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Deborah R. Coen. *Vienna in the Age of Uncertainty: Science, Liberalism, and Private Life.* Chicago: University of Chicago Press, 2007. xi + 380 pp. $45.00 (cloth), ISBN 978-0-226-11172-8.

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Last Ländler in Brunnwinkl

Natural science has for many decades been the Cinderella of fin-de-siÃ¨cle Vienna studies. Although such works as William M. Johnstonâs magisterial, pioneering compendium, *The Austrian Mind: An Intellectual and Social History, 1848-1938* (1972), recorded Viennaâs achievements in the natural sciences, and other works, such as Allan Janik and Stephen Toulminâs brilliant foray into *Wittgensteinâs Vienna* (1996), had questions of scientific theory at the center of their enquiries, natural science never quite got to go to the ball. This was probably due to the fact that the dominant paradigm of research and thinking about Vienna 1900 has been that of Carl E. Schorske, whose seminal essays, starting in the 1960s, concentrated on the dialectic between âPolitics and Cultureâ (the subtitle of his extraordinarily successful and influential collection of essays, *Fin-de-SiÃ¨cle Vienna*, published in 1979), not politics and science or science and culture. Science was the odd man out, at least natural science, because Schorske was more interested in the way in which the collapse of liberal political hegemony resulted in a transformation of general liberal culture, with its center shifting from an objective, rational *âhomo oeconomicusâ* to a subjective, irrational *âhomo psychologicus.â* In this subjective, irrational world of Freudian psychoanalysis and impressionist and then expressionist modern art and music–the world of Gustav Klimt, Egon Schiele, Gustav Mahler, and Arnold Schoenberg–physics, chemistry, biology, physiology, and even empirical psychology did not seem all that relevant, or even significant, at least not to Schorskeâs readers or indeed most of his research students and followers.

This relative neglect of natural science in Vienna 1900 was not really Schorskeâs fault. He could not control the ways in which his approach would appeal both to American and Western European researchers, as well as to Austrians both in academia and in policy positions intent on making the most of Vienna 1900âs new, decadent charm as the place where rationalist liberalism failed, and cultural modernism, supposedly, emerged first. This âsubjectiveâ turn in fin de siÃ¨cle Vienna studies was nevertheless an unfortunate one, for by leaving out a whole side of Viennaâs intellectual achievement–in the natural

sciences–it quite distorted the character and status of Vienna 1900 in the history of modern culture and thought. Recent research has begun to correct this false impression of Vienna 1900 as only a cultural and not a scientific center, but this scientific side has yet to receive its representation in a major scholarly work that can keep natural scienceâs head up, as it were, within the academic field of Vienna 1900. Deborah R. Coen has produced a worthy candidate to fill this void–at least partially. *Vienna in the Age of Uncertainty* situates itself squarely where few Vienna 1900 researchers have feared to tread, in the world of Viennese natural science, or rather within the familial, social, and intellectual nexus of the Exner clan, the âExnereiâ as members of the dynasty came to fashion themselves. Coen looks at Vienna 1900, consequentially and comprehensively, from this perspective of a scientific dynasty, with very interesting results. If it does not quite live up to its claims to transform our general understanding of Vienna 1900, it nevertheless provides many challenges to current historiographic assumptions. Its elucidation of this particular, Exnerian version of fin-de-siÃ¨cle Viennese society, thought, and culture will no doubt cause many to reassess, fruitfully, their own understanding of what happened in Vienna 1900.

There are two major themes running through the book: the importance of probability in defining Austrian liberalism (hence âuncertaintyâ); and the significance of the domestic in influencing and framing the public in the liberal world, specifically here the decisive influence of the Exner familyâs resort, Brunnwinkl, on the Wolfgangsee in the Salzkammergut, on almost everything that the family, and the brothersâ many students, did and thought. Sometimes these two themes coalesce nicely; at other times they cut across each other, or more charitably, interweave, in confusing and less convincing ways.

Coenâs first concern is to delineate the many ways in which the Exners, and by implication Austrian liberals generally, used probabilistic reasoning to vindicate their authority between dogmatism (especially of the Catholic Church) on one side and relativism (whether philosophical or political, as in socialism or nationalism) on the other. She is quite ingenious in showing the Exners using the halfway house of probabilistic calculus in all sorts of situations, whether philosophical, political, psychological, or, indeed, scientific, like a form of intellectual panacea. After an introduction of the main themes, the book starts with the dynastyâs founder, Franz Exner, who was most famous for his part in the reforms of Austrian secondary education, especially the elite, humanist *Gymnasien.* Coen shows how Exner, following the ideas of Johann Friedrich Herbart, introduced skepticism into the *Gymnasiumâs* preparatory philosophy course to combat religious dogmatism and stimulate young minds, but also suggested probability theory as a means to ensure that such stimulation did not result in extreme loss of faith, either in the moral or physical order.

Interweaving her narrative with the Exnersâ academic and familial careers, Coen then demonstrates how Exnerâs sons carried on their fatherâs probabilistic mission. Adolf, the eldest, and a professor of law, used probabilistic reasoning to justify liability in railway accidents, and later on, as university rector, emphasized the need for a politics of the possible; Sigmund, a professor of physiology, inhabited a middle ground between those who claimed the validity of natural laws of causality and those, such as Ernst Mach, who, as monists, denied even the ability to discern between the subjective and objective worlds. Again, Sigmundâs work on optics and color theory, memory, and psychic inheritance relied at its core on probability to navigate between the psychological and the physical worlds. The other main fraternal protagonist, Franz Serafin Exner, a professor of physics, propagated a whole school–including such students as Erwin SchrÃ¶dinger–where probability and statistical methods were used, most notably in the statistics of fluctuations, to make revolutionary contributions to many fields, including nuclear physics. Even the next generation, such as Karl von Frisch, used the same sort of probabilistic, statistical approach, as in Frischâs experiments with the color perception of bees. Through all of this ran the thread of the Exnerian determination to deny determinism, âthe pigtail of the nineteenth century,â and to insist that natural âlawsâ were only empirical, statistical, human explanations of natural phenomena, not iron-clad descriptions of actual causal relationships (p. 117). Coen makes a reasonably convincing case that this liberal attempt to steer between dogmatism and relativism helped to contribute to Austrian intellectual achievements, such as SchrÃ¶dingerâs particle wave theory, and to a hostility of Austrian thinkers to ideologies of certainty. A key example cited in the book is the Vienna Circle of Logical Positivism.

Coen is also interesting in her explorations of the ways in which the experience of the *Sommerfrische*, the institution of the summer break that grew up among Viennaâs bourgeoisie in the latter half of the nineteenth century, played into liberal educational theory, research methodology, and social and communication theory. So intent is Coen to show the influence on liberal attitudes

of domestic experience, exemplified for her by the Exners at Brunnwinkl, that it sometimes seems that the bookâs main locus is not Vienna but rather this family resort out in the picturesque wilds of the Salzkammergut. Her frequent pointing to the Exnersâ use of hunting and farming metaphors for the probabilistic attitude of the naturalist or researcher almost suggests that she sees this time âin natureâ to have been the core inspiration for the Exnersâ scientific achievements. Similarly, Coenâs emphasis on the freedom of the playful Brunnwinklian environment as the model for the Exnersâ ideas on education, especially those of Emilie Exner, appears to put Brunnwinkl at or near the center of the Austrian pedagogical world. Coenâs use of Brunnwinklâs post-Habsburg career as a metaphor also for the superseding of the liberal humanist world by a less âuniversal,â more functionalized and specialized one, also suggests that she identifies Brunnwinklâs fate, and that of the Exner clan, with that of Austrian liberalism. This, charming though such an identification might be, is evidence of a metaphor having subsumed reality.

Coen herself is evidently aware of the dangers of too close an identification of the Exners with Austrian liberalism in general. She is indeed careful to disclaim any attempt to see the Exners as ârepresentative,â but she does see âtheir reliance on probabilistic reasoning and their devotion to the culture of the *Sommerfrische*â as âtypical of their liberal colleaguesâ (p. 25). Elsewhere she is just as definite, blithe even, in stating that âprobabilistic reasoning was the solutionâ to the search of âliberal science in Austriaâ for its own intellectual authority (p. 12). Nowhere in such statements does there appear to be much sense of doubt or uncertainty, which is rather ironic in a book that puts forth probability and the acceptance of uncertainty as an exemplary model of thought and behavior. Is Coenâs pioneering certainty about the âtypicalâ nature of her chosen research topic nevertheless justified in the context of turn-of-the-century Austria, whether in Vienna or Brunnwinkl?

As far as it goes, Coenâs work is an exemplary exercise in the weaving together of history of science with cultural history, intellectual history, and social history, as well as (if less successfully) political history. While the complex structures and strategies of narration that she has adopted, elegant though they are, do not make for a very straightforward story, and an often confusing one, they do undoubtedly produce a very rich and sophisticated portrait of a family, its intellectual traditions, and its relations to the world around it. She has provided a mostly convincing portrait of the âExnereiâ and one that greatly contributes to our knowledge about the part of Viennese life in which the Exners circulated. As such, Coenâs book makes a most supportive counterpart to a work in Viennese cultural history that has not, perhaps, gained as much attention as it deserves, James Shedelâs *Art and Society: The New Art Movement in Vienna, 1897-1914* (1981). Shedelâs picture is of a liberal bourgeois establishment that was, contra Schorske, not much alienated at all from power, because of its connections and presence in the Habsburg bureaucracy, and so carried on much as before after the supposed âcrisisâ of 1900. It is this vision of a relatively confident and content liberal bourgeois world that is faithfully reflected in the Exnersâ collective career, which, cosseted and privileged within the confines of both Austrian academia and the rural idyll of Brunnwinkl, carried on relatively undisturbed by political crisis, even in Vienna, until the empireâs collapse at the end of the First World War. The traumatic end of political liberalismâs reign in Vienna in 1895 hardly figures in the Exner family story.

Yet the Exner experience is only part of the story of Austrian liberalism. It is an important part, and we should be grateful that Coen has so elegantly provided an account of it, but it is certainly not representative. I also doubt very much that it can be seen as âtypical,â and I cannot see how Coen could say that it is, given what we already know about the context of Austrian liberalism in which the Exners lived and worked. There is an odd way in which Coenâs book repeats the Exnersâ fate of being stuck in the middle between the truly unknowable private world and the stark world of historical reality. They thought, with their probability calculus, they could, probably, master this middle ground, but not seeing beyond the limits of their world, they ended up being swept aside by both the irrational subject and the collectivism of mass politics. Similarly, Coen is strangely blinkered by seeing through Exnerian eyes.

On the side of the âinternalities,â it is remarkable for a book that puts so much emphasis on the influence of the domestic and private on the public sphere that the central figure in the Exner siblingsâ early lives, their mother, Charlotte, nÃ©e Dusensy, is hardly discussed. The reason why there is not much family discussion of her is fairly clear–as a woman from a Jewish family, who had converted to Catholicism, her background was a family embarrassment, and appears to have been subject to a familial conspiracy of silence. That still leaves Coenâs almost complete lack of interest in this âJewishâ side to the family a bit perplexing, because, had it been researched, there may well have been some inter-

esting circumstantial evidence to uncover. Dusensy, as far as I have gleaned, was not a reworking of the name âDucheles,â as Coen has been led to believe, but was far more likely to have been a more acceptable sounding version of âDuschenes,â a quite well-known Prague Jewish family. An Abraham Duschenes/Dusensy became, indeed, the heir to one of the first ennobled Habsburg Jews, Joachim von Popper. This sounds as though the Duschenes/Dusensy clan had their own family tradition to contribute when Charlotte married Franz Exner. Similarly, Coen mentions a von LÃ¤mel as one of the childrenâs foster parents when Charlotte died in 1859, without noting anything about the von LÃ¤mel familyâs philanthropic tradition, which included the setting up of the first Jewish secular school in Jerusalem in 1856. What were the connections between the LÃ¤mels and the Dusensys? Coen is mute on this. Similarly, she appears to have accepted the Exnersâ silence on the Jewish side of the family, as though the rest of society did not know, but there is some circumstantial evidence at least that liberal society was simply too polite to mention it, while in impolite society rumors circulated among antisemites about Crown Prince Rudolf having been corrupted by the ideas of his âJewishâ tutor, none other than Adolf Exner. What influence the suppressed Jewish heritage of the family had on the attitudes of its members is quite unclear, but it is worth pondering. In this light, Emilie Exnerâs (nÃ©e Winiwarter) portrait of the Wertheimsteins, mother and daughter, is as much a meditation on the Exner family she married into as it is of the Jewish liberal salonniÃ¨res. Coen discusses Emilieâs description of Josephine von Wertheimsteinâs âadaptabilityâ as though this were a âbourgeoisâ trait, without really signaling much awareness at all that â*AnpassungsfÃ¤higkeit*â was a stereotypically Jewish quality in contemporary debates. But then Coen hardly explores this potentially interesting âJewishâ side of her subject at all.

Then there is Coenâs rather clumsy handling of the âexternalitiesâ of the Exnersâ story, especially the political history of the Habsburg Monarchy at the time. Coen gets the broad outlines of the political history right, including the gradual collapse of liberalismâs dominance, but she exhibits surprising lacunae in that history, especially when it comes to antisemitismâs role. She cites antisemitic statements by the Exner familyâs friend, Theodor Billroth, âas early as 1886â concerning Jewish medical students (p. 165). Yet Billroth started that line of argument as early as 1875, and was one of the catalysts (unintentional perhaps) of the surge of antisemitic sentiment among Viennaâs students. Coen also cites Robert Pattai about the need for the study of language, without acknowledging that Pattai was a leading antisemite, an ally of Georg von Schoenerer and then of Karl Lueger. One odd result of what appears to be a relative unfamiliarity with the political history of the period (compared to her dense familiarity with the Exners and the scientific side of the story) is that Coen appears to be oblivious to the fact that much of her account of the Exnersâ experience of and response to the political world actually confirms the Schorskean narrative that she is so intent on knocking down. Thus the purchase of Brunnwinkl in 1882 does appear to have been at least partly a response to the defeat of political liberalism on the imperial stage, a retreat to a more secure world, and it is striking that Franz Serafin Exnerâs plea for academic freedom in 1908, so that Viennaâs students could learn to find their way as responsible individuals in an uncertain world, was answered by nationalist student riots, just the sort of irrationalist mass politics Schorske talks of.

Even those critical of much of Schorskeâs paradigm, such as myself, will also find some of Coenâs critique of the Schorskean approach to be misdirected or based on an inaccurate reading of Schorskeâs thesis. It is not the case, for instance, that Schorske claimed that liberalismâs political failure was brought about by the turn toward the subjective world, as Coen seems to think; rather, Schorskeâs point was that the political failure of liberalism led to the retreat to the subjective realm of the psyche, and much of what Coen describes in her book actually confirms this idea, where Exnerian liberalism is threatened by the mass politics of Christian Socialism, nationalism, and socialism, in education policy and many other fields. Coenâs account of the Klimt Affair also suggests that she has not quite grasped what Schorske saw in this confrontation between the allegorical Nietzscheanism of Klimtâs work and the rational empiricism, probabilistic, uncertain or not, of the professors allied with the Exners. But then the varieties of liberal thought involved in this were so conflicted–and different–that they simply cannot fit into Coenâs rather narrow parameters for what âAustrian liberalismâ was.

Coen is quite persuasive about the ways in which Sigmund and Franz Serafin Exner resorted to the concept of the ânormal eyeâ to preserve their intersubjective notion of aesthetics, and how this concept was distorting and misleading. Yet she has, in taking the Exners as her ânormal eyeâ concerning Austrian liberalism, similarly set a norm that is invalid. There were other forms of liberalism, other parts of the liberal coalition, that do not figure within the purview of Coenâs Exnerian line of sight. Not

all Austrian liberals were as empiricist as Coen makes it appear; there were many Kantians, also in the sciences, let alone in philosophy and other fields. She calls the *Neue Freie Presse* âViennaâs liberal newspaper,â with the implication that it must have followed the line of thinking of the Exners, yet the newspaperâs editorial line was often of a German idealist style that was quite different from Exnerian probabilistic empiricism (p. 242). This had to do, I would claim, with the emancipatory Jewish background from which the newspaperâs editors (and much of its staff) had come, which was not at all the same as the Exners. In terms of setting the liberal agenda in Vienna, however, the *Neue Freie Presse* was of far more weight than the Exner family.

Even when it came to the empiricist heritage within Viennese natural science and philosophy, where the Exners undoubtedly made a major contribution, they were far from alone or even representative of the mainstream of empiricist thinking. Ernst Mach, Ludwig Boltzmann, and Franz Brentano were the main figures. Whether fair to the Exners or not, when in 1929 Otto Neurath and the members of the Vienna Circle drew up a list of thinkers who had most influenced them, Mach and Boltzmann were there, as were Brentano and Ludwig Wittgenstein, but no Exner made the list.

There is also a question whether the Exners were quite as model empiricist Austrian liberals as Coen would have them to be. Coen is honest enough about the Exners to point out that several of the third generation of the family turned Nazi in the 1930s, either out of conviction or opportunism. She resists, however, drawing any consequences from this fact, saying the familyâs legacy should not be decided by these individuals. Yet there is much evidence within Coenâs own work that makes this apparent betrayal of âAustrian liberalismâ by a âtypicalâ âAustrian liberalâ dynasty all too predictable, or at least understandable. All along, perhaps out of a lack of familiarity with the political history, there is a blinkered quality to Coenâs treatment of the Exnersâ national identity. One clue is that she blithely translates âstaatliche Dingeâ as ânational matters,â something that no Habsburg historian would think of doing, given the special relationship of state and nation in the monarchy (p. 139). Another is that, after citing Adolf Exnerâs hope to show âthat the Austrian branch of the great tree of German legal scholarship has not remained barren,â she concludes that âAustrian liberals were forging a national identity out of their unique tradition of learningâ (p. 81). It is clear from this remark of Adolf Exner, however, that the contrary was true, that he saw Austrian legal scholarship still as part of a larger German national whole, still part of the German family tree.

In fact, Coenâs book shows that, from the dynastyâs founder down, a *German* national identity ran through the Exner clan, albeit combined with Austrian *patriotism*. In this they were indeed âtypicalâ Austrian liberals, because there was never a clean break between the Reich German and Austrian German cultural and intellectual communities. Ironic though this might seem, even the empiricist, probabilistic reasoning that was the Exnersâ âAustrianâ hallmark had in Herbart a *Prussian* originator. Much of what Coen describes as a struggle between âGermanâ and âAustrianâ scientific viewpoints was actually more a battle between two viewpoints *within* the German scientific world that included the Austrian scientific community as one of the major concentrations of empiricists.

In the interwar period, âAustrianâ scientists might have disagreed with the nationalist drive for standardization of someone such as Wilhelm Ostwald, but they would also, as scientists and defenders of academic freedom, have remained deeply antagonistic to âdogmaticâ Catholicism and hence the dominant form of Austrian interwar identity. In the circumstances, and given the nationalist tendencies already present within the *German* liberalism of Austrian Germans, as the studies of Pieter Judson have detailed, it is not all that surprising that many members of âAustrian liberalâ science gave their allegiance to what they saw as the successor to the undogmatic, scientific, and German cultural traditions of their Austrian liberalism: National Socialism. It is an uncomfortable fact that almost all the winners of the Lieben Prize for natural science in interwar Austria either were of Jewish descent or National Socialists. The Exners and Frisches went one better by being both. In this way, perhaps they really did represent the tragedy that Austrian liberalism became.

The story that lies behind Coenâs book is, in all probability, a far darker one than the cheerier aspect of her approach might give one to think. It is also more complex than the mock universality she claims for her Exners would have us suppose. With those sorts of qualifications in mind, there is no doubt that Coen has given other scholars of Vienna 1900 much to think about and discuss, and put Viennese natural science on the map of fin de siÃ¨cle Vienna in a way it has not been until now, but has long deserved. Her bookâs shortcomings and limitations should not obscure that achievement.

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