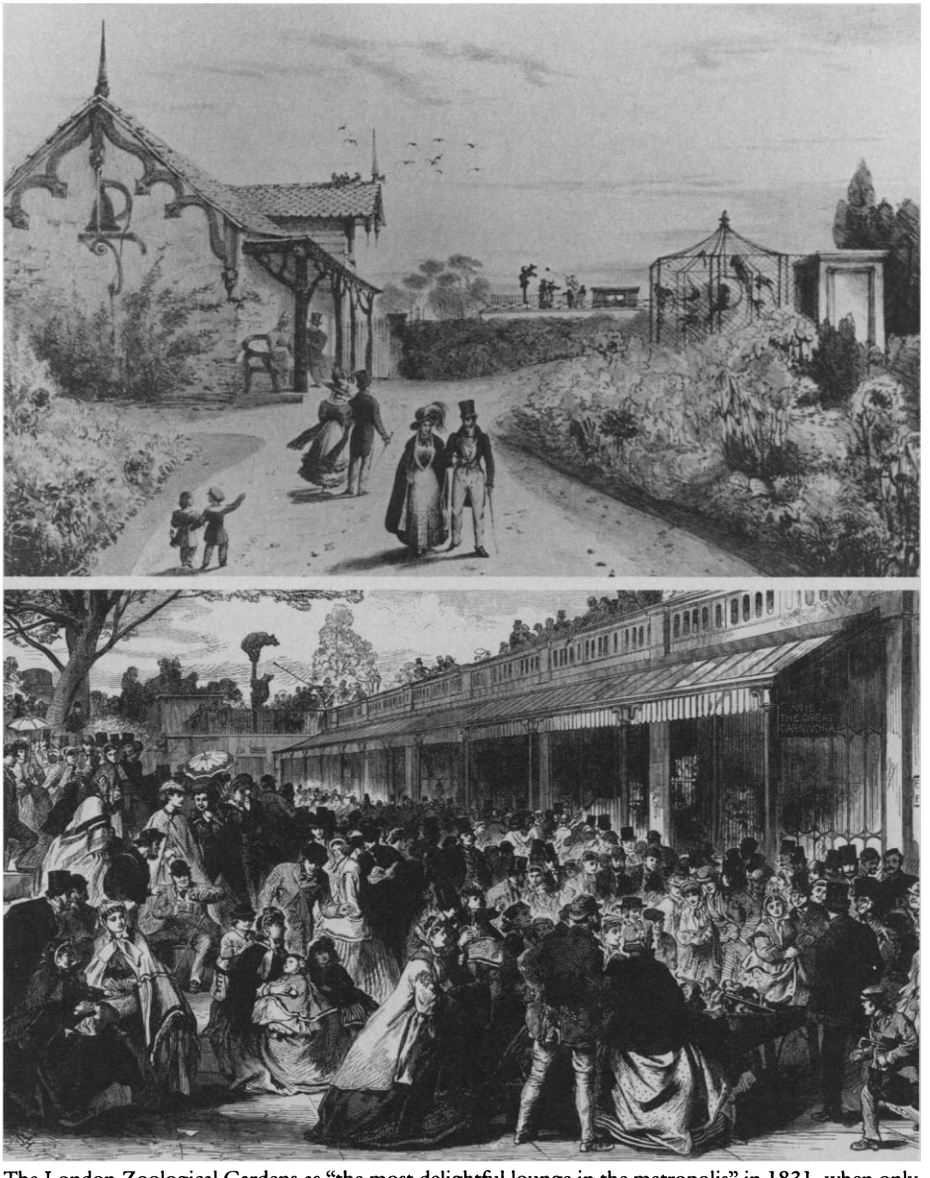


The London Zoological Gardens as "the most delightful lounge in the metropolis" in 1831, when only members and their guests were admitted, and later, when the gardens were open to the public. [1831 depiction by James Hakewell, © Zoological Society of London; later scene from *Illustrated London News* **48**, 509 (1866), © Illustrated London News Picture Library. Both reproduced in *The Politics of Evolution*]

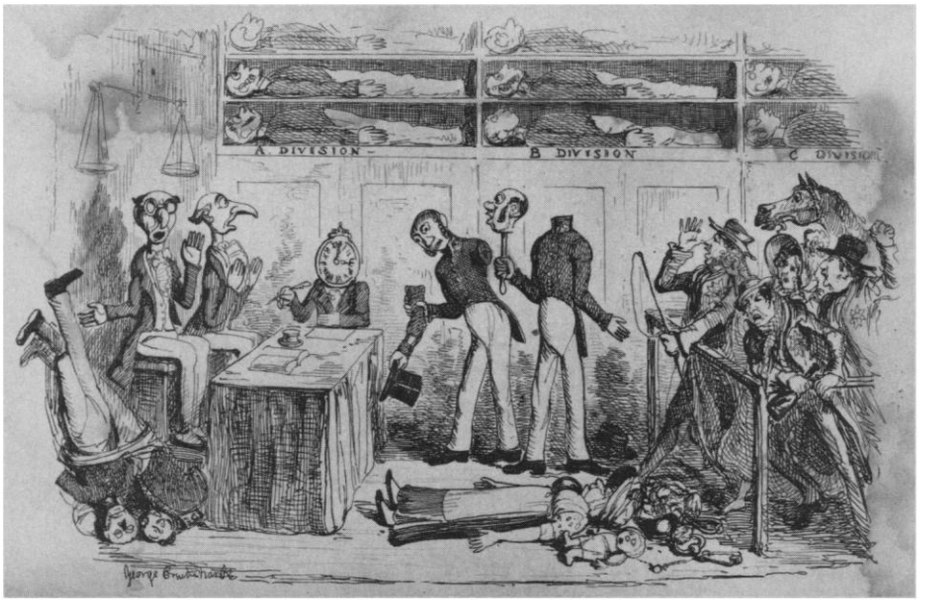
Radical Anatomy

The Politics of Evolution. Morphology, Medicine, and Reform in Radical London. ADRIAN DESMOND. University of Chicago Press, Chicago, 1990. x, 503 pp., illus. $34.95. Science and Its Conceptual Foundations.

London in the 1830s was the scene of continuous radical ferment as disenfranchised Englishmen agitated for a more representative society. Neglected by the Great Reform Bill of 1832, working men rallied behind the banner of Chartism, a movement that rose to a crescendo of violence and agitation toward the end of the decade. At a different social level, dissatisfied physicians carried out a similar struggle against the religious exclusiveness, nepotism, and class discrimination of the Royal College of Physicians and the Royal College of Surgeons. Throughout the decade, general practitioners, medical radicals, and Dissenters railed against the narrow, self-appointed leadership of the colleges, calling for egalitarian reform. The contest was often bitter. To the sharp-tongued Thomas Wakley, editor of *The Lancet*, the corporation leaders were "mercenary, goose-brained monopolists and charlatans" (p. 252). They, in turn, referred to journals like Wakley's as the "reptile press" (p. 239).

Adrian Desmond provides a splendid account of this medical contest, locating the strongholds of the rebels in the medical school of the new merchant-financed London University and the proprietary schools that provided medical education to so many Dissenting physicians. He introduces us to a fascinating cast of characters, among them Joshua Brookes, director of the Blenheim Street School. Over the years Brookes assembled an anatomical museum second only to the Hunterian Museum of the Royal College of Surgeons, but discriminatory legislation by the RCS robbed him of students, ruined his school, and forced the auction of his collection. Brookes's student George Dermott, who opened the Gerrard Street School, was a pugnacious, hard-drinking man, eager to recruit poor students and convert them to his radical convictions. Not surprisingly, the fellows of the RCS looked down on him as being neither a "pretended gentleman nor a pretended surgeon" (p. 170).

What makes such men interesting to Desmond is not merely their struggle with social and professional superiors but also their



"A satire on both the pretensions of the [British Association for the Advancement of Science] savants displaying their mechanical wares (here automaton constables) and the police authority itself (note the jeering people). This 1838 cartoon [by George Cruikshank] accompanied a report sending up the 'Meeting of the Mudfog Association.' " [From *Bentley's Miscellany*, vol. 4, p. 209; reproduced in *The Politics of Evolution*]

devotion to an anatomical belief system that served to legitimize that struggle. Hostile to the teleological conservative views of William Paley and Georges Cuvier, they opted instead for the mechanistic outlook of Jean Baptiste Lamarck and Etienne Geoffroy Saint-Hilaire. Robert Grant, intellectual leader of the radical camp, imported to London such Continental ideas as a universal animal form, embryological recapitulation, arrested development, and species transmutation. Though not all of his followers endorsed transmutation, they admired his concept of self-generating life, dependent only on its organization for vital activity. Atheists took satisfaction in the materialism of such theories. The more numerous Dissenters preferred to regard them as signs of the inviolability of God's law. Either way, they opposed the voluntaristic teleology of Anglican conservatives. Wakley promoted Grant's views in *The Lancet*, and they received further endorsement in the *London Medical and Surgical Journal* and *British and Foreign Medical Review*, reform-minded journals that also took up the cause of the general practitioner in the 1830s.

The radicals did achieve some concessions. The University of London, created by the Whigs in 1836, granted degrees to Dissenters; and the Royal College of Surgeons accepted a more liberal charter in 1843. As leading critics like Marshall Hall and Richard Grainger were accepted into the ancient corporations, tensions relaxed; and though Robert Grant continued his opposition—at great personal financial cost—his influenced ebbed. Intellectually, he was outflanked by the young Richard Owen, who found a way to embrace a moderate version of philosophical anatomy uncontaminated by materialist overtones. Owen, deeply influenced by the idealist concepts of Samuel Taylor Coleridge, countered Grant's belief in universal type and recapitulation by drawing on the embryological work of Karl Ernst von Baer. Owen denied that there were any connections between Cuvier's four *embranchements* and insisted with Baer on a course of individual development that proceeded from a more general form toward the unique individuality of the species. At the same time, he set great store by the common homologies of animal morphology, rescuing them for respectable biology by emphasizing their basis in divinely conceived archetypes.

The general outline of Owen's thought is well known; but Desmond also analyzes the partisan character of his empirical studies of the platypus, the chimpanzee, and the Stonesfield "opossum." In each case Owen was able to reevaluate the organism in a way that made it seem an implausible link in a linear theory of evolution. Furthermore, Desmond shows that Owen won generous support from the Royal College of Surgeons for his outstanding catalogues of the College's Hunterian Museum, helping to defend the College from radical critics who accused it of neglecting this national trust. Eventually, Owen won generous patronage from the Conservative Peel government of the 1840s, largely in return for erecting an ideologically comfortable anatomy powerful enough to draw medical moderates away from the concepts of Geoffroy and Grant.

Until very recently, historians have tended to view Owen simply as a misguided opponent of Charles Darwin, and Desmond has done more than anybody to revise this simplistic view. His earlier study *Archetypes and Ancestors* (University of Chicago Press, 1986) gave a skillful account of the older Owen's contributions to evolutionary biology. Now he has produced a thoughtful assessment of the younger Owen too. However, this new assessment would have been impossible without his original investigation of the little-known radicals, malcontents, and Dissenters who occupied the lower rungs of London's medical hierarchy. In telling the story of their campaign for medical egalitarianism and their marching song of philosophical anatomy, Desmond has utterly revised a major chapter in the history of evolutionary thought, illuminating not only Owen's career but also those of Robert Chambers, Alfred Russel Wallace, and Charles Darwin. Previous historians have taught us about the reasons people once gave for believing in the unity of type; Desmond teaches us how it felt to think that way.

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Burt Again

The Burt Affair. ROBERT B. JOYNSON. Routledge (Routledge, Chapman and Hall), New York, 1990. xiv, 347 pp. $35.

On 24 October 1976, the London *Sunday Times* published a front-page story headed "Crucial data was faked by eminent psychologist." "The most sensational charge of scientific fraud this century," it began, "is being levelled against the late Sir Cyril Burt. . . . Leading scientists are convinced that Burt published false data and invented crucial facts to support his controversial theory that intelligence is largely inherited." The ensuing scandal forms the subject of Robert Joynson's book. Joynson's research is likely to inspire at least one more round in this controversy, for he argues that Burt has been unjustly maligned.

Even in a field as prone to public controversy as intelligence testing, the Burt affair forms an exceptionally dramatic and disturbing episode. Burt, a brilliant mathematician, author of *Factors of the Mind* (1940), and editor of the *British Journal of Statistical Psychology*, had been a pioneer in educational