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# Drilling Down: Can Historians Operationalize Koselleck's Stratigraphical Times?

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ABSTRACT: According to Reinhart Koselleck, in every moment a congeries of “temporal strata” are effectively co-present, but not necessarily coherent, hence the “simultaneity of the nonsimultaneous.” Contrast this with the notion of a *zeitgeist* in which every aspect of a historical moment is integrated by some master principle. There are so many trajectories active in any present that it is unlikely that one might coordinate all of them, if not unwise even to believe that they *are* coordinated. Not only does each historical present demonstrate at best rhizomic or patchy coherences across domains, but it also registers different paces and intensities in the temporal deployment of the domains. Nevertheless, coherence remains a compelling regulative ideal. Fortunately, path-dependency—*cumulation* as constraint—is a discriminable feature of the several distinct “layers of time” or diachronic flows co-present in any given historical moment. Moreover, that some strata of experience remain roughly constant enables us to appraise the variation of others. If too many elements enter into simultaneous crisis, if we hit the “perfect storm,” then our capacity to comprehend (like that of our objects of inquiry) may be severely impaired. These insights from Koselleck are eminently applicable and deserve recognition and gratitude in historical epistemology.

“The historian’s special contribution is the discovery of the manifold shapes of time. The aim of the historian, regardless of his

specialty in erudition, is to portray time. He is committed to the detection and description of the shape of time."

—George Kubler, *The Shape of Time*<sup>1</sup>

"Drilling down" is a wonderfully commonplace, earthy metaphor. It is particularly attractive because it is a phrase used routinely by accountants and financial analysts—not your typical exemplars in academic discussions of knowledge-acquisition. I will want to use this metaphor when I affirm empirical inquiry in history. To begin, I want to note the geological and indeed the petroleum-mining heritage of the metaphor. I think we will need to start from that original, literal sense in order to make the most of the figurative sense by which it opens out into more general analytic inquiry. What I most hope is that this metaphor will allow me to make the transition to questions of historical practice from two of the most important ideas in Reinhart Koselleck's theory of historical time(s): the complementary ideas of "layers of time" (*Zeitschichten*), and of the "simultaneity of the non-simultaneous" (*Gleichzeitigkeit des Ungleichzeitigen*).<sup>2</sup>

As the title of one of his most important essays states explicitly, Koselleck was convinced of "the need for theory in the discipline of history" (Z:298; PCH:4): "If we, as historians, want to develop a genuine theory which would distinguish itself from those of the general social sciences, then it must obviously be a theory that makes it possible to take into account a transformation in temporal experience" (Z:324). That is, the possibility of history as a discipline depends on a theoretical inquiry into the character of historical time. "It is a truism that history always has to do with time," Koselleck noted, but it is another matter entirely to theorize exactly what *historical time* means (Z:321). Of course, naturally elapsed time—a rotation of

1. George Kubler, *The Shape of Time: Remarks on the History of Things* (1962; reprint, New Haven, CT: Yale University Press, 2008), p. 11.

2. References to Koselleck, *Zeitschichten: Studien zur Historik (mit einem Beitrag von Hans-Georg Gadamer)* [*Layers of Time: Studies on Their History (with a Contribution from Hans-Georg Gadamer)*] (Frankfurt am Main: Suhrkamp Verlag, 2000) will be noted parenthetically in the text as Z:[p]. As complements and/or translations of the essays in this volume, I will also extensively consider Reinhart Koselleck's *Futures Past: On the Semantics of Historical Time*, trans. Keith Tribe (Cambridge, MA: MIT Press, 1985) and *The Practice of Conceptual History: Timing History, Spacing Concepts*, trans. Todd Samuel Presner et al. (Palo Alto, CA: Stanford University Press, 2002). References to *Futures Past* will be noted parenthetically in the text as FP:[p]. When translations of the material in *Zeitschichten* are provided in *The Practice of Conceptual History*, the parenthetical reference will include a reference to the translation in the form of PCH:[p]. Essays in *The Practice of Conceptual History* not included in *Zeitschichten* will be referenced in the footnotes.

earth, a revolution about the sun, and so on—remained necessary for Koselleck as a chronological measuring scale. But *historical* time has quite a different character. As my Norwegian colleague Helge Jordheim aptly observes, “Koselleck is not concerned with the abstract, logical, philosophical problem of time. . . . For Koselleck, on the contrary, the important question regards temporalities, in the plural, meaning different ways of experiencing, imagining and conceptualizing time.”<sup>3</sup>

Historical time or rather *times* arise out of natural time, but are not reducible to it (Z:10). “Time is no longer simply the medium in which all histories take place; it gains a historical quality. Consequently, history no longer occurs in, but through time. Time becomes a dynamic and historical force in its own right” (FP:246). Thus, Koselleck’s imperative: “we must find temporal categories that are adequate to historical events and processes.”<sup>4</sup> To conceptualize this, he argued, we need a terminology of temporal experience: “progress, decline, acceleration or delay, the not-yet and the not-anymore, the before and the after, the too-early and the too-late, the situation and the duration.”<sup>5</sup> That is the purport of the concept *Zeitschichten* (layers of time): metaphorically, it “gestures, like its geological model, towards several levels of time [*Zeitebenen*] of differing duration and differentiable origin, which are nonetheless present and effectual at the same time.” (Z:9) “There are different layers of the tempos of change that we must theoretically distinguish in order to be able to measure uniqueness and persistence with regard to each other” (Z:207; PCH:135). The notion of *stratified time* is synonymous, Koselleck notes, with the phrase “*Gleichzeitigkeit des Ungleichzeitigen*” (simultaneity of the nonsimultaneous) (Z:9). These are the key theoretical ideas I will try to interpret and apply.

In addition to drawing on my previously published discussion, to elucidate Koselleck’s notions I would like to draw on the ideas of George Kubler and Hans-Jörg Rheinberger concerning the historical epistemology of time.<sup>6</sup> Since the late art historian Kubler’s thoughts

3. Helge Jordheim, “Thinking in Convergences—Koselleck on Language, History and Time,” special issue on “Intellectual History in the Nordic Countries: Theoretical and Methodological Sources of Inspiration,” *Ideas in History* 2:3 (2007): 65–90, quote on p. 83.

4. Koselleck, “Begriffsgeschichte und Sozialgeschichte” (Conceptual history and social history), in *Zeitschichten* (above, n. 2), p. 304.

5. Koselleck, *Futures Past* (above, n. 2), p. 133.

6. John Zammito, “Koselleck’s Philosophy of Historical Time(s) and the Practice of History: A Review Essay,” *History and Theory* 43 (2004): 124–135; Kubler, *The Shape of Time* (above, n. 1); Hans-Jörg Rheinberger, *Toward a History of Epistemic Things: Synthesizing Proteins in the Test Tube* (Palo Alto, CA: Stanford University Press, 1997) and *On*

are not so widely known and show such amazing structural parallels with Koselleck, I will give a quick overview of his notions first. Kubler writes that “[o]ur actual perception of time depends upon regularly recurrent events, unlike our awareness of history, which depends upon unforeseeable change and variety. Without change there is no history; without regularity there is no time. Time and history are related as rule and variation: time is the regular setting for the vagaries of history.”<sup>7</sup> For him, the “historical question . . . is always the question of . . . relation to what has preceded [and] to what will follow”<sup>8</sup>; that is, “the perpetual problem confronting the historian has always been to find the beginning and the end of the threads of happening.”<sup>9</sup> “Historical time . . . is intermittent and variable. . . . Clusters of actions here and there thin out or thicken sufficiently to allow us with some objectivity to mark beginnings and endings. Events and intervals between them are the elements of the patterning of historical time.”<sup>10</sup> This links up directly with Koselleck. The immediate source and the ultimate application of Koselleck’s formal theory of historical time, his notion of *layers of time*, is ultimately “the determination of epochs and doctrines of specific eras which precipitate and overlap in quite different ways, according to the particular areas under consideration”—that is, a theory of periodization (FP:xxiii).

Now, “history cuts anywhere with equal ease,” Kubler contends, in the sense that “a good story can begin anywhere, [but] beyond narration the question is to find cleavages in history where a cut will separate different types of happening.”<sup>11</sup> Unfortunately, “the segmentation of history is still an arbitrary and conventional matter, governed by no verifiable conception of historical entities and their durations.”<sup>12</sup> “History has no periodic table of elements, and no classification of types and species; it has only solar time and a few old ways of grouping events, but no theory of temporal structure.”<sup>13</sup> Change can be gradual or catastrophic: “[A]t every moment the

*Historicizing Epistemology: An Essay*, trans. David Fernbach (Palo Alto, CA: Stanford University Press, 2010).

7. Kubler, *The Shape of Time* (above, n. 1), p. 65.

8. *Ibid.*, p. 5.

9. *Ibid.*, p. 72.

10. *Ibid.*, p. 11.

11. *Ibid.*, p. 2.

12. *Ibid.*, p. 15.

13. *Ibid.*, p. 88.

fabric is being undone and a new one is woven to replace the old, while from time to time the whole pattern shakes and quivers, settling into new shapes and figures. These processes of change are all mysterious uncharted regions."<sup>14</sup> This is because "men cannot fully sense an event until after it has happened."<sup>15</sup> "We are too much inside the streams of contemporary happening to chart their flow and volume."<sup>16</sup> Thus, "actuality . . . is a void interval slipping forever through time: the rupture between past and future."<sup>17</sup>

From a diachronic perspective, "historical change occurs when the expected renewal of conditions and circumstances from one moment to the next is not completed but altered."<sup>18</sup> A metaphorical language with which to conceive this situation, Kubler suggests, might be derived from electrodynamics: "the transmission of some kind of energy; with impulses, generating centers, and relay points; with increments and losses in transit; with resistances and transformers in the circuit."<sup>19</sup> Historical knowledge "consists of transmissions in which the sender, the signal, and the receiver all are variable elements affecting the stability of the message." In terms of this metaphor, "our signals from the past are very weak, and our means for recovering their meaning still are most imperfect"; that is, "the perception of a signal happens 'now,' but its impulse and its transmission happened 'then,'" and there are problems of transmission.<sup>20</sup> Indeed, "each relay is the occasion of some deformation in the original signal. . . . Each relay willingly or unwittingly deforms the signal according to his own historical position."<sup>21</sup> Accordingly, "[d]rift, 'noise,' and change are related . . . interferences preventing the complete repetition of an earlier set of conditions."<sup>22</sup>

Kubler, considering the history of art, seeks to conceptualize formal sequences in terms of intrinsic trajectory as a set of "solutions" to a common "problem." "The entity composed by the problem and its solution constitutes a form-class,"<sup>23</sup> which allows him to conceptualize

14. *Ibid.*, p. 15.

15. *Ibid.*, p. 16.

16. *Ibid.*, p. 27.

17. *Ibid.*

18. *Ibid.*, p. 54.

19. *Ibid.*, p. 8.

20. *Ibid.*, p. 15.

21. *Ibid.*, p. 19.

22. *Ibid.*, p. 54.

23. *Ibid.*, p. 30.

this developing series in terms of a determinate “network”: “The closest definition of a formal sequence that we now can venture is to affirm it as a historical network of gradually altered repetition of the same trait. . . . In cross section let us say that it shows a network, a mesh, or a cluster of subordinate traits; and in long section that it has a fiber-like structure of temporal stages, all recognizably similar, yet altering in their mesh from beginning to end.”<sup>24</sup> It is in such a frame that Kubler proposes we can best understand invention or discovery: “Inventions lie in this penumbra between actuality and the future, where the dim shapes of possible events are perceived. These narrow limits confine originality at any moment so that no invention overreaches the potential of its epoch.”<sup>25</sup> All “prior positions are part of the invention, because to attain the new position the inventor must reassemble its components by an intuitive insight transcending the preceding positions in the sequence.”<sup>26</sup> Here, the crucial idea to harvest is the path-dependency of novelty.

But the diachronic is also contained in the synchronic: “the present instant is the plane upon which the signals of all being are projected.”<sup>27</sup> In the simultaneity of the present are nested a congeries of series emanating out of the past: “The simultaneous existence of old and new series occurs at every historical moment save the first.”<sup>28</sup> In a synchronic register, “the cross-section of the instant, taken across the full face of the moment in a given place, resembles a mosaic of pieces in different developmental states, and of different ages, rather than a radical design conferring its meaning upon all the pieces.”<sup>29</sup> This is what Koselleck meant by the “simultaneity of the nonsimultaneous.”

How can we conceive of historical times as generative—as factors, not simply parameters? Rheinberger draws an explicit analogy to

24. *Ibid.*, p. 33. The parallels with the theory of experimental systems elaborated by Rheinberger and of the “mangle of practice” elaborated by Andrew Pickering in science studies are striking. See Pickering, *The Mangle of Practice: Time, Agency, and Science* (Chicago: University of Chicago Press, 1995). Kubler views as “most regrettable” what he calls “our long reluctance to view the processes common to both art and science in the same historical perspective.” What such a rapprochement would recognize is “the common traits of invention, change, and obsolescence that the material works of artists and scientists both share in time” (*The Shape of Time* [above, n. 1], pp. 8–9).

25. Kubler, *The Shape of Time* (above, n. 1), p. 59.

26. *Ibid.*, p. 58.

27. *Ibid.*, p. 15.

28. *Ibid.*, p. 50.

29. *Ibid.*, p. 25.

Ilya Prigogine's theories of "dissipative structures" in thermodynamics, evoking "what might be called localized and situated time."<sup>30</sup> For Prigogine, time becomes not simply a parameter, but an *operator*, generating "irreversibility." Rheinberger explains Prigogine's notion of time as an operator analogically, conceiving it as "a structural, local, and intrinsic characteristic of any system maintaining itself in a stationary state far from thermodynamic equilibrium and reaching from time to time, as a result of turbulences, a point of bifurcation." This "intrinsic" or "internal time," Rheinberger continues, "characterizes a sequence of states of a system insofar as it undergoes continuing cycles of nonidentical reproduction."<sup>31</sup> That can serve as a general model of historical process. Georges Canguilhem, as Rheinberger notes, recognized a decisive "historicity" in scientific practice as "a procedure that is normalized from within, but is punctuated by accidents, impeded or thwarted by obstructions, and interrupted by crises."<sup>32</sup> One can apply this model to more than just the historicity of science.

Such a notion of time as an operator, not just a parameter, is, according to Koselleck, an emergent phenomenon: it has a historicity all its own. The experience of time altered dramatically in what he called the "Sattelzeit," the era between 1750 and 1850, and the result transfigured the idea of history.<sup>33</sup> Something *new* arose, hence the German *neue Zeit*, or *Neuzeit*, as the concept for modernity. The radicality of the future, experienced in that moment as acceleration in time, sundered its present from a once-accessible past: "it became a rule that all previous experience might not count against the pos-

30. Rheinberger draws on Prigogine in this passage; see his *Toward a History of Epistemic Things* (above, n. 6), pp. 179–180.

31. *Ibid.*, p. 180.

32. Georges Canguilhem, "L'Objet de l'histoire des sciences," in *Études d'histoire et de philosophie des sciences* (Paris: Vrin, 1968), p. 17, as cited in Rheinberger, *On Historicizing Epistemology* (above, n. 6), p. 67.

33. One of the key theorists during this Sattelzeit (saddle period) was Johann Gottfried Herder, who proclaimed in his *Metakritik zur Kritik der reinen Vernunft* (*Metacritics to the Critique of Pure Reason*) (1799): "There exist in this universe, thus, . . . uncountably many times in any one moment" (zu einer Zeit unzählbar viele Zeiten), and "in fact every changing thing carries the measure of its time within itself" (see *Herders Sämtliche Werke*, vol. 21, ed. Bernhard Suphan [Berlin: Weidmann, 1881], p. 59). As Helge Jordheim argues, in Herder's philosophy of history "every form of art, every branch of science, every moral dilemma manifested its own duration and rhythm of time." This was a crucial anticipation of the ideas of Koselleck. See Jordheim, "'Unzählbar viele Zeiten.' Die Sattelzeit im Spiegel der Gleichzeitigkeit des Ungleichzeitigen," in *Begriffene Geschichte: Beiträge zum Werk Reinhart Kosellecks*, ed. Hans Joas and Peter Vogt (Frankfurt am Main: Suhrkamp, 2011), pp. 449–480.

sible otherness of the future" (FP:280). "Once new experiences, supposedly never had by anyone until then, were registered in one's own history, it was also possible to conceive of the past in its fundamental otherness."<sup>34</sup> The emergence of "a future that transcended the hitherto predictable" introduced the possibility of a *historical* time (FP:17). Thus, it was "progress" that engendered nineteenth-century *Historismus*, with its insistence on the uniqueness of each epoch, its irreducibility to the teleology of the present (FP:57): "History became a modern science at the point where the break in tradition qualitatively separates the past from the future"<sup>35</sup>—that is, "history was temporalized in the sense that, thanks to the passing of time, it altered according to a given present, and with growing distance the nature of the past also altered" (FP:250). "Since then it has been possible that the truth of history changes with time, or to be more exact, that historical truth can become outdated."<sup>36</sup>

Koselleck believed that his two anthropological categories—the "space of experience" (*Erfahrungsraum*) and the "horizon of expectation" (*Erwartungshorizont*)—enable us to "temporalize" time itself, to reckon "historical time(s)." The compulsion to coordinate past and future so as to be able to live at all is inherent in every human being. Put more concretely: on the one hand, every human being and every human community has a space of experience out of which one acts, in which past things are present or can be remembered; and on the other, one always acts with reference to specific horizons of expectation.<sup>37</sup> The space of experience is the arrayed past for a given present, and the horizon of expectation is the cutting edge of future possibilities for any given present.

Experience and history both begin, Koselleck averred, with the *event*, for it occasions the two quintessentially historical questions: What happened? and How did this come to pass? (Z:43). What constitutes an event subjectively is surprise at novelty. Surprising novelty provokes the initial question: What happened? "Actual history," Koselleck wrote, "is always simultaneously more and less—and seen *ex post facto*, it is always other—than what we are capable of imagining" (Z:149; PCH:99); that is, subjectively, we always imagine

34. Reinhart Koselleck, "The Eighteenth Century as the Beginning of Modernity," in *The Practice of Conceptual History* (above, n. 2), p. 167.

35. Reinhart Koselleck, "Concepts of Historical Time and Social History," in *The Practice of Conceptual History* (above, n. 2), p. 120.

36. *Ibid.*

37. Reinhart Koselleck, "Time and History," in *The Practice of Conceptual History* (above, n. 2), p. 111.

what is to come, but never in just the manner it arises—it is both more and less, and that is what is surprising. But as we consider it, we realize it is just the difference we need to account for, and that is why it must be, seen *ex post facto*, “always other.” But the surprise betokens already-imagined projections into the future, calculated prognostications, or what Koselleck called “horizons of expectation.” In a word, novelty presupposes the idea of recurrence (Z:21). Each of us invariably gathers and sorts experiences as a resource to forestall surprises. We constantly sift events into patterns of recurrence to create a “space of experience” just in order to anticipate the future. Without repetition, there can be no knowledge; knowledge is always only *re-cognition*. That is its retrospective signature; but it is simultaneously a prospective expectation—most rigorously, *prediction*. Novelty, in that light, signals disappointed anticipation, failed prediction, *anomaly*<sup>38</sup>: “History is always new and replete with surprises. Nevertheless, if there are predictions that turn out to be true, it follows that history is never entirely new, that there are evidently longer-term conditions or even enduring conditions within which what is new appears” (Z:207; PCH:135). Consider the relation of an utterance to a language, a case to a code of law (Z:21–22). Such is the necessary, but insufficient relation of an event to the structures of its possibility. Now, “every event produces more and at the same time less than is contained in its pre-given elements: hence its permanently surprising novelty” (FP:110); still, “what really changes is far less than the subjectively unique surprises of participants lead us to suspect” (Z:66; PCH:75).

A pattern gets disrupted, a prognosis goes awry; such a change in experience cannot be redeemed without more methodical reflection. The second question asserts itself: How did this come to pass? We move from simply identifying what took place (the event), in a narrative of before and after, to inquiring into its conditions of possibility. To get to the question, tacitly we always-already consider the question How *could* this come to pass? (Z:44). We formulate hypotheses to account for the event, identifying *structures* within which such events generally arise.<sup>39</sup> We are “compelled to adduce medium-range, long-term, or enduring causes for the explanation of unique experiences” (Z:45; PCH:59). The mid-level trends and long-term

38. I am deliberately drawing out parallels to the thought of Thomas Kuhn here; see his *The Structure of Scientific Revolutions*, 2nd ed. (Chicago: University of Chicago Press, 1970).

39. Koselleck understands *structure* in a Braudelian sense of long-duration patterns, rather than in a Saussurean or structuralist sense of a synchronous system.

structures, which alone allow us purchase on the happenstance of a novel event, are accessible to us, as Koselleck would have it, not primarily in their “traces,” in the various “sources” we can tangibly access, but rather in our theories adducing meaningful configurations to these traces. Indeed, one might say that “historical science plays a constitutive role in integrating the long-term transformations of experience into individual experience” (Z:39–40; PCH:54–55).

Koselleck conceived temporalities in three experiential modes: the irreversibility of happenstance; its repeatability; and the simultaneity of the nonsimultaneous. Irreversibility he associated with the novelty or surprise of the event: (singular) *Ereignis* erupting into (recurrent) *Erfahrung*. The event “just happens,” and that is irreversible.<sup>40</sup> Yet, it is always situated in *Erfahrung*, in the patterns of repeatability without which experience cannot be carried forward through time. The novelty reconfigures the sequence, but only in the sequence is the novelty discernible, thus there is an inextricable connection between novelty and the trajectory of prior events, a path-dependency of recognition.<sup>41</sup> What the first two modes occasion is the key experience of the simultaneity of the nonsimultaneous, a multilevel, synchronic, and diachronic presence of time.<sup>42</sup> In language, the synchronic articulation of concepts carries within it “a many-layered internal structure of time [that] projects from any given contemporary reality backwards and forwards in time.”<sup>43</sup> One of the metaphors that Koselleck invoked is the Janus figure, looking simultaneously to what went before and to what is to come.<sup>44</sup>

40. Andrew Pickering has characterized this radical sense of historicity in his articulation of the “mangle of practice”; see his *The Mangle of Practice* (above, n. 24).

41. This path-dependency is the core of Rheinberger’s conception of “experimental systems” as historical phenomena; see his *Toward a History of Epistemic Things* (above, n. 6).

42. Helge Jordheim, “Die ‘Gleichzeitigkeit des Ungleichzeitigen’ als Konvergenzpunkt von Zeitlichkeit und Sprachlichkeit: Zu einem Topos aus dem Werk Reinhart Kosellecks,” *Divinatio* 22 (2005): 77–89. The point is that “every historical space of experience encompasses different strata of time, different durations of time, that can be discovered and appraised in juxtaposition” (p. 81).

43. Jordheim, “Unzählbar viele Zeiten” (above, n. 33), p. 471.

44. Reinhart Koselleck, “Einleitung,” in *Geschichtliche Grundbegriffe. Historisches Lexikon zur politisch-sozialen Sprache in Deutschland [Basic Historical Concepts: Historical Lexicon of the Political-Social Language in Germany]*, vol. 1, ed. Otto Brunner, Werner Conze, and Reinhart Koselleck (Stuttgart: Klett-Cotta, 1972), p. xv. Compare Koselleck’s use of the Janus figure with Bruno Latour’s in *Science in Action* (Cambridge, MA: Harvard University Press, 1987).

This provides the entrée to Koselleck's program of the "history of concepts" (*Begriffsgeschichte*): "the history of concepts illuminates . . . the multilayered nature of the meanings of a concept that have arisen out of chronologically disparate times. Thereby it carries us beyond the stark alternative of diachronic versus synchronic."<sup>45</sup> Indeed, Jordheim has argued that Koselleck's theory of historical times and his theory of the history of concepts converge precisely on "the question of how to understand the role of language in processes of historical change."<sup>46</sup> Jordheim sees this approach as a promising rejoinder to the sharp split between the *synchronic* and the *diachronic* introduced by the French reception of the linguistic theories of Ferdinand de Saussure.<sup>47</sup>

It is fruitful to highlight this tension between Koselleck's approach and that of the French poststructuralists by returning to the thought of Rheinberger. The latter notes that "new developments are at best an irritation at the point where they first appear: they can be approached only in the mode of a future perfect."<sup>48</sup> That sounds very much like Koselleck. Rheinberger goes on, however, to say that "[o]f course, we may try to unearth the conditions of their emergence. But these conditions, and so the new, seem accessible only by way of a recurrence that requires the existence of a product as a prerequisite for assessing the condition of its production."<sup>49</sup> He associates this caveat with the poststructuralist suspicion of diachronic thinking in general, beginning with Canguilhem, but most vigorously expressed by Claude Lévi-Strauss, Michel Foucault, Roland Barthes, and Jacques Derrida.<sup>50</sup> Above all, it is Derrida who gives Rheinberger the language for this critique, the idea of the "historial":

From a historial point of view, we . . . have to assume that recurrence, in terms of rearrangement and reorientation, is at work as part of the time structure of the innermost differential activity of the systems of investigation themselves. What we call their history is deferred in a constitutive sense: the recent is made into the result of something that did not so happen. And the past is made into a trace of something that had not (yet) occurred.<sup>51</sup>

45. Koselleck, "Begriffsgeschichte und Sozialgeschichte" (above, n. 4), p. 125.

46. Jordheim, "Thinking in Convergences" (above, n. 3), p. 66.

47. *Ibid.*

48. Rheinberger, *Toward a History of Epistemic Things* (above, n. 6), p. 177.

49. *Ibid.*

50. *Ibid.*, pp. 4, 105–107.

51. *Ibid.*, p. 178.

This notion of time suspends not only the traditional linear causal frame of social history, but also any reduction to a purely contingent, stochastic process.<sup>52</sup> In their place, Rheinberger proposes Derrida's historicity: "The constitutive belatedness, or deferred action, that 'knotting of time' is inscribed into the character of a trace. . . . According to this temporality, 'the "after" becomes constitutive of the "before."' . . . Therefore, there can be no once-forever canonical history, as there can also be no global foresight."<sup>53</sup> This means, for Rheinberger, that there can only be "history without grounds and for that reason without telos."<sup>54</sup> Yet, there are always narrative accounts, both by participants and by observers, and this is equally constitutive of the process of change: "the historical narrative, without realizing it, both obeys and discloses the figure and the signature of the historial."<sup>55</sup>

For Koselleck, language and history are inseparable: "all language is historically conditioned [*geschichtlich bedingt*] and all history is linguistically conditioned [*sprachlich bedingt*]."<sup>56</sup> A historical concept "assembles the plurality of historical experiences, as well as a series of theoretical and historical issues in one single whole."<sup>57</sup> Jordheim elaborates: "It is the ambiguity of concepts, the plurality of possibly conflicting meanings that represents the link to an equally ambiguous historical reality."<sup>58</sup> In Koselleck's words, "what actually takes place is, obviously, more than the linguistic articulation that has led to the event or that interprets it"<sup>59</sup>; "Between linguistic usage and the social materialities upon which it encroaches or to which it targets itself, there can always be registered a certain hiatus" (FP:85). "A dual difference thus prevails: between a history in motion and its linguistic possibility and between a past history and its linguistic reproduction. The determination of these differences is itself a linguistic activity, and it is the burden of historians" (FP:232).

52. Ibid., p. 181.

53. Ibid.

54. Ibid., p. 179.

55. Ibid., p. 182.

56. Reinhart Koselleck, "Sprachwandel und Ereignisgeschichte" [Introduction] (1989), in *Begriffsgeschichten: Studien zur Semantik und Pragmatik der politischen und sozialen Sprache* [Concept Histories: Studies on the Semantics and Pragmatics of the Political and Social Language] (Frankfurt am Main: Suhrkamp, 2006), p. 32.

57. Koselleck, "Einleitung" (above, n. 44), p. xxiii.

58. Jordheim, "Thinking in Convergences" (above, n. 3), p. 78.

59. Reinhart Koselleck, "Social History and Conceptual History," in *The Practice of Conceptual History* (above, n. 2), p. 24.

Every politically or socially significant concept carries “a *polemic* element directed at the present, a *prognostic* element directed at the future, and a *historical* element directed at the past”<sup>60</sup>; that is, “concepts themselves, as they move through diachronic time, through all these synchronic contexts and moments, are simultaneously unfolding their own diachronic temporal structure, constructing their own pasts, their own presents and their own futures by means of the historical, prognostic and polemic elements of their conceptual semantics.”<sup>61</sup>

Koselleck's theory of historical times means that there is no “total otherness of the past,” nothing like total incommensurability, but instead stratum upon stratum of the past flows in and through the present at varying velocities: “History contains numerous differentiable layers which each undergo change sometimes faster sometimes slower, but always with varying rates of change” (Z:238); it “only permits itself to be investigated if one keeps these different temporal dimensions distinct” (Z:330). Just this “taking into account the multilayeredness of historical courses of time” is what constitutes the theoretical possibility of historical accounts (Z:217; PCH:143). Koselleck praised Fernand Braudel as a pioneer in conceptualizing historical inquiry as multi-temporal (Z:11).<sup>62</sup> Braudel's distinction between the short-term event, the mid-term trend, and structures of the *longue durée* prompted historical practice to attend to the “temporal multilayeredness of historical experience” (Z:214; PCH:141); “Each according to the chosen thematic, historians recognize, deposited in and about one another, different passages of time which reveal different tempos of change” (Z:295). What Koselleck theorized and what Braudel constructed allow a more sophisticated historical accounting. With concepts like *conjuncture* and *crisis*, we can orchestrate the temporal layers of a moment of time to grasp more fully the synchrony of systemic change with short-term happenstance. The profit of thinking in terms of *layers of time* is that it allows for an assessment of the “relative velocities” of the changes in these structures themselves (Z:22). But that is where the problems of historical method set in: “Historical times consist of several layers that refer to each other reciprocally without being entirely

60. Jordheim, “Thinking in Convergences” (above, n. 3), p. 86, citing Koselleck, “Begriffsgeschichte und Sozialgeschichte” (above, n. 4), p. 111.

61. Jordheim, “Thinking in Convergences” (above, n. 3), p. 87.

62. Braudel elaborates these ideas in many works. One salient instance is “The World Economy and Divisions of Time,” in *Civilization and Capitalism, 15th–18th Century*, vol. 1: *The Perspective of the World* (Berkeley: University of California Press, 1992), pp. 71–88.

dependent on one another" (Z:20); "When one thematizes long, average, and short periods of time, it is difficult to establish causal relationships between the temporal layers thus singled out" (Z:308; PCH:9). Each "necessitates a different methodological approach, [and] there is no complete interrelation between the levels of different temporal extensions" (FP:105).

### Drilling Down as Historical Practice

It is precisely the historical craft to "drill down" to reach back. It is time to cash out my guiding metaphor. First, let me discuss its geological original sense. The key here is the idea of a core sample, which discerns the layers of stratification in a vertical core as deep into the earth as the drill rig can penetrate. What that core sample indicates is the thickness and composition of the different strata, and from this data it is possible to establish not only what happened over very long durations of geological time, but also its segmentation in epochs. The science of geology became effective precisely in the mastery of these techniques, and drilling technology dramatically enhanced the rigor and scope of this form of investigation. But that literal sense of the phrase *drilling down* is only background to its more conventional metaphorical usage to signify analytical penetration or magnification. An illuminating parallel might be the zeroing in of spy-satellite photography of a point on the earth's surface. This enormous magnification allows the discernment of detail at a level of precision that is not possible at the global level. When accountants and financial analysts use the phrase, they refer to accessing specific transactions that are "rolled up" or "bundled" in an aggregate, a "bottom line." They know well that, as the saying goes, the devil is in the detail; and they have no qualms about the cognitive possibility and actuality of their analysis. Not to put too fine a point on it, if they can do it, I submit we can too.

So, what is drilling down for historians, at least à la Koselleck? I want to approach this via his two master concepts. First, in terms of "simultaneity of the nonsimultaneous," we are entitled to establish that this crucial principle is true not only for the *now*, but for every *then* we might propose to investigate. That is to say, we can postulate for every moment a congeries of "temporal strata" that are not necessarily coherent, but effectively co-present. What we need to contrast, here, is the unproblematic embrace of the notion of a *zeitgeist* in which every aspect of a historical moment is integrated and coordinated by some master principle or principles. We may not presume totality; indeed, it is prudent, if not mandatory, to presume the opposite. Rheinberger offers the notion of *rhizomic* connections,

and this is a useful conceptualization of the “patchy” nature of the coordination of practices, events, and cultures in a given historical moment.<sup>63</sup> Kubler offers the notion of a *mosaic*, a network of disparate elements.<sup>64</sup> All of these, I think, gesture to the complexity of presence in a historical moment. What we need to recognize, however, is that the urge to coherence is nonetheless a compelling regulative ideal as much for the individual practices of a historical time (as in Rheinberger's experimental systems or Kubler's form-classes of artistic practice) as for the historian seeking to comprehend the epoch.<sup>65</sup> Not only is coherence a crucial epistemological value, but *cumulation as constraint*—path-dependency—is a central feature of the several distinct systems or domains co-present in any given historical moment.<sup>66</sup> William Wimsatt's notion of *generative entrenchment* is, in my view, the most powerful theoretical formulation of this principle of developmental realization.<sup>67</sup>

With that, we have moved toward the diachronic elaboration of the synchronicity of the simultaneity of the nonsimultaneous. We are now considering the layers of time as diachronic flows through a common present. Not only does each historical present demonstrate at best rhizomic or patchy coherences across domains, but it also registers different paces and intensities in the temporal

63. Rheinberger, *Toward a History of Epistemic Things* (above, n. 6), p. 16. For the notion of *patchiness*, see Andrew Pickering, “Openness and Closure: On the Goals of Scientific Practice,” in *Experimental Inquiries: Historical, Philosophical and Social Studies of Experimentation in Science*, ed. Homer LeGrand (Dordrecht: Reidel, 1990), p. 217.

64. Kubler, *The Shape of Time* (above, n. 1), p. 25.

65. Pickering has argued for the essential importance of this ideal of coherence in scientific practice: “[C]oherence, I am inclined to believe, is a constant *telos* of scientific practice”; “the search for coherence is *constitutive* of practice in its full temporality.” See his “Knowledge, Practice, and Mere Construction,” *Social Studies of Science* 20 (1990): 682–729, quotes on pp. 694, 697, respectively. I have argued the same for historical practice in “Are We Being Theoretical Yet? The New Historicism, the New Philosophy of History, and ‘Practicing Historians,’” *Journal of Modern History* 65:4 (1993): 783–814.

66. Kubler notes that every “solution” to a form-problem permanently closes that chapter and constrains all subsequent solutions. This path-dependency is a crucial idea in his thought, as well as Rheinberger's and Pickering's, and is a major specification of what Koselleck was working up.

67. See William Wimsatt: “Generativity, Entrenchment, Evolution, and Innateness: Philosophy, Evolutionary Biology, and Conceptual Foundations of Science,” in *Where Biology Meets Psychology: Philosophical Essays*, ed. Valerie Hardcastle (Cambridge, MA: MIT Press, 1979), pp. 139–179; “Developmental Constraints, Generative Entrenchment, and the Innate-Acquired Distinction,” in *Integrating Scientific Disciplines*, ed. William Bechtel (Dordrecht: Martinus Nijhoff, 1986), pp. 185–208; and *Re-engineering Philosophy for Limited Beings: Piecewise Approximations to Reality* (Cambridge, MA: Harvard University Press, 2007).

deployment of the domains.<sup>68</sup> Braudel made that a central feature of his dimensions of historical process: the *longue durée*, with its deep structural persistences, and the conjuncture, or cyclical rhythms of shorter term and higher variability.<sup>69</sup> I am reminded of an essay I composed in graduate school about the coherence of theories of the business cycle in which I tried to describe the interaction of the long-term Kondratieff waves with the shorter-term, more familiar business cycle termed the *Juglar* by economic historians. I suggested that there were concrete historical implications of “adding” the impact of these respective waves together for the actual intensity of economic impact in any given moment. Such a “nesting” of cycles could help explain the severity of *crises*, that other crucial term in Braudel’s conceptual lexicon and also in the thinking of economic historians. What we might think of, here, is the image of the “perfect storm” that was popularized in a recent film: that sometimes forces converge to generate calamity. This is a historical idea that holds substantial potential.

But there are so many trajectories that it is unlikely that one might coordinate all of them, if not unwise even to believe that they *are* coordinated. Arts, technology, politics, and cultural contacts do not move in integral rhythms; this is the fatal flaw of the notion of *zeitgeist*, and also of *paradigm* or *episteme*. History must beware, Jacob Burckhardt long ago warned us, of the “terrible simplifiers,” even if they are as grand as Hegel, Kuhn, or Foucault; instead, we should be grateful for the failure of synchronicity. Cognitively, it is just the fact that some strata of experience remain roughly constant that enables us to appraise the variation of others.<sup>70</sup> This is essential not only for the particular “experimental system” of knowledge subject to our historical investigation, but for ourselves as historical investigators. If too many domains enter into simultaneous crisis, if we hit the perfect storm, then our capacity to comprehend (like that of our objects of inquiry) may be severely impaired. This advantage of the *nonsimultaneity of the simultaneous*, to invert the term for a moment, deserves recognition and gratitude in historical epistemology.

68. Kubler once used the notions of *thin and thick flows of time*, which is worth further metaphorical exploitation.

69. Braudel, “The World Economy and Divisions of Time” (above, n. 62), pp. 71–88.

70. This is what W. V. Quine sought to explain by his notions of a *web of belief* and *underdetermination* and his gesture to “Neurath’s boat.” The image pervades his later writings and appears as an epigram in *Word and Object* (Cambridge, MA: MIT Press, 1960), p. vii. The phrase “adrift on Neurath’s boat” features in Quine’s “Five Milestones of Empiricism,” in *Theories and Things* (Cambridge, MA: Harvard University Press, 1981), p. 72.

A notable example has been developed by Peter Galison in the domain of history of science. He has disputed the “central metaphor” of autonomous paradigms (or epistemes) divided by total ruptures, as Kuhn (or Foucault) had it, arguing instead that we need to register the varying flows of historical change (in theories, in experimental regimens, in instrumentation) as we might think of the intercalated rows of bricks that make up a wall and give it the strength not to crack all the way down at one juncture.<sup>71</sup> What that means is that theory may be relatively fixed when a breakthrough comes in experimental strategies or instrumentation, or conversely across any of the three intercalated domains. This shapes the rhythm of the history of science in a much more intricate ballet than the lock-step of paradigms or epistemes. This strikes me as a powerful example of the concrete relevance of Koselleck's notion of historical times for current practice.

71. Peter Galison, “History, Philosophy, and the Central Metaphor,” *Science in Context* 2 (1988): 197–212.