ARCHITECTURAL RESEARCH METHODS

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Chapter 6

Interpretive-Historical Research

6.1 INTRODUCTION

In his study "The Home," Adrian Forty cites a character in an 1888 fictional work entitled *Mark Rutherford's Deliverance*. Here is Mr. Rutherford:

> At the office . . . nobody knows anything about me, whether I was married or single, where I live, or what I thought upon a single subject of any importance. I cut off my office life in this way from my home life so completely that I was two selves, and my true self was not stained by contact with my other self. (At) . . . the moment the clock struck seven . . . my second self died, and . . . my first self suffered nothing by having anything to do with it. . . . I was a citizen walking London streets; I had my opinions . . . I was on equal terms with my friends; I was Ellen's husband; I was, in short, a man."[1]

Forty presents a case that, from 1850 to 1950, the concept of the home underwent tremendous changes. This brought about transformations in how the home as a material object came to be designed. Forty provides four headings, each descriptive of a period within this larger time span. In each, he offers an interpretation of how social-cultural factors brought about material expressions of "home." The first heading (and the only one we will mention here due to space limitations) is "A Place for Anything but Work." Forty recalls how the Industrial Revolution drew many people from the countryside to the city to work in factories. This had the impact of separating home from workplace as two distinct concepts in the communal mind for the first time. The craftsman who worked at home now became a laborer in the factory, where his freedom was curtailed and he was "subordinated . . . to the rules and directions of

Correlational but historical lens.

correlational

historical

phenomena - past.

the managers." This, in addition to the oppressive conditions at many of the work-places, underlined the sense of separation between workplace and home. As a result, the home began to take on connotations of retreat, of haven, of an idealized realm in which the worker is anything but a worker. Figure 6.1 is an image from Forty's study, show-ing a London home interior in 1893. It shows how the home had become "a palace of illusions, which encouraged total dissociation from the world immediately outside."[2]

In this chapter and the next, we deal with what can be generally termed *interpre-tive research*, and this term needs immediate clarification. In a strict sense, all research involves interpretation. However, we define interpretive research specifically as *in-vestigations into social-physical phenomena within complex contexts, with a view toward explaining those phenomena in narrative form and in a holistic fashion.* In this chapter, we aim to address instances in which the phenomenon is a *past* condition, relative to the researcher. Hence the title *interpretive-historical* research. In the next chapter, we address research into complex social-physical phenomena that are *contemporary* rel-ative to the researcher. That chapter (7) is devoted to what we call *qualitative* re-search, and more will be said about it in that context.

Figure 6.1   London home in 1893 (from Adrian Forty): "a palace of illusions . . ." Permission of Royal Commission to the Historical Monuments of England.

The idea of subsuming "history"—which has its own disciplinary status in the academy, indeed, one of the oldest—under "interpretative research" might be questioned by some. Indeed, R. G. Collingwood has argued that historical inquiry is its own mode of knowledge.[3] On the other hand, on the terms in which we have conceived this book (that is, a consideration of various "ways of knowing" from the point of view of strategy and tactics), historical inquiry is very similar to qualitative inquiries in general. In each case, the researcher attempts to collect as much evidence as possible concerning a complex social phenomenon and seeks to provide an account of that phenomenon. This requires searching for evidence, collecting and organizing that evidence, evaluating it, and constructing a narrative from the evidence that is holistic and believable. Throughout the process, interpretation is the key. This activity can be generally captured by the diagram in Figure 6.2.
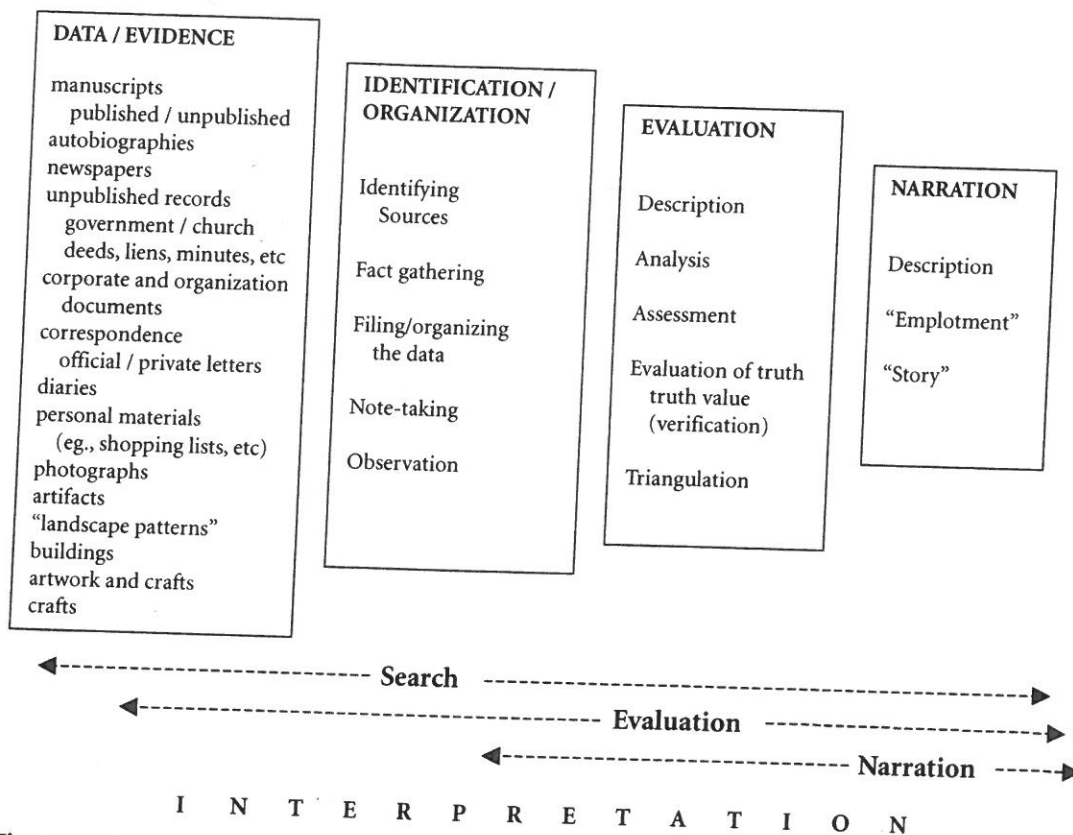
DATA / EVIDENCE

manuscripts
   published / unpublished
autobiographies
newspapers
unpublished records
   government / church
   deeds, liens, minutes, etc
corporate and organization
   documents
correspondence
   official / private letters
diaries
personal materials
   (eg., shopping lists, etc)
photographs
artifacts
"landscape patterns"
buildings
artwork and crafts
crafts

IDENTIFICATION / ORGANIZATION

Identifying
   Sources

Fact gathering

Filing/organizing
   the data

Note-taking

Observation

EVALUATION

Description

Analysis

Assessment

Evaluation of truth
   truth value
   (verification)

Triangulation

NARRATION

Description

"Emplotment"

"Story"

◄-------------------- **Search** -------------------------►
  ◄-------------------------- **Evaluation** ----------------►
    ◄-------------------------- **Narration** -----►

I N T E R P R E T A T I O N

Figure 6.2 Chart of interpretive research.

Note that interpretation is active regardless of whether the task is evidence gathering, evaluation, or narration. Furthermore, the arrows beneath the columns suggest that the components of interpretive research are not contained in discrete "phases," but go on in parallel much of the time. For instance, Jacques Barzun and Henry Graff make the point that, even as the narrative is nearing completion, "you must keep an eye on events and publications for the latest relevant facts."[4]

In Forty's case, the interpretive-historical nature of the work is clear. A vast array of social-economic-political factors are brought into focus by the conceptual construct "the home." "The home" is also the means by which the holistic quality of Forty's account is achieved; that is, he does not just address social-economic-political forces randomly, but gives those forces roles in a coherent interpretive framework. Forty collects different kinds of data, such as written matter from the period (fiction, "how-to" books, advertisements, magazines), other scholarly commentaries, and photographs, as the basis for building his interpretation.

In this chapter, at the strategic level, we discuss the nature of historical narration (section 6.2), and provide a survey of four different "lenses" through which to view past phenomena (6.3). For heuristic purposes, 6.2 addresses considerations having to do with the nature of historical narrative as such, while 6.3 addresses some possible epistemological starting points that a researcher might bring to the construction of a historical narrative. We view both of these elements as falling under the umbrella of "strategy." Tactically, we deal with data collection (6.4) and general categories of evaluation (6.5). We conclude by considering one specific study (6.6), identifying the tactics used to frame the narrative.

6.2   STRATEGY: NARRATIVE AND ANALYSIS IN INTERPRETIVE-HISTORICAL RESEARCH

The interpretive researcher must eventually report what s/he finds in a narrative; and even while the research is in process, the findings are already being arranged in a narrational manner in the analyst's mind. How is history narrated? And in what ways could the narration be adjudged to be robust and believable? The *validity* of historical accounts starts with a demonstration that the events described occurred in the actual flow of time. A historical narrative cannot violate the sequence of that flow, or the coherent interconnectedness of its contents, in what Collingwood has termed "the one historical world."[5] A recent biography of Ronald Reagan, entitled *Dutch*, illustrates the problem that arises when a historical narrative's coherence is violated. The author of the work, Edmund Morris, chose to place a fictional character into his account of Reagan's tenure in the White House. While this may have some literary value, it is problematic as historical narrative. Morris's work is an instructive case of historical interpretation overstepping its bounds into fiction. Here we summarize three approaches to historical narration.

6.2.1 *The Idea of History as Constructed of* Narrative Sentences *(Arthur Danto)*

Danto proposes that historical accounts are by definition *narrative sentences*, a term that describes the nature of historical thinking and writing. A narrative sentence is one that necessarily involves two situations separated by time. And so the statement "The Thirty Years War began in 1618" is a sentence that must involve a beginning, which is 1618, and an end, which is the year 1648.[6] Someone making this statement before 1648 would make no sense, because no one could have known that the war would last 30 years. To illustrate his point further, Danto asks us to imagine an absolutely objective and exhaustive account of the flow of history documented by what he calls an Ideal Chronicle Machine, a gadget that rolls out *the* account of all possible events as time progresses. We could imagine the machine rolling out the Ideal Chronicle (the I.C.) of *all* the events of 1618. But even though all events are accounted for, the event we call the Thirty Years War cannot emerge via the I.C., either at the 1618 mark, or as the I.C. rolls by the year 1648. Only an observer removed from the objective flow of the I.C. could point to the flow, cull out the relevant facts as he or she sees them, and construct an account called the Thirty Years War. That construction is the narrative sentence.

Consider this statement made about Frank Lloyd Wright by William Cronon: "The faith of the Lloyd Joneses was more than just a religion for Wright; it also

[handwritten margin note: have to be able to step back; be removed to create the narrative sentences, which historical research is based on]

Figure 6.3   Wright's mother's family. "The faith of the Lloyd-Joneses . . . would forever shape his speech and writing" (William Cronon on Frank Lloyd Wright). Courtesy Frank Lloyd Wright Preservation Trust.

schooled him in the moral rhetoric that would forever shape his speech and writing."[7]
This is a narrative sentence. It involves two temporal conditions: a) the "faith of the
Lloyd Joneses," his mother's family, which was no doubt a factor in his early life, and
b) "the moral rhetoric that would forever shape his speech and writing." To be able
to make the statement, Cronon must be standing at a point in time after Wright's life.
Cronon's position is also a privileged one, for by making such an assessment of the
Lloyd Joneses' influence upon Wright's "moral rhetoric," he discounts other possible
influences upon that rhetoric. It is this removed position that the historian occupies
that leads some to make comparisons between the historian's work and the work of,
say, a storyteller. This connection to literature is considered as follows.

6.2.2 Literary Metaphors for Historical Narratives (W. B. Gallie and H. White)

As to the nature of the narrative itself, several theories argue that historical narratives
are related in some way to literary forms. W. B. Gallie writes: "Every genuine work of
history displays . . . features which strongly support the claim that history is a species
of the genus Story."[8] Gallie goes on:

> The systematic sciences do not aim at giving us a followable account of what ac-
> tually happened in any natural or social process: what they offer us is idealizations
> or simplified models. . . . But history, like all stories and all imaginative literature,
> is as much a journey as an arrival, as much an approach as a result. . . . Every gen-
> uine work of history is read in this way because its subject-matter is felt to be
> worth following—through contingencies, accidents, setbacks, and all the multi-
> farious details of its development.[9]

Gallie is not saying that the historical narrative is identical to fiction; nowhere
does he suggest that the rigorous tactics of evidence collection and analysis required
for history research be set aside. Gallie instead is arguing for an essence of historical
accounts. A story has a beginning, a development, a conclusion. It is an account of a
set of events and details that carry the reader along in a coherent drama. Gallie holds
that it is the same with historical accounts. That is why we enjoy reading them over
and over again, even though the outcome is known.

Hayden White's position may be paired with Gallie's. White's literary argument
for history has two main points. First, the historian is one who *emplots*: "Histories
gain part of their explanatory effect by their success in making stories out of mere
chronicles; and stories in turn are made out of chronicles by an operation which I
have . . . called "emplotment.""[10] The historian must take the available evidence to
weave together (emplot) a coherent account. But how does such an account achieve
validity? White's answer is the second of his points: He appeals to literary types as
measures of a historical story's coherence and robustness:

The historian brings to his consideration of the historical record . . . a notion of the *types* of configurations of events that can be recognized as stories by the audience for which he is writing. . . . The important point is that most historical sequences can be emplotted in a number of different ways. . . . For example, what Michelet in his great history of the French Revolution construed as a drama of Romantic transcendence, his contemporary Tocqueville emplotted as an ironic Tragedy.[11]

White suggests that literary types "endow the events of our lives with culturally sanctioned meanings." In sum, both Gallie and White essentially make appeals to literature as a means to lend what might be called a validity-of-lived-experience to the historical narrative.

6.2.3 The Role of Imagination and Comprehension in Historical Narratives (R. G. Collingwood)

But how exactly is the narrative, story, or emplotment actually constructed? Collingwood's notion of the historical imagination is one answer to this question. Collingwood argues that the human imagination has an inherent ability to comprehend past phenomena in terms of coherent wholes, and he makes interesting connections between this ability and the ability to create art. Says Collingwood: "The historian . . . is always selecting, simplifying, schematizing, leaving out what he thinks unimportant and putting in what he regards as essential. It is the artist, and not nature, that is responsible for what goes into the picture."[12] The thrust of what Collingwood is saying is this: The product of this imaginative-narrative activity is not "weak knowledge." Rather, precisely *because* of the legitimacy of the human imagination when it functions in this way, the result is valid and robust knowledge. Now, of course, there are good and bad efforts at exercising the historical imagination; Collingwood certainly does not suggest that any attempt at historical narrative is legitimate just because of the role of the imagination. This brings up the next consideration.

6.2.4 Analysis and Verification (Tosh and Barzun)

History-as-story, the historical imagination and, indeed, "narration" itself does not guarantee accuracy and believability. A historical account is, after all, not a story in the fictive sense. Collingwood himself, his idealism notwithstanding, gives the decisive rule that any historical account must be part of the "one historical world."[13] By this he means that, while fictive stories have no obligation to be part of the continuum of empirical space and time, historical accounts are necessarily part of it. If any aspect of a historical account does not square with the logic of the connections within this continuum, that is grounds for doubting its believability. While Collingwood offers a

philosophical argument for the need of accuracy, he does not provide the details for how to assure this in narration. Two works come to mind that may help. One is John Tosh's *The Pursuit of History*,[14] and the other is Jacques Barzun and Henry Graff's *The Modern Researcher*. (By the way, the lack of the word *history* in the Barzun/Graff work suggests these authors too conceive of historical writing as subsumed under a broader framework of inquiry; the term Barzun and Graff use is simply "research and report.")[15] Both Tosh and Barzun/Graff acknowledge that fitting an account dependably into the "one historical world" can be a big task. For Tosh, this is because historical sources "encompass every kind of evidence," and so each must be closely evaluated. For their part, Barzun and Graff cite the example of one researcher's 35 year trek in verifying the authorship of one 1879 document.[16]

Tosh points out the limitations of narration, which can suggest causal relations that are in fact not there, or "drastically simplify" a complex reality into something that renders the account untrue.[17] For Tosh, "analysis" is a kind of check to the other poles of "narration" and "description" in the overall project of historical research.[18] Tosh contends that analysis has come to play a larger role in historical writing in the last 100 years than it once did. In the 1991 edition of his book, Tosh identifies three components of analysis: textual authentication, validity of factual inferences, and weighing alternative interpretations.[19] We will return to Tosh's work in 6.4.

Barzun and Graff stress the need for "verification," a check against inaccurate narration. They point out that it is normal for anyone to sort through a variety of facts and claims in daily life to determine their veracity and usefulness. But historians must support their evaluations of each claim by "rationally convincing" argumentation.[20] This requires verification of the facts, and the authors cite a series of examples, under an array of headings, for how a researcher goes about the task of verification. We also suggest some in section 6.4 (see also Figure 6.7); suffice it here to say that many of these involve triangulating facts about an incident, via different sources, that converge to a point of agreement. If the triangulation cannot be achieved, the veracity of a claim is diminished.

6.3   STRATEGY: FOUR INTERPRETIVE LENSES

In this chapter and the next, it will become clear that under the umbrella of interpretive research are many variations on how subject matter can be interpreted. Here we consider four ways an interpretation of a historical subject can be framed.

6.3.1 Causal Explanations of History: The Idea of a "Covering Law"

The natural sciences have been accorded a great deal of respect in Western thinking. This is because science attempts to identify laws that regulate natural behavior, isolating causal connections and rendering those behaviors predictable. Gravity is such

[handwritten margin note: looking at whole "can suggest connections that are not there. triangulation to validate."]

a law, as are the laws of thermodynamics and of motion. Armed with a general law, a researcher has a powerful means by which to examine any number of cases of natural behavior that fall under the dictates of that law.

History research has not escaped this idea. A leading proponent of a causal interpretation of history is C. G. Hempel (b. 1905). He is associated with the "covering law" of history, which posits no essential difference between the behavior of natural phenomena and the behavior of social phenomena.[21] General laws apply to both. The behavior of an object of nature, say, a planet, is covered by laws that are now well known. But covering laws for human society are much harder to isolate, because the "human sciences" are not yet sufficiently developed to formulate them. Thus, on Hempel's view, we do not yet have truly rigorous historical accounts. We only have (what he calls) *explanation sketches*, because any account is as yet unable to identify the covering law behind the phenomena it is describing. When a covering law *is* discovered, explaining an event covered by the law will be tantamount to predicting future events of that kind.[22]

In contrast, Karl Popper (b. 1902) rejects the possibility of large-scale predictions. His *The Poverty of Historicism* holds that the growth of human knowledge is not predictable, and so neither are actions based upon future knowledge.[23] Only small-scale predictions are conceivable in the realm of the social sciences. Popper calls this "piecemeal engineering," by which the social scientist, much like the natural scientist, takes small steps based upon *available* knowledge, observing the results, correcting mistakes, and eschewing any grand "utopian" claims to general predictions of the future, which Popper terms "prophecy."[24]

Popper's emphasis upon small-scale cause-effect relations is a useful modification of Hempel's covering law model for historical accounts; it does not index an account to grand laws as yet unknown. Critics of the covering law have noted that the human mind naturally looks for reasons for why a thing or an event is thus-and-so, without demanding that those reasons be laws having universal validity.[25] Danto gives the example of a dent in an automobile. The dent is there because some event caused it to be there, but Danto shows that the "cause" could be a variety of events, depending more upon the perspective taken in narration than upon any general law.[26]

6.3.1.1 Examples: Viollet-le-Duc, Choisey. The emphasis upon "scientific method" in the West predisposed many to think causally about the history of design. This tendency is particularly strong in theories that emerged during or after the Industrial Revolution. Eugene Emmanuel Viollet-le-Duc, for example, sought to revisit Gothic structures to explain their forms as the rational expression of necessary structural forces (see Box 6.1).

The work of Auguste Choisey (1841–1904) was influenced by Viollet-le-Duc's rationalism. In brief, Choisey's *Historie de l'architecture* (1899) posits that architectural form, as *effect*, is the result of the rational processes of construction, as *cause*: "Style

BOX 6.1

Causal Thinking in Architectural Design: Viollet-le-Duc

Eugene-Emmanuel Viollet-le-Duc (1814–1879) was one of the first thinkers of his day to assess architecture from a rationalist point of view. The images below are from his *Lectures on Architecture.* Consider Viollet-le-Duc's rationalist deductions on the style of the copper vessel. Its appearance: "exactly indicates its purpose. . . . It is fashioned in accordance with the material employed. . . . The form obtained is suitable . . . (for) the use for which it is intended."* There really is only one way in which the copper vessel is optimally designed, and human reason can discover this way by deductive processes. In the same vein, Viollet saw the architecture of the Gothic period as an expression of the reasoned analysis of structural forces. In short, form is the effect that is caused by structural principles. Analytical drawings such as the one shown here of Notre Dame Cathedral fill the pages of his works.
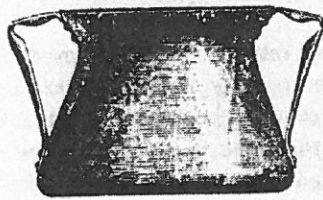
Figure 6.4A Illustration of copper vessel from Lecture VI of Viollet-le-Duc's *Lectures on Architecture*: "Thus . . . this vessel has style . . . first, because it exactly indicates its purpose; second, because it is fashioned in accordance with the material employed," etc. In short, here is an argument from *cause.*
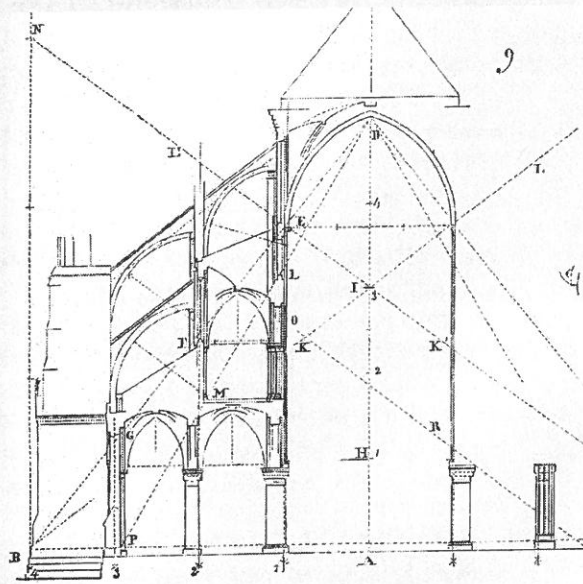
Figure 6.4B Diagram from Viollet-le-Duc's *Dictionnaire Raisonnee* highlighting the rational factors behind Gothic framing.

*Eugene-Emmanuel Viollet-le-Duc, *Lectures on Architecture* (1872), trans. B. Bucknall, 2 vols. (New York: Dover, 1987), 1:180–181.

does not change according to the caprice of . . . fashion, its variations are nothing but those of processes . . . and the logic of methods implies the chronology of styles."[27] Following this rubric, Choisey sees the history of Western architecture as the result of causal factors. Thus he writes of the Doric pediment: "The pitch of the gable is that of the roof, which is governed by this double condition, that the rain should run off, and the tile should not."[28] And, on the layout of the Acropolis: "An oblique view is the *general rule*, while a view *en face* is a calculated exception."[29]

6.3.2 History as the Movement of Absolute Spirit

Another interpretive approach, derived from the thought of the philosopher G. W. F. Hegel, holds that history is the on-going evolution of a communal consciousness or mind (in German the word is *Geist*, translated as "mind" or "spirit"). Simply put, the communal consciousness is the sum of the individual consciousnesses of human beings, ultimately encompassing the consciousnesses of all individuals in a society at any one time. What is more, the whole is more than the sum of the parts. That is to say, the corporate consciousness, if not a mind of its own, at least has attributes of motivation and of will; these transcend the ability of any individual consciousness to fully grasp them. And so the single subject is always enmeshed in a much larger *zeitgeist* (spirit of the time) than he or she is able to comprehend. It is this larger-than-the-sum-of-the-parts quality to the communal consciousness that is represented by the word *spirit*. The influence of this approach upon architectural history at the turn of the twentieth century was enormous. Typical is this kind of wording from Le Corbusier:

> A great epoch has begun. There exists a new spirit. Industry, overwhelming us like a flood which rolls on towards its destined end, has furnished us with new tools adapted to this new epoch, animated by the new spirit.[30]

The modernists, in effect, assumed that their time was the fulfillment of Hegel's idea that the evolution of absolute spirit will culminate in a condition of complete knowledge. They conflated their exuberance over the possibilities of the machine with the idea that all of the past was merely preparation for a brave new world, which they implicitly held to be their world. Many works of history from this period, such as those by Pevsner and Giedion, are colored by this assumption of the modernist *zeitgeist*.[31] The title of Giedion's text, *Space, Time and Architecture*, is itself illustrative of the work's epistemological assumptions.

6.3.2.1 Example: Explanatory Power for Stylistic Transitions Through Time. The "movement of spirit" is one of the few interpretive approaches that could explain *transitions* from one style to another. Hegel's thought in general is concerned with the essential instability of any one "shape" of culture through time; the forces within a cultural system

are always pushing toward newer horizons of understanding. Out of this emerge the changes in the visual attributes of the products of material culture. Heinrich Wolf-flin's influential study *Renaissance and Baroque*, which posits explanations as to why the former style evolved into the latter, is an example of this kind of application of the Hegelian system.[32] Readers would do well to study this work, and see in it a forerun-ner of the twentieth-century histories referred to earlier.

6.3.2.2 Example: Explanatory Power for Stylistic Uniformity in a Given Period. The Hegelian system is also useful in explaining the *uniformity* of stylistic expression during a period of time. For all of the oversimplification that comes from categorizing art into periods, Hegel's philosophy explains why such categorizing basically *works*. The products of art in any given period do tend to look alike; Gothic art is Gothic art because of Gothic attributes, Renaissance art is Renaissance art because of Renaissance attrib-utes, and so on. One just does not find a "Gothic artist" flourishing during Renais-sance times. On Hegel's view, this is the communal spirit expressing itself in material forms. Moesei Ginzburg's *Style and Epoch*, in which he calls for the machine, the fac-tory, and workers' housing to be the stylistic features of Russian architecture at the turn of the century, is an example of a work that affirms certain forms are right for a certain time.[33] (See Figure 11.14 and related text on Ginzburg.)

6.3.2.3 Example: Study of Individuals and Their Work. The Hegelian approach is also useful in its ability to render the backdrop behind specific individuals and their work more the-oretically meaningful. The idea of someone being a "man for his time" has theoretical roots in this view. Even though the movement of communal spirit tends to devalue in-dividual lives as such, Hegel invests heavily in special individuals as agents that bring about change. When dealing explicitly with history, Hegel calls such a person a *world historical individual*. The progress of communal spirit is very dependent on

> the activity of individuals, who are its agents and bring about its actualization. . . . The historical men, the world historical individuals, are those who grasp just such a higher universal, make it their own purpose, and realize this purpose in accor-dance with the higher law of the spirit.[34]

The artist stands in a similar position as one who is able to "grasp the higher uni-versal," so as to "realize this purpose" in material forms. Of Alberti, for instance, Jacob Burckhardt says: "of his various gymnastic feats . . . we read with astonishment how, with his feet together, he could spring over a man's head; how in the cathedral he threw a coin in the air till it was heard to ring against the distant roof; how the wildest horses trembled under him."[35] Quite a fellow, that Alberti! Men such as Al-berti were "historical men," who were able to take the various yearnings of the com-munal spirit of their time and convert them into material expression. It is fairly

elementary to identify other names in the history of architecture that have played similar roles: Suger of St. Denis, or Frank Lloyd Wright, for instance.[36]

6.3.3 Structuralism

One question the Hegelian notion of communal spirit does not answer is why stylistic similarities in the products of material culture sometimes occur in widely dispersed cultures (that is, ones with little chance of contact). This is a question Claude Levi-Strauss addresses in his analysis of a number of widely dispersed cultural systems. One example is his study of the tendency for split representation of the human form in the decorative arts of the early Shang (Chinese), the Kwakiutl (Pacific Northwest) and the Maori (New Zealand) cultures.[37] Says Levi-Strauss:

> We reserve the right to compare American Indian art with that of China or New Zealand, even if it has been proved a thousand times over that the Maori could not have brought their weapons and ornaments to the Pacific Coast. . . . (If) historians maintain that contact is impossible, this does not prove that the similarities are illusory, but only that one must look elsewhere for the explanation. . . . If history . . . cannot yield an answer, then let us appeal to psychology, or the structural analysis of forms.[38]

When Levi-Strauss refers to history he means causal history, as the covering law model would have it. In this view of cultural development, similarity in style is necessarily the result of physical contact. Given the lack of historical evidence for such contact, Levi-Strauss appeals to structural analysis.

There are several texts that summarize structuralism, the one by Terence Hawkes probably being the most accessible.[39] Here we only summarize some important implications for history research that emerge from this strategy. First, systems of meaning have their own organic properties. Jean Piaget, for example, posits the characteristics of any structural system as self-contained, self-regulating, and self-transformative.[40]

Figure 6.5 Split face mask design after the kind referred to by Levi-Strauss. Courtesy of Angela Feser.

Language is such a system. The English language defines a clear, albeit widely diffused, conceptual area of "containment." It operates by a coherent set of rules that make reference to nothing outside of the system; it is self-regulating. It changes purely according to immanent conditions—consider the new meanings assigned to the words *mouse*, *surf*, and *memory* with the advent of computers—that is, the language is self-transformative.

meaning rests in relationship between entities ←

Second, meaning rests not so much in entities themselves as in the relationships *between* entities. Ferdinand Saussure's thesis for language is that words, as well as the components of words (e.g., letters, in the case of alphabetized systems), only carry meaning when standing in relationship to other such signs. The entire network of these relationships constitutes a *langue*, the totality of the structural system, while any instance of the *langue* is a *parole*. The atomic components of the *langue/parole* system are *phonemes*, or the sound-images that make up the "material" of the language system. And, says Peter Caws, "the chief characteristic of the phoneme is simply that it is different from all the other phonemes—what it is in itself is a matter of comparative indifference."[41] Note that no reference to anything external to the system is necessary for meaning; meaning arising out of phonemic relationships is in this sense arbitrary, dependent only upon the agreement of the community that assigns such meaning.

6.3.3.1 Example: Deep Structures (Broadbent, Glassie).

The idea of deep structure is derived from Noam Chomsky's theory of how the mind generates language. Chomsky holds that the mind has the innate ability to organize the world and to frame that organization into language. From these "deep structures" Chomsky generates a set of algorithms from which sentences are constructed. This theory has also been used to explain the generation of architecture. The reasoning is that architectural forms, as universal as human language, must also be generated from innate orientations within the mind. Broadbent et al. cite four such mental orientations of "structures": the building as container of human activities, the building as a modifier of climate, the building as a cultural symbol, the building as a consumer of resources.[42] These "structures" offer a basis by which built forms throughout history could be assessed in a way that transcends the bounds of any particular culture. This theory resonates in tone with Levi-Strauss's analysis of similarities of art and social systems in disparate cultures by means of "internal connections."

Another appeal to deep structure is the idea that the mind has embedded orientations that are expressed *geometrically* in the visible realm. Henry Glassie's taxonomy of the objects of Anglo-American folk architecture adapts Chomsky's theory of deep structures in this way:

> Down from the level of the observable there is a continuum of abstraction that becomes less detailed and more powerful as it modulates to lower planes. . . . at the lowest level of organization—a level comparable to that on which Chomsky's ker-

nel sentences may be found—there are base concepts that are specific structures of geometric entities to which designing rules are applied in order to derive the structures of specific components—the types of which actual artifacts are examples.[43]

Glassie proposes that an impressive range of Anglo-American folk architecture may be formally explained by a set of geometric "rules" that derive from a base concept of an "axially ordered pair of squares." For example, "a quantitative study revealed that 99.2 percent of the 2,193 barns surveyed could be understood in terms of this bilaterally symmetrical, tripartite concept"[44]

6.3.4 Poststructuralism

In poststructuralism, the idea of an orderly self-defining, self-regulating, and self-transforming system is questioned. Michel Foucault, for example, posits that historical periods merely come and go, each period understood as a web of discourses, only to be replaced by another period, understood as another web of discourses, and so on. Poststructuralism questions ontological value itself, suggesting that "reality" is a byproduct of "discourse," and hence subservient to it. This renders any notion of a universal or trans-historical understanding of "reality," in which certain ideational benchmarks remain constant (e.g., "language," "progress," "heaven," "nature," "man," and so on), a polite fiction. Any vestige of meaning as a substantive reality is denuded; discourse and not substance is the source of meaning. Paul Rabinow offers an example of this point of view in recalling a debate on "human nature" between Foucault and Chomsky. The structuralist Chomsky held that there is, in fact, a human nature. This is understandable in light of his theory of the universal capacities of the human mind for language formation and understanding. Foucault on the other hand rejected the idea of "a human nature" as a substantive reality, choosing rather to frame it as a notion that "designates certain types of discourse in relation to or in opposition to theology or biology or history."[45]

What is discourse? Poststructuralism understands discourse as something like the cultural manifestations of the trafficking of thought, distributed into various topical foci. These in turn are maintained by tacitly agreed-upon ways of seeing. The result is a web of meaning that defines an era. Instances of cultural manifestations may be a period's literature, arts, or professions. Topical foci are certain discursive headings that appear, subsumed under terms such as "nature," "pluralism," even "man." Ways of seeing are often reified into expressions of institutional power, such as political or economic structures, a moral code, the ecclesiastical class, and so on. In the debate on human nature, for example, Foucault simply suggests "practices" such as economics, technology, or politics as "conditions of formation" that make "human nature" possible. In other words, rather than an assumed and hence privileged view of human nature that transcends all cultures, Foucault sees "human nature" itself as a discursive product of a fairly recent Western way of seeing.

BOX 6.2

Los Angeles 1965–1992: A Poststructuralist Analysis

Edward Soja's study of Los Angeles in the period 1965–1992 is an illustration of a poststructuralist approach.* Soja takes two turbulent dates to bracket his study: the Watts riots of 1965 and the riots related to the Rodney King incident in 1992. Soja conceptualizes the Los Angeles of 1965–1992 as six intermeshed realities that involve everything from geographically distributed "exopolises" (each different, and larger, than the actual incorporated municipalities), to "flexcities" that are geographies related to shifts in patterns of economic production, to "cosmopolises" that, though local, depend upon the global economy. These then are intermeshed with social hierarchies that are "no longer easily definable by simple racial, ethnic, occupational, class, or immigrant status."** To this is added the police structure that inhabits this complex reality so as to enforce an unquiet peace. Finally, on all of this is overlaid the reality of Los Angeles as an endless agglomeration of "simcities" ("Korealand, Blackword, Little Tijuana . . . Funcky Venice . . .").† The reader leaves Soja's study with a sense of the density and complexity that is Los Angeles. It reinforces the poststructuralist idea that meanings and "knowledges" are much more indexed to a cultural time and place then previously assumed. For what it takes away by negating the idea of transhistorical knowledge, poststructuralism gives back in the possibility of grasping the immanent knowledge operating in any particular cultural-temporal space more deeply. Soja himself concludes his analyses on a typically open-ended poststructuralist note: "All that can be said in closing is that Los Angeles, as always, is worth watching."††
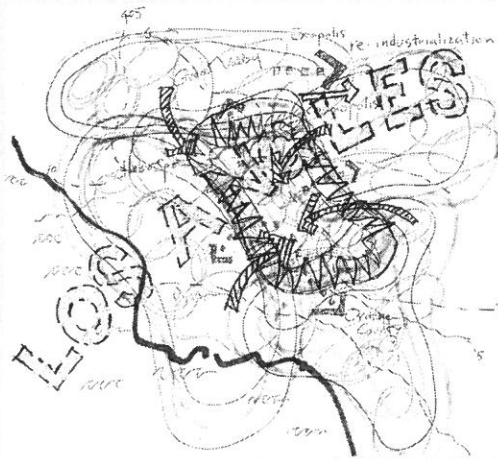

Figure 6.6   A student's graphic interpretation of Soja's analysis of Los Angeles. Courtesy of Angela Feser.

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*Edward Soja, "Los Angeles, 1985–1992," in *The City: Los Angeles and Urban Theory at the End of the Twentieth Century*, ed., Allen J. Scott and Edward Soja (Berkeley, Calif.: University of California Press, 1996), 426–462.

**Ibid., 446.

†Ibid., 454.

††Ibid., 460.

A poststructuralist strategy of historical explanation, then, takes a period of time *as is*. This means two things. First, it does not explain a set of given conditions as obligated to previous conditions. The second follows from the first: While structuralism tends to take systems of human reality as universal ones (e.g., language, kinship relations, cuisine, manner of dress, and so on) poststructuralism does not look at transcultural systemic realities that somehow affirm "human-ness."

In poststructuralism, the material products of culture are parts of a larger immanent discourse, and so any historical assessment of architecture in this strategy is necessarily an assessment of the social/cultural discourse as well. As in the Hegelian paradigm, the individual artist may not be fully aware of the forces acting upon him or her. But in a departure from Hegel, here there is no obligation to a general sense of progress, or even necessarily to any sense of holistic communal identity. The historic era becomes simply the object-as-complex-reality, and an understanding of that reality consists of parsing the discourses that define it.

6.4   TACTICS: IDENTIFICATION OF DATA, ORGANIZATION, AND EVALUATION

Tosh lists six categories under which "historians and their writings are commonly classified." These are: politics, biography, ideas, economy, society, and mentality.[46] Architectural history research, because it so often focuses upon the material objects that constitute built environments, tends not to fall as easily under any one of Tosh's categories. The material object (it can range in scale from a copper vessel to the city of Los Angeles) is complicit with all of these categories. Thus the narrative must pull from what each category has to offer in order to weave its holistic account of the object in question. James Ackerman calls this the "direct experience of the artifact": "Though we do not read Newton's *Principia* to learn physics, or the Eighteenth Amendment to learn how to control the consumption of alcohol, we do visit the Acropolis at Athens and the Sistine Chapel to experience just what they have to convey."[47]

This said, one cannot *just* interact with built objects, many of which are either in decay, or in some way different from the condition in the period under consideration. The physical object cannot reveal much without the other tactics of the overall interpretive enterprise: evidence collection, evaluation, and narration (refer again to Figure 6.2). We give some guidelines and examples in this as well as in the next section.

The details of data collection and evaluation in interpretive-history research are many; an introductory text covering a wide spectrum of research methods for architecture cannot discuss them exhaustively. Here we provide a general table summarizing how Tosh and Barzun/Graff address these considerations (Figure 6.7). This table takes the one in Figure 6.2 and expands the content of the middle sections (identification, organization, evaluation).

	Identification	Organization	Evaluation / Analysis	
DATA / EVIDENCE	Primary/secondary T28-29 Published/ unpublished T30 General/archival T34-35 Books/periodicals Public/personal T39-45 Official/colloquial T36-38 Fact finding Catalogues B/G58 Encyclopedias B/G67 References B/G71 atlas, handbooks, etc Chronology B/G82 perpetual calendar B/G103	Researcher's mind (B45) Accuracy B/G44 Love of order B/G44 Logic B/G45 Honesty B/G45 Self-awareness B/G46 Imagination B/G47 Compilation B/G201 By topic By time By internal logical order Note-taking B/G25 "Relatedness" of events T104 Composing B/G211 Verification B/G96-133 Scale/scope T99	Authenticity External/internal criticism T51-54 Attribution B/G112 Social trend (falsification) B/G108 Clarification B119 Audience B/G 29-30 Difference between now and then T12 (for instance see "falsification on the increase" in B/G 108-112) Fact versus idea B/G134 Bias B/G185 Self-criticism B/G142 Alternative interpretations T119 ('91 ed) Empathy T105 "post hoc propter hoc" T97 Oversimplification T97	**NARRATION**

◀——————— **INTERPRETATION** ———————▶

Figure 6.7 Some considerations for data collection, organization, and evaluation taken from the Tosh and Barzun/Graff texts. Page numbers from their texts are provided here. In the Tosh case, pagination is from the 1984 edition except where noted.

Tosh's and Barzun/Graff's efforts may be summarized like this: the interpretive-historical narrative must be coherent and believable on the basis of how it fits into the logical connections demanded by Collingwood's "one historical world." Collingwood suggests "rules of method" for situating a historical narrative in this world.[48] For in-

stance, the narrative must be localized in space and time, by which is meant that it cannot be situated in a make-believe space-time context. *Alice in Wonderland* and Dante's *Inferno* are not histories. A historical narrative must not only be consistent with the facts of its internal relationships in time and space, it also should be consistent with the single fabric of reality that is the one historical world. To be able to do this calls for what Collingwood terms *evidence.* "What is evidence . . . everything is evidence which the historian can use as evidence . . . this spoken utterance, *this building*, this finger-print . . . the whole perceptible world . . . is potentially and in principle evidence to the historian."[49] The historian uses the pieces of the perceptible world he or she has chosen as "pegs" to aid the imagination to "rediscover . . . (the) past," so as to re-enact that situation in his mind.[50]

Tosh is also helpful in surveying the various possible forms of written documentation.[51] He provides a balanced discussion of primary/secondary sources, published/unpublished matter, official/personal records, and so on. He underlines the fact that "identification," "organization," and "evaluation" do not occur sequentially, but are active in concert throughout the process. For instance, (official) records must be received as facts that someone deemed worthy of recording while personal (what Tosh calls "ephemeral") written matter—letters, lists, notes—can capture the context in a much more immediate way. Barzun/Graff adds an insightful section related to this issue. They argue that contemporary culture, where electronic and televised media are coupled with an emphasis on "free speech," tends to offer a great deal of material for the researcher, but at a lower level of real truth value. The press can print "fabrications" without risk because it can refuse to disclose the sources.[52]

Barzun and Graff suggest that good interpretation comes from good organization. This connection is most evident in their discussion of note-taking as the researcher interacts with the sources. They argue that note-taking, by which they mean writing down in one's own words a fact or a thought from the source, is a step taken "towards the first draft."[53] They include a discussion on the researcher's mind in this context. Barzun and Graff also suggest that certain traits and habits (love for order, honesty, dedication to accuracy, etc.) are helpful in organizing research. Furthermore, they suggest that a researcher's cultural background and values play a role in organization and interpretation as well. A moral bent will see events in terms of divine intervention over against the workings of natural law (e.g., Augustine); a nationalistic bent will send forward a particular people or nation as more important than others (e.g., Walter Scott); the theory of evolution brought about the idea that historical events were also the product of a long "genetic" chain.[54]

The veracity of claims made by the evidence must be assessed for their truth value. On this topic, Barzun and Graff give many examples of how different sources must be used to triangulate upon a claim. For instance, they mention that a letter purportedly written by John Stuart Mill, but only signed "J," appeared in the April 18, 1932 edition of *Le Globe*. How to verify that Mill indeed wrote the letter? Well, first,

"research discloses two earlier allusions by the editors of the paper that 'one of the most powerful thinkers in London' intended to write a series of open letters" about this topic. Second, a note from one of the editors states that a letter from "M" is forthcoming. Third, the "J" letter was published three days after the promise stated in the "M" letter. Fourth, a letter clearly written by Mill a month later refers to "my letter which appeared in the *Globe*." And so on.[55] We now take a closer look at evaluation and analysis.

6.5   TACTICS: EVALUATIVE CATEGORIES IN INTERPRETIVE-HISTORICAL RESEARCH

In distinction to categories of *handling* the evidence (identification, organization, evaluation), this section suggests categories for *types* of evidence: determinative, contextual, inferential, and recollective.

6.5.1 *Determinative Evidence*

Of primary importance is evidence that can situate the object of study in the time and space of the one historic world. Dates are one obvious type of determinative evidence (Barzun and Graff, for example, list the perpetual calendar as one resource for date verification). And because architectural history research involves the material object, archaeological tactics that can pinpoint dates are useful as determinative evidence. Consider the transformations of the abbey church at St. Denis over the centuries (Figure 6.8). Here, archaeological methods were the tactics used to uncover different stages of the structure's evolution. Photographs may also serve as determinative evidence. Recently, the Associated Press issued this story:

> A negative of the 1906 photograph depicting the first person to scale Mount McKinley proves the climber actually was standing 15,000 feet below the summit. . . . Dr. Frederick Cook claimed he took the picture of his companion, Edward Barrill, after the pair scaled the Alaskan peak, which at 20,320 feet is the highest peak in North America. But researcher Robert Bryce told the Times that a print made from Cook's original negative shows geographical features in the background that were cropped when the explorer published the photograph. . . . Bryce found the photograph in some of Cook's papers recently donated to the archives at Ohio State University.[56]

Of course, computers provide us with new ways to analyze photographs—but they also provide new ways to alter them. This is a concern over photographic evidence that did not exist in years past.
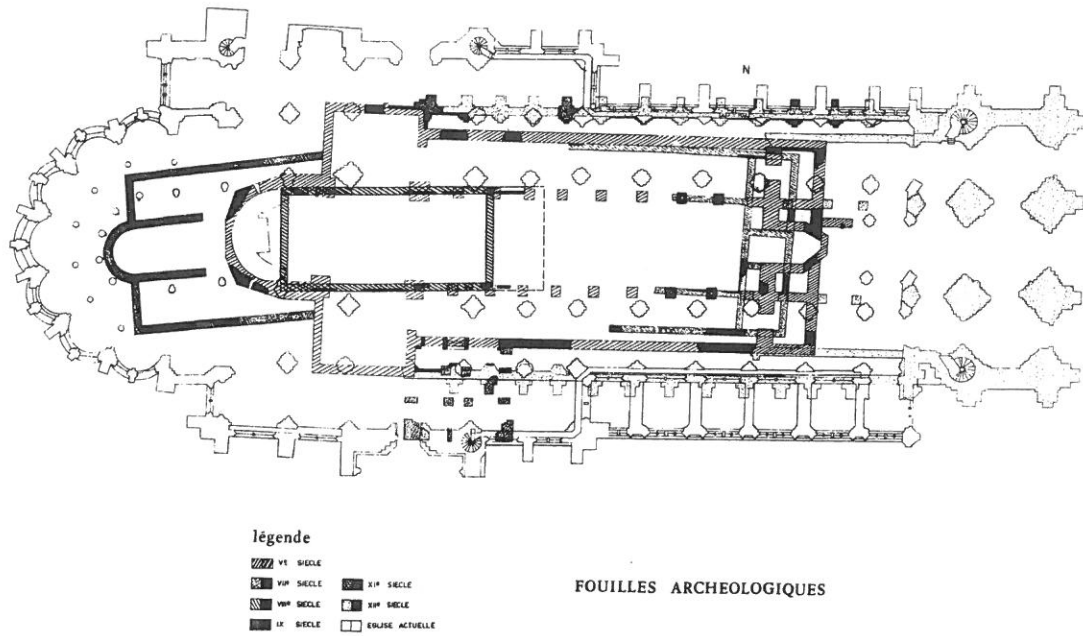
légende

VᵉˢIÈCLE

VIIᵉ SIÈCLE　XIᵉ SIÈCLE

VIIIᵉ SIÈCLE　XIIᵉ SIÈCLE

IXᵉ SIÈCLE　EGLISE ACTUELLE

FOUILLES ARCHEOLOGIQUES

Figure 6.8 The abbey church of St. Denis in its various iterations: the evolving plan through time, based upon archaeological evidence. From Brankovic Branislav, *La Basilique de Saint-Denis: Les etapes de sa construction.* Courtesy Editions du Castelet, Boulogne, France.

6.5.2 Contextual Evidence

In architecture research, the elements of the built environment are often used to situate the object of inquiry *in context*. For example, in his study on the Abbott Suger, Otto von Simson makes the claim that the abbot's decisions about the portal design of the west façade of the church may well have been influenced by the Platonic ideas in the thought of Bernard of Clairvaux: "the increasingly cordial relations between the two men suggest that the art of St. Denis may reflect Bernard's ideas."[57] From the archives Simson first situates the building in time: "Suger's church, it will be recalled, postdates his reform of the monastery, undertaken at the insistence of St. Bernard."[58] Simson then uses other architectural objects, themselves situated in time, as contextual evidence. He compares the St. Denis portal design with the portal of the abbey church at Beaulieu in Languedoc, built shortly before the St. Denis portal, in the 1130s. The Languedoc design is one of "turmoil. . . . Innumerable figures seem to be crowded into a narrow space; the Apostles and angels . . . in wild agitation." In short,
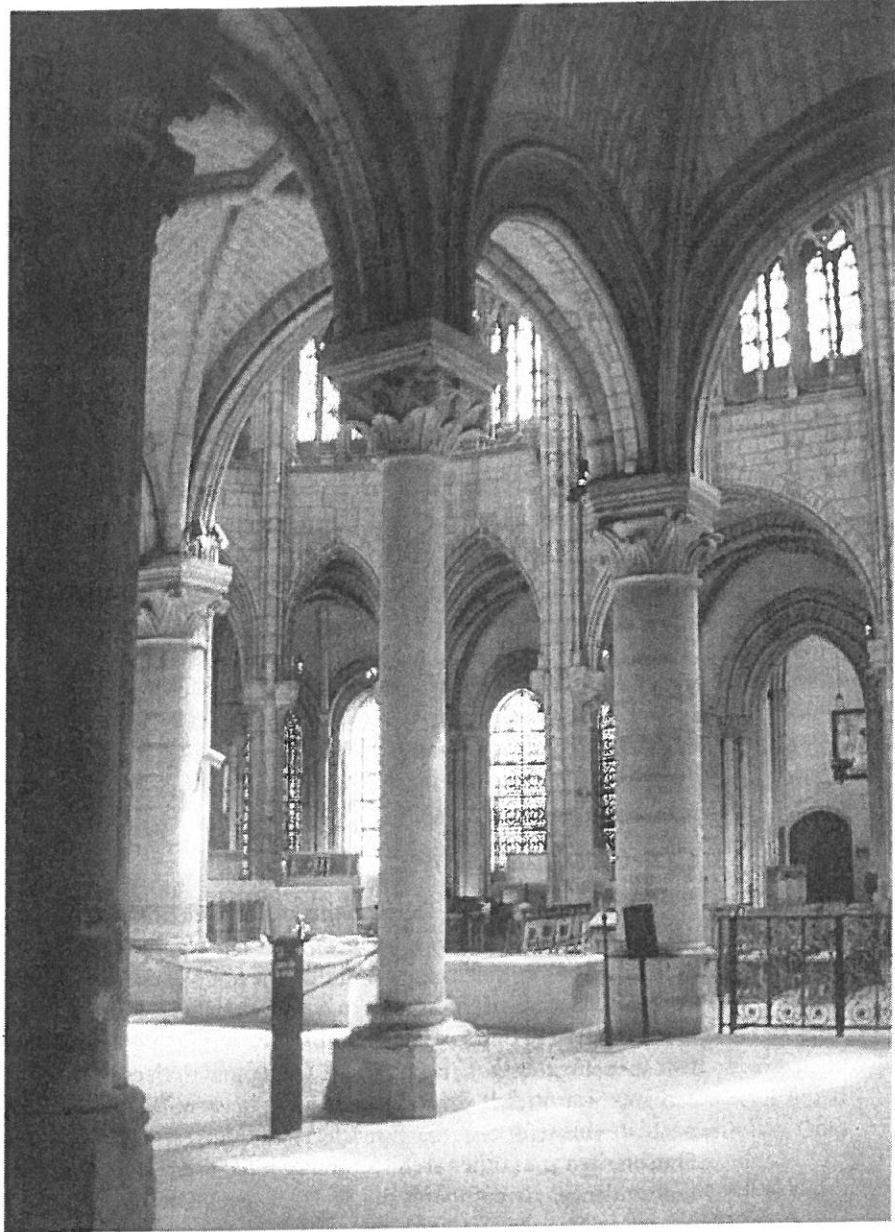
Figure 6.9   Interior of St. Denis Cathedral. From authors' collections.

it is the style that St. Bernard found to be "most offensive." The St. Denis portal, on the other hand, is "serene and calm. . . . Clarity and simplification is noticeable throughout," reflective of the Platonic peace of an ideal world. Lastly, Simson's argument is built upon archival evidence: letters between St. Bernard and Suger.[59] "Bernard addresses Suger as his 'dearest and most intimate friend'; and unable to visit him, he requests the dying man's blessing."[60]

6.5.3 Inferential Evidence

Sometimes, by proximity of date, by reasoned interpretation, or by other logical deductions, one proposition is posited as very likely to be linked with another proposition, even though "hard" connections may not be available. Consider this: Wright's Robie House is one of this century's most photographed works of architecture, but for a study on how the house came to be, the photograph of Frederick Robie in his Robie Cycle Car may be more informative than photographs of the house itself. Daniel Hoffman's study of the house benefits greatly by inclusion of a photograph of the car (Hoffman's text is subtitled *The Illustrated Story of an Architectural Masterpiece*).[61] Robie's car speaks to the kind of man that would be attracted to the Robie House: an industrialist conversant with what technology can provide in the way of objects that connote progress—and one not afraid to embrace them.
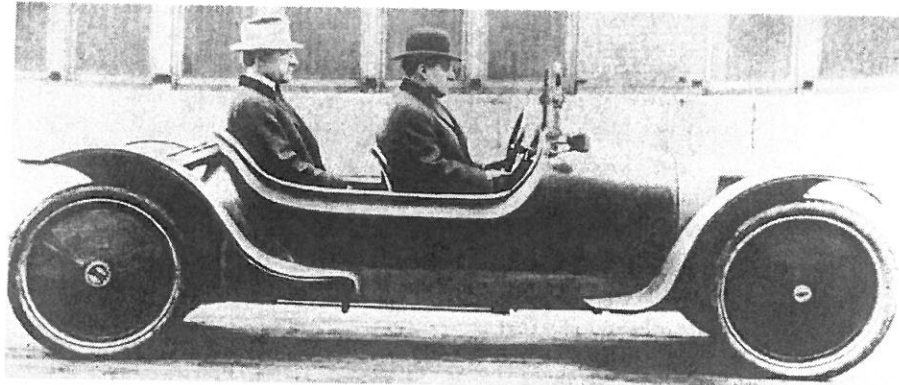

Figure 6.10　Frederick Robie, with driver, in the Robie Cycle Car, designed and built several years before the construction of the Robie House. The photograph helps one understand the man who would have a house built with integrated ventilation systems, an attached garage, and structural steel cantilevers. Courtesy Frank Lloyd Wright Preservation Trust.

BOX 6.3

The Use of Inference in Researching the Work of Kirtland Cutter

Another example of inference may be found in Henry Matthews's work on the Pacific Northwest architect Kirtland Cutter. Matthews posits that Cutter's early design for his own house (1887) may have been influenced by the designs of A. J. Downing, on the basis of the popularity of Downing's work at that time (1850s): ". . . he must certainly have known Andrew Jackson Downing's popular and influential pattern book . . ."* The claim is strengthened by visual similarities, although Matthews makes further inferences as to why the Cutter work is bolder. These are based upon Downing's own comments discouraging mere copying of the Swiss chalet's "defects," as well as upon Matthews's assumption that Cutter was influenced by the "real mountain architecture" that he saw on a trip to the Alps.**
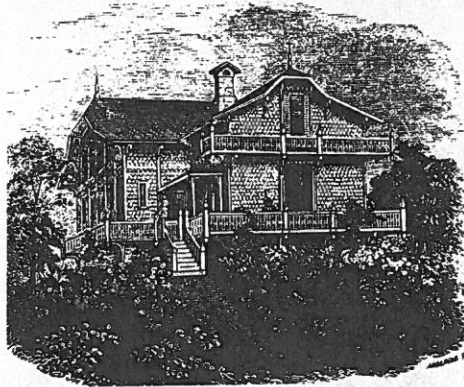

Figure 6.11A Swiss chalet, from A. J. Downing's *Architecture of Country Houses* (1850), cited by Matthews in his text.
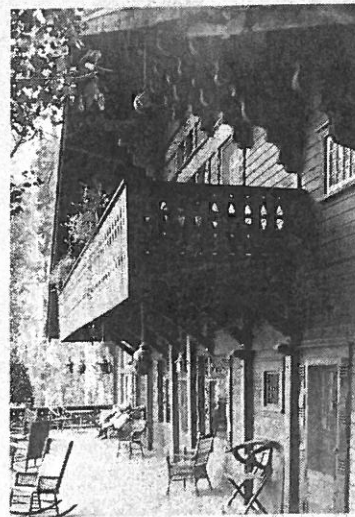
Figure 6.11B The Swiss chalet "type" that Cutter designed for his own home (1889). Use of both images courtesy of Northwest Museum of Arts and Culture, Eastern Washington State Historical Society.

*Henry Matthews, *Kirtland Cutter: Architect in the Land of Promise* (Seattle: University of Washington Press, 1998), 44.

**Ibid., 45.

6.5.4 Recollective Evidence

The interview in interpretive-history research targets memories rather than present-day reactions to things. To use the Robie example again, much of what we know about the events that led up to Frederick Robie's collaboration with Wright comes from an interview Robie's son conducted with his father some 53 years after the construction of the house. This interview can be found in Leonard Eaton's book *Two Chicago Architects*.[62] With recollection, all of the previous kinds of evidence may be involved. Recollection can lead to determinate information such as dates, and it can certainly yield contextual information. It is also inferential by nature, since the interviewee is drawing inferences about facts in times past. By the time the interviewer organizes the material that comes from the interview, it is necessarily an interpretation of an interpretation. The validity of recollective evidence, then, depends significantly upon who the interviewee is, what role he or she played relative to the object under study, what credibility he or she currently has, and how much of what he or she says can be corroborated by other evidence.
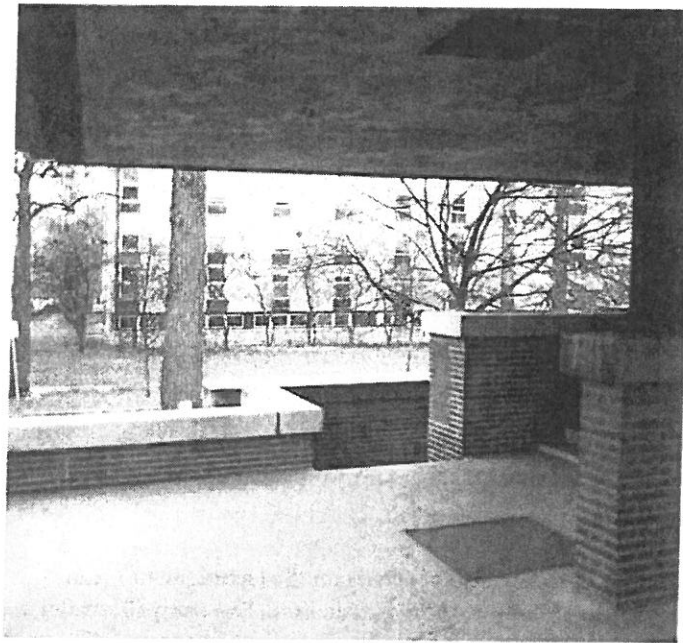

Figure 6.12 Frank Lloyd Wright: Robie House. This cantilever demonstrates the structural possibilities made possible by the technologies at the turn of the century in Chicago. Photograph from authors' collections.

The interview conducted by Robie's son is itself a historiographic issue. Robie characterized his selection of Wright this way: "I became rather interested in his views . . . and I thought, well, if he was a nut, and I was maybe, we'd get along swell."[63] Robie also said selecting Wright was "the best business deal I ever made."[64] The first comment reinforces the inference that Robie and Wright both had maverick temperaments, the one on matters of house design and the other in matters of industry. As to the second statement, the analyst must assess how much of this position is the result of the influence of Wright's stature upon Robie's "recollections" half a century later. This caution seems warranted by the following Robie recollection of the typical residence at the turn of the century:

> The idea of most of those houses was a kind of conglomeration of architecture, on the outside, and they were absolutely cut up inside. They were drafty. . . . I wanted no part of that. I wanted rooms without interruptions. I wanted the windows without curvature. . . . I wanted all the daylight I could get in the house, but shaded enough by overhanging eaves. . . . I certainly didn't want a lot of junk—a lot of fabrics, draperies, and what not. . . . I finally got it on paper . . . and displayed them to friends. . . . They thought I had gone nuts."[65]

This sounds like Mr. Wright himself! Wright led the way for "rooms without interruptions," he brought natural light into the interior (although other of his works, *and not necessarily the Robie,* are good examples of this), and he hated drapes. In other words, Robie's recollections may be more of a Wrightian manifesto than they are a report of the actual events. The interview in history research often has the effect of a hall of mirrors, piling interpretations upon interpretations. Even Robie's recollection of "the facts" may be more of an interpretation (informed intimately by subsequent developments) than an actual report.

We conclude this chapter by focusing on one further example of interpretive-historical research itemizing eight different tactics used. The reader is asked to consider how interpretation permeates the entire process, particularly in terms of the four evaluative categories we have just outlined.

6.6   TACTICS USED IN "INCA QUARRYING AND STONECUTTING" BY JEAN-PIERRE PROTZEN

Protzen's study focuses on the technique of Incan construction, from the quarrying of the stone to its installation. The study illustrates a variety of tactics that can be used to access a condition in the historic past. The reader is asked to become familiar with Protzen's article, which appears in the May 1985 issue of the *Journal of the Society of Architectural Historians* (references to this article below will only be by page number).

6.6.1 *Tactic 1: On-Site Familiarity*

Protzen acquired intimate knowledge of his topic by first-hand encounters with the site. From these came sketch maps, measurements and drawings, recordings of "innumerable blocks," field notes, and slides (footnote, p. 161). On-site familiarity was also essential for arriving upon conjectures that, in the completed narrative, have the weight of informed opinion. For instance, from the capital Cuzco, the physical distance of the two quarries Protzen researched led him to surmise that "the choice of rock type must have been of utmost importance to the Incas, or they would not have quarried sites so difficult of access and so far away." (p. 162). Or again, "the high degree of organization . . . is further indication . . . that quarrying was a very important operation . . . and not simply a routine matter" (p. 162). As we will see, most of the other tactics Protzen used also depended upon his presence at the site.

6.6.2 *Tactic 2: The Use of Extant Documents*

Protzen refers to many other studies, and he uses them either to corroborate his own findings or as a foil to what he observed. He cites a work by George Squire, who wrote of the Kachiqhata quarry in 1863. The fact that the earlier report "matches my own
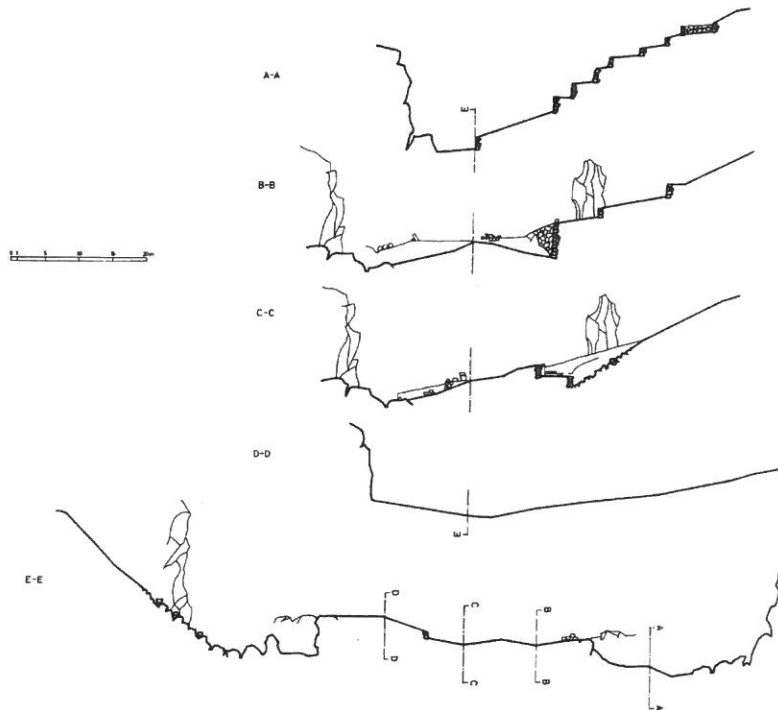

Figure 6.13 Protzen's sectional drawings, based upon site observations, of one of the Inca quarries. Courtesy Jean-Pierre Protzen.

observations very closely" lends credence to Protzen's point of view because it describes the site conditions more than 100 years closer to the actual period under study. This same tactic is used again later in the article, when Protzen uses José de Acosta's 1589 observations of fitted joints in a masonry wall ("without much mortar . . . it was necessary to try the fit many times") to defend his theory that the Inca masons did not use many sophisticated tools (p. 179; see also the reference to Outwater on the lack of tools, pp. 165–66).

6.6.3 Tactic 3: Visual Inspection

Visual observation uncovers site information that cannot be found any other way. For example, Protzen was able to determine that the two quarries he studied (Kachiqhata and Rumiqolqa) yielded different qualities of stone. The coarse-grained rocks from Kachiqhata were used in the buildings of the "religious sector," while the flow-banded andesite from Rumiqolqa, which is easier to be extracted in slabs, was used for sidewalks (p. 165). Also, the quarrying sequence becomes understandable under visual inspection: extraction of a block was often started before the ramp leading to it was finished; there are cases of partially dressed blocks not yet connected to the ramp. Finally, at Rumiqolqa, Protzen saw traces of how the rocks were quarried by means of a channel cut into the top of a cantilevered portion, and then holes worked into the channel of considerable depth. This also corroborates a report of the same technique surmised by Squires a century before (p. 169).

6.6.4 Tactic 4: Material Evidence

Protzen uses material evidence in a very focused way to support his larger hypothesis that the chief method of Inca stone dressing was by pounding. He noted that the whitish coloration of the pitmarks on the stones was consistent with the heat produced in pounding. Furthermore, he noted that the pitmarks were finer as they got closer to the joint edge. He theorized that they were made by "smaller hammers to work the edges." He found evidence to support this in the smaller slivers that lay in the surrounding area ("limiting myself to chips that I could pick up with my fingers, I found 43 slivers" p. 175). Finally, Protzen was also able to develop a hypothesis, consistent with his larger theory of pounding, of how the eye-holes so common in Inca masonry were made. "They exhibit a conical shape on either side of the perforated stone. This suggests that the pounding had been started from both sides until there remained only a thin membrane to be punched out." Based upon this, Protzen had grounds to dispute a theory of Hiram Bingham's, who suggested that the holes were bored with bamboo "rapidly revolved between the palms of the hands" (p. 176).
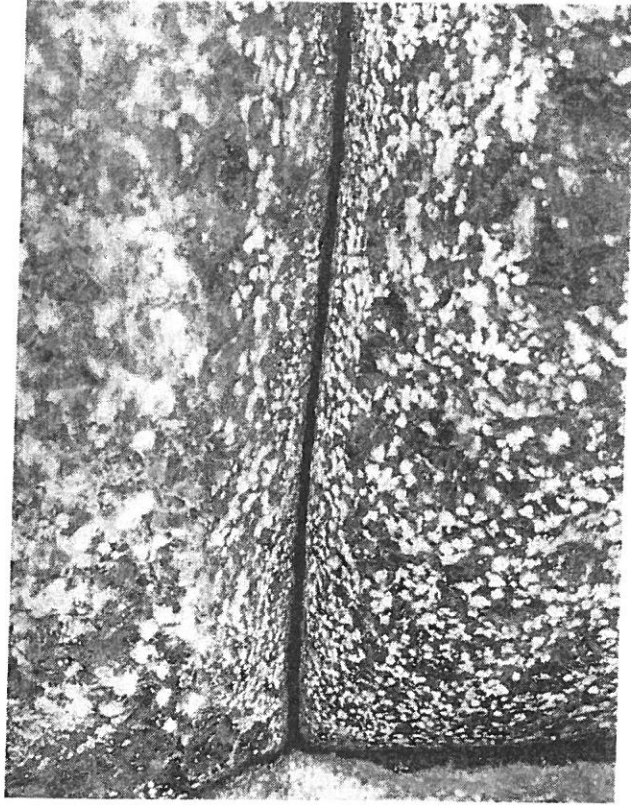
Figure 6.14   This image from Protzen's article shows the pitmarks that he observed diminishing in size as they get nearer the joint. Courtesy Jean-Pierre Protzen.

6.6.5 Tactic 5: Comparison with Conditions Elsewhere

Protzen looks to similar conditions in cultures elsewhere to speculate on technique. This approach is based upon the assumption that there are a limited number of ways a preindustrial culture can dress large masses of stone by hand. Of the evidence at Kachiqhata, Protzen had this to say: "The cutting marks on these and other blocks are intriguing. They are very similar to those found on the unfinished obelisk at Aswan, and the technique involved must not have been very different from the one used by the Egyptians, who used balls of dolerite to pound away at the workpiece until it had the desired shape" (p. 165).

6.6.6 Tactic 6: Use of Local Informants and Lore

Local informants as well as local lore proved useful. For instance, Protzen depended upon local lore to identify the west quarry of Kachiqhata as "the real quarry of Ollantaytambo" (p. 166). On the other hand, Protzen often cites local information just to question it or disagree with it. For instance, regarding certain needle-like blocks found at a quarry termed the Llama Pit, the author rejected the local opinion that they were for bridge construction (p. 167). He based his own view upon, again, educated conjectures from visual observation.

6.6.7 Tactic 7: Reenactment/Testimonial

Probably the strongest of Protzen's tactics, in terms of persuasive value, are his reenactments of the work the Inca stonemasons performed. Based upon his visual observations and deductions, Protzen reenacted both the dressing of the stones and the erection of a large masonry wall. In the first instance, he tested his theory that systematic pounding was the method of dressing by using a hammer of metamorphosed sandstone on a raw block of andesite. He learned the efficacy of different angles of pounding, as well as the utility of gravity as an aid in maneuvering the four-kg hammer. In the second instance, Protzen tested his idea of how large stones were fitted together in a wall of irregular jointure. He found that the dust produced from the
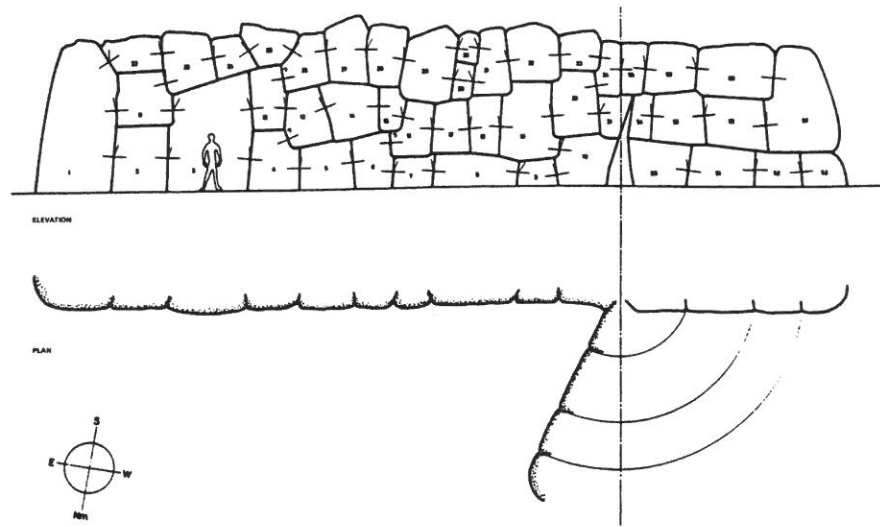

Figure 6.15 Drawing from Protzen's article, showing wall construction. Protzen enacted construction procedures to demonstrate his hypothesis that each new course can be cut to fit the profile of the course below it. Courtesy Jean-Pierre Protzen.

pounding of a bedding joint got compressed when an upper stone was placed upon the bed, indicating where further pounding was required. "Through repeated fitting and pounding, one can achieve as close a fit as one wishes" (p. 179).

The outcome of these reenactments is reported with the strength of a testimonial. With respect to the dressing of the andesite block, Protzen writes, "the work from rough block to the stage with one faced dressed took me only 20 minutes" (p. 173). This is impressive, and persuades the reader that pounding alone by a crew of trained persons can accomplish, without sophisticated tools, large amounts of dressed stone in a reasonable amount of time. With respect to wall construction, "it took me 90 minutes to complete the fit" (p. 179). This again makes believable the proposition that a large masonry wall can be erected by pounding.

6.6.8 *Tactic 8: Identification of Remaining Questions*

Finally, one element of a robust historical narrative is to clearly state what one does not know in the face of present evidence. For instance, after summarizing the local lore on an area designated as "quarrymen's quarters," as well as critiquing the view of another analyst (Emilio Harth-terre) on this subject, Protzen simply says that "the significance . . . of these structures remains to be established" (p. 164). And over against his theory that the Inca did not use many tools in their stonemasonry, Protzen acknowledges examples "throughout the territory that I explored" where there appeared to be clear cases of saw cutting and/or stone polishing. "What tools they used for this I do not yet know" (p. 178). Far from negating the validity of his ideas, Protzen's admission of ignorance on these matters instead underscores his credibility. Given the strength of his other tactics, his argument for pounding is still well supported. Future theories explaining the presence of sawed stone at certain locations may fit in as a corollary to his larger theory of pounding, as opposed to anything that would negate his ideas.

6.7   CONCLUSION: STRENGTHS AND WEAKNESSES

In this chapter we have argued that architectural history research is part of the larger domain of interpretive research; as such, this chapter and the next are similar strategically. The emphasis for interpretive-historical research is accessing evidence from the past, and we have provided an introductory overview of what this entails. At the strategic level, it entails epistemological points of view, acting as "lenses" through which past conditions are interpreted. Tactically, it entails fact-finding, fact-evaluation, fact-organization, and fact-analysis. It entails an interpretive imagination, that nevertheless does not spill over into fiction, but is rather guided by a mind that Barzun and Graff describe as having a love for order. It entails being aware of different kinds of judgments that can be made once enough evidence has been

BOX 6.4

History Research and Philadelphia's Bellevue-Stratford Hotel

Philadelphia's historic Bellevue-Stratford Hotel underwent extensive renovations in the late 1970s. Shown here is the rejuvenated lobby. It is the result of research and design by Hyman Myers, director of historic preservation for the Philadelphia firm VITETTA. For his research, Myers turned to the Philadelphia Historic Commission, the Library Company of Philadelphia, and the Historical Society of Pennsylvania. He consulted local newspapers (*Philadelphia Inquirer*, *Philadelphia Record*) from 1904 that provided stories on opening events and descriptions of the hotel at that time. Myers also conducted archival research on documents related to the hotel at the Athenaeum of Philadelphia and the University of Pennsylvania Fine Arts Library. Myers found some 20 original drawings (blueprints) of the building. He also consulted periodicals; he found material in a 1913 issue of the *Architectural Review* devoted to hotels in the USA. He also found a 1905 issue of *Architectural Record* that contained a series of product advertisements showing in detail who the craftsmen and artisans were who manufactured specific building elements for the original building.

Figure 6.16 The lobby of the Bellevue-Stratford Hotel (ca. 1979), Philadelphia. Hyman Myers, Director of Historical Preservation, VITETTA, Philadelphia. (Photograph by Nathaniel Lieberman). Courtesy: VITETTA Restoration Architects.

garnered. It entails the imaginative identification and use of specific tactics to access the object under study, as illustrated by Protzen's efforts. Finally, again at the strategic level, all of the above it entails the framing of a narrative that is at once holistic, in the sense that a story is holistic, and believable, in the sense that a well-investigated and well-documented report can be proven to describe an event that is part of the "one historic world." Figure 6.17 provides a summary of the strengths and weaknesses of interpretive-historical research.

Strengths	Weaknesses
• Interpretive-historical research is the only strategy that outlines how a narrative explaining past events can be framed. Other strategies, particularly in the qualitative range, because they also deploy written prose, can benefit from the narrative construction that this strategy provides. • Tactically, interpretive-historical research provides a means of "getting in" to a context or event in time past. This includes making use of archival, interview, archaeological, and other sources summarized in this chapter. The reader is encouraged to appreciate the harmony between these tactics and those summarized in the chapter on qualitative research (as well as correlational research), since the influence of past realities upon present circumstances are quite often hard to clearly isolate.	• The greatest limitation of interpretive-historical research is, of course, the fact that the object of inquiry is not empirically available for observation—and will never be. This is not like objects of other research inquiries that may also not be empirically observable (say, an atom or a distant galaxy) in that those objects are still extant in some ongoing ontological sense. Improvements in technology may lead to access to those objects in a different sense than the uncovering of new archival information (say) can promise for access to a past event. • The dependence upon emplotment and literary construction (that is, the similarities between historical narrative and "story") ought to alert the researcher—as well as the reader of research—to beware to avail himself or herself of multiple narrational perspectives on a historical event or object. • The means to measure the "accuracy" of a historical narrative is perhaps more flexible than guidelines for accuracy in some other research strategies. The productions of Collingwood's "historical imagination" need always to be checked by his other technical construct, the demand that the historical narrative always fit comfortably within the "one historical world." This is often not so easy to do.

Figure 6.17.   Strengths and weaknesses of interpretive-historical research.