that is why the *Society of Mind* (either in print or online) is hard for most people: Because there are so many relationships, and so many different places to go, readers do not know where to go next or what to make of the relationships.

Here was the problem through which I saw that Minsky's work itself might contain an answer to the problem his work embodied. One needed a new kind of hypertext link, one that would pull together into a unified whole different bits and pieces of information from various places, as the "learning structure" of his *Society of Mind* integrated partial states of mind into a new compound entity. The structure is called by Minsky the *Knowledge-line* or the *K-line*. I could see then that an analogous structure on a larger scale could be a useful tool for making sense of relationships of information in disparate computer-based files. I could see this structure as the solution to the problem presented by my vision of a Case Analysis Support Environment—that is, how precisely can one integrate information in a coherent and highly flexible fashion. Those applications that would have the greatest added value from use of such structures would be precisely those that require such activity as part of their essential challenge. The detailed analysis of case study material is for me the obvious choice for such work.

If I expect others to conduct later analysis of material I assemble, it seems only fair that I should look at the work of earlier analysts. Doing so is also one way to appreciate better the situation of a datacase user; I saw such a project as another step to creating a useful Case Analysis Support Environment for embodying and analyzing my own studies.

## SECONDARY ANALYSIS—THE HARTLEY HALE DATACASE

One of my favorite personality psychology books, Robert W. White's (1975) *Lives in Progress*, is a thoroughgoing interpretation of case study materials. By good fortune, the corpora of those cases were accessible for my use.[25] They contain information about a subject known as Hartley Hale and an analysis of his long term development.

### Motivation—Using Another Scholar's Corpus

The challenge of secondary analysis—the use of data by someone other than the collector—reaches its most acute form in the reinterpretation of individual-

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[25] When he became emeritus at Harvard, White donated his corpora to the Henry Murray Research Center of Radcliffe College. I was admitted to the research center as a visiting scholar for several months during 1991. I remain grateful to the staff and scholars of that center for their hospitality and their helpfulness. I believe the Murray Center for the Study of Human Lives is a valuable resource for all those of us who are interested in the study of life outside the laboratory. In 1991, I also discussed with senior scholars of the Piagetian community (Inhelder, Sinclair, Voneche, Gruber, Cellerier, Papert) the possibility of similar work with Piaget's materials, but the responses were mixed.

life case study materials. The issue is critical for the field of psychology because many of our deepest theories of human nature have been rooted in exceptional studies of individuals. That point raises these specific questions:

- How can we make good use today of material collected by predecessors?
- How can we prepare our materials for their best use by our successors?
- How can we introduce our intellectual heirs to an appreciation of the materials we inherit and are creating but avoid overwhelming them with details they may not need to know?

As a corpus creator, I am concerned with the second and third questions. As an analyst, I am concerned with the first question. As a datacase designer, I am interested in all three questions. Solving these three problems is essential for enhancing the credibility of case study analysis as a method. That is my goal, as a scientist (see Cameo 5).

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## CAMEO 5. SHARING CASE STUDY DETAILS

### Primary Notion: The Case Analyst Under Cross-Examination

Psychology abounds with verbal theories, both implicit and explicit, conjoined with excerpts from more detailed collections of empirical material. These interpretive analyses, the heart and soul of case study, are vulnerable to criticism as untrustworthy for many reasons, among which these three are surely the most important:

- One cannot judge the impact of material selection on interpretation.
- One cannot criticize or disconfirm the analyst's argument in any serious way without risking his "pulling a rabbit out of his hat" to refute criticism with previously unpublished data.
- One cannot use the analyst's data for other ends if it is not available.

### The Proposed Solution to These Problems

Create a *datacase*, that is, a case-study-oriented database that includes the original analyst's interpretations and also the raw materials of his corpus (with whatever text and graphics are appropriate for each), with information about offline sources of information too expensive to recast in digital form (such as extensive videotaped collections). Create a software environment that will help permit the second analyst to note, mark, and evaluate the interconnections in the datacase created by the original analyst.

## Advantages of the Proposed Solution

1.  By bringing the analyst's corpus material into a quasi-public form, data-cases will make the case study method itself more credible. Protection of the subject's privacy will be necessary; it will be possible to control exposure by various protection schemes (both social and technical).
2.  Other theorists will be better able to use the material collected by their predecessors and colleagues either directly in their own analyses or indirectly, as positive and negative examples, to improve data collection methods generally.
3.  The existence of explicit interpretations and archived but accessible corpora, joined with tools for their interrelation, will create a "psychologist's workbench" useful for the training of future researchers and clinician's before their exposure to practice with living people.

### A specific project: The Hale datacase

*   Robert White (emeritus, Harvard) was a pioneer in personality psychology in the United States. His classic text *Lives in Progress* is still used throughout the country. That text is based on three case studies archived at the Henry Murray Research Center. The Hale Datacase brings together some text from *Lives in Progress* with the corpus containing the case study of the subject, Hartley Hale.
*   The Hale datacase has been created in a prototype form on the Macintosh Hypercard 2 platform.

(Spring, 1992)

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### What Was Done—Making a Usable Datacase
*The contents of the HALE datacase.* The primary groups of data files in the Hale file assembly are three (see Figure 2.10).[26] They are comprised of:

*   Four chapters from White's *Lives in Progress.*
*   24 file folders from the prewar study (1939–1940).
*   Seven file folders from the postwar study (1950).

In sum, the Hale corpus includes about 30 folders of psychology tests and other information with discussions and analyses thereof.

Within the group of files created from the text of White's book four files have been created, one each for the first four chapters of the book, which

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[26] Apple Macintosh computers, peripherals, and a scanner were used for both document scanning and datacase construction. The datacase was built in Macintosh Hypercard 2, using a file template or shell. That shell, "RING," is described later. The necessary programming was done in Hypertalk.
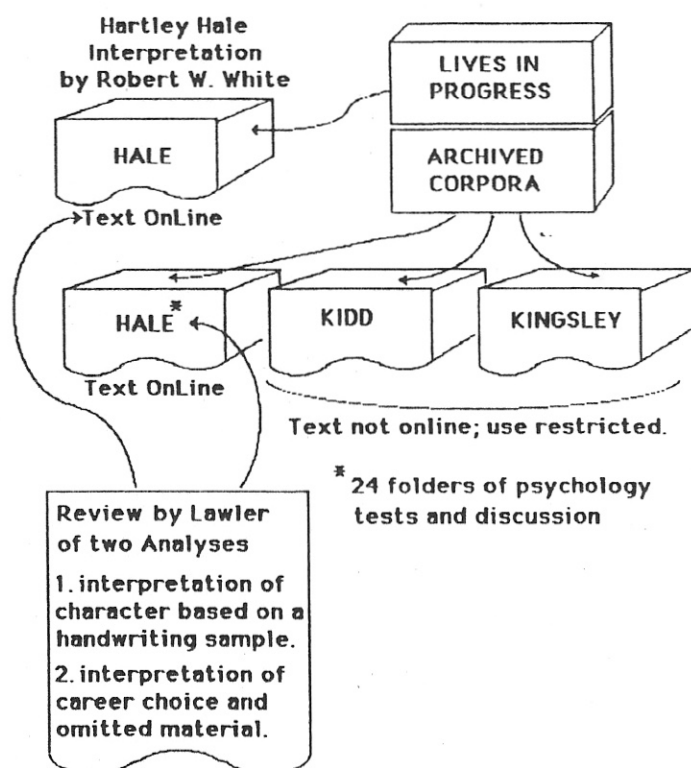
Hartley Hale
Interpretation
by Robert W. White

LIVES IN
PROGRESS

HALE

ARCHIVED
CORPORA

→Text OnLine

HALE*

KIDD

KINGSLEY

Text OnLine

Text not online; use restricted.

*24 folders of psychology
tests and discussion

Review by Lawler
of two Analyses

1. interpretation of
character based on a
handwriting sample.

2. interpretation of
career choice and
omitted material.

Figure 2.10.    The Hale datacase.

includes a general introduction to the justification of such efforts and three chapters focused on Hartley Hale.[27] The files embodying the prewar corpus number 24; this includes 5 empty files, represented in the sequence for completeness.[28] The postwar corpus contains seven files, five of which have content.[29]

Over a period of several months, I viewed and reviewed the materials in White's archives at the Henry Murray Research Center. I did not request access

[27] The name is obviously not the name of the subject. In the archives, he is referred to by several other names as well, none of which is his actual name. The issue of protecting the privacy of the subject is addressed directly later.

[28] The five empty files include a nude picture of the subject taken for somatyping and a warning that the privacy of the subject must be respected. There are also two pages missing from the sequence in the archive; most likely these missing pages are in the "confidential files" and have been extracted to hide the identity of the subject. The final not-yet-typed file is a schedule for the postwar interviews.

[29] Two files from the postwar corpus have not yet been rekeyed into machine-readable form. These files focus on current affairs and on phrase association tests. Given my reading of the materials, I judged these to be lowest in priority.

to materials held in the confidential archives about the subjects. As a condition of using the materials in machine-readable form, I agreed to keep them private.[30] Figure 2.11 shows the general structure of a knowledge link in the simplest case, where the journal entry is used to record notes on the meaning found in the contrast of two elements of two different files. The prototype used permits interrelating $N$ (any number of) files where $N$ must be small for practical reasons, such as available video display space. I used the K-link facility in the analysis of the Hale datacase.

*Datacase creation details.* Materials from the corpus were brought into machine-readable form by scanning and keying. Because the materials were old, the quality of the original documents often was not good enough for mechanical scanning and recognition. Much of the material ultimately had to be rekeyed.

With the corpus text in machine-readable form, field delimiting characters and control information were inserted in the file using word processing programs. The files were then imported (loaded) into the Hypercard stacks. The loading process distributed text and index information to different text fields as appropriate.

Indices for the datacase were created in two ways. White's *Lives in Progress* has an index. I created index entries for the datacase files by deconstructing the book index. This process involved creating text entries for each index line in the book index and collating those entries with associated text of the book (in the files prepared for loading into the Hypercard stacks). The file template has facilities for compiling the index after the files are loaded into it.
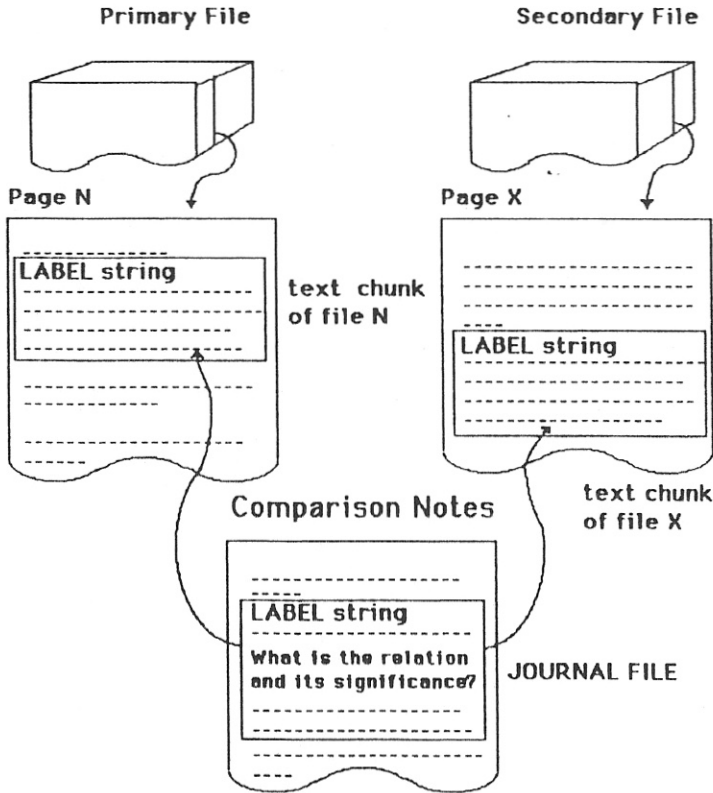
*The method of file construction.* The corpora themselves have contents lists but no index. The file shell permits the creation of new index entries at any time (not doing so was a failing of the Hypercard *Society of Mind*). I have created a partial index for the materials of the postwar corpus using the index creation facilities of the shell.

*Using knowledge links in the Hale datacase analysis.* I proceeded with an initial analysis of the Hale corpus using the knowledge link facility. In the following I am careful to guard the identity of the subject. My strategy in the following is to cite about the subject only what Professor White has already published; I also mention some other general information that will not reveal his identity. Of the issues explored, I discuss two here because they illuminate two kinds of results of secondary analysis and their value. A first kind of result is establishing that an analysis is wrong. A second kind is offering an alternative interpretation. Either is difficult to accomplish when it is not possible to discuss details that might reveal the identity of the subject.

*Characterization through handwriting analysis.* In the list of procedures followed with the subjects in the prewar case studies, this final entry appears:

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[30] It is my intention to complete the Hale datacase and give that to Radcliffe and the Murray Research Center for whatever use they may decide to make of it.

# KNOWLEDGE LINKS*

Figure 2.11.    Knowledge links.

"(Analysis of Handwriting). Not originally planned, these analyses were done at the request of two visiting hand-writing analysts, whose reports are included."

## CAMEO 6. HARTLEY HALE—AN ANALYSIS OF HIS HANDWRITING

### Assertions About Temperament

The lines written by the subject betray a marked breathlessness. He is one of the persons who are always on the run, who have never time to deal with a problem in a quiet thorough way, who nearly never relax. In this case, the

mobility is not caused by the strength of progressive urges and drives that impel the individual to advance toward a final goal. On the contrary, the lines reflect an exemplary lack of substance. We may liken the subject's personality to a fragile sailing boat which is being propelled by a furious gale. Every minute this boat is threatened by the danger of capsizing.

I think the writer is a psychasthenic with a very low vitality. His responses are characterized by languidness, variability, and unreliability. He is more sensitive than most of the writers but unfortunately the negative aspects of this quality prevail in his personality. He is easily hurt and angered, therefore he reacts negatively to even constructive criticism.

## Assertions About Social Relations

On the other hand, this individual experiences a definite pleasure to point at shortcomings and mistakes of others in a somewhat malicious way. He is one of the persons who try to build themselves up by tearing others down. Undoubtedly he possesses some empathy, but uses it in a negative way.

To all appearances he likes gossip. Like spinsters whose emotions are in a state of frustration and petrification he feels some pleasure in peeping at the private lives of others. I think he is apt to become the Walter Winchell of the campus.

The writer wants to direct others, to be in the limelight. Because of his lack of orientation and sound judgment he is obstinate, if it would be better to give in, and yields when he ought to be firm.

He has not grasped the necessity of mutual give and take in living. He wants to get something for nothing. If he has committed a blunder, he is not able to own up. With all his might he tries to "color" his failure, to cover up his mistakes. Truth is only a secondary matter to him. He must save face because he is too weak to stand defeat. This attitude is common to many people who suffer from neuroses. It is a typical escape and fear reaction.

## Assertions About Mental Characteristics

The mental life of the writer is parasitic to some extent. He is endowed with versatility, but the script reflects an extraordinary lack of creative qualities. I do not think that everybody can and should be a genius, but experience shows that most people are productive with more or less originality in some field. Here is nothing of this kind. Opinions and attitudes of the writer are secondhand acquisitions. He imitates others, is gullible to some extent (despite a vivid attitude of suspicion against everybody) and pieces together ideas and images from foreign sources without any additions on his part. Martyr and redeemer Fantasies still play some part in his imaginary life.

His memory is not reliable and reproduces facts and concepts in a somewhat distorted way.

## Assertions About Practicality and Dexterity

The writer is impractical and has not much understanding for economic problems. He takes money for granted, but behaves often in an immature, greedy, self-centered way concerning sums and objects of little importance.

Mechanical dexterity is nonexistent. I think the writer cannot even nail the lid on a box or do similar chores. His movements are sometimes surprisingly graceful, but more frequently they impress the observer as listless, weak, and shilly-shally.

## Assertions About Sexual Inclinations and Capability

His vital urges are sterile and I think there is scarcely any sexual life that goes beyond masturbation. His development must have been arrested at an early age in his life. Physical shortcomings are very probable. In my opinion, the writer suffers from frequent absences. He lacks physical vigor, tires quickly, and then feels all the more frightened and frustrated.

In my opinion, this is one of the most significant analyses in the series. The contours of the personality as reflected in the script are literally and figuratively thin and this makes it very difficult to ascertain and evaluate the traits correctly. The first thing that the writer needs is a strengthening of his body and mind. He must learn to have confidence in and to play the game of life without escaping, fearing and cheating; [sic] Perhaps one day he will be able to see his power of empathy and understanding in a positive way; then he might be able to help others.

I do not know whether this renaissance can be achieved.

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That handwriting analysis is quoted verbatim in Cameo 6 (the name of the analyst has been deleted).[31] Headings have been added to characterize the sorts of assertions made about the subject in the analysis. Compare with the assertions of Cameo 6 White's judgments below:

Physical Traits: Hale . . . (had) a bodybuild well-suited to athletic achievement. He carried no excess weight, was broad in the shoulders, narrow in the hips, muscularly strong in arms and legs. . . . He had participated in a great many different

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[31] I feel free to quote directly this text because it is so far wide of the mark that it can not be argued to be about Hartley Hale at all.

sports, usually with considerable success though rarely with outstanding distinction. He seemed full of restless energy.

Affective Qualities: Hale's days were full of events from most of which he received satisfaction and pleasure. His prevailing mood could best be described as zestful. From rare experiences of dejection his spirits tended to bounce back quickly.

Intellectual Characteristics: Standard intelligence tests placed him in the very superior category, with an IQ of 130; performance on the difference parts of the tests showed a fairly even distribution of skills with no areas of marked weakness. . . . He showed little disposition toward either cautious planning or complex theorizing; his test performances were those of a doer rather than a thinker.

Special Abilities: Hale's history gave abundant evidence of his early and lasting interest in the understanding of mechanisms. . . . The record is full of his fascination by mechanical objects, his rapid but patient mastery of their intricacies, his creativeness in thinking of new devices and working out new triumphs of technique. . . . His hours in the laboratory were clearly a deep and lasting source of satisfaction.

Social Skills and Attitudes: Hale was unusually gregarious. Companions and friends were involved in almost everything he did. . . . He said, and we observed, that he could often keep the whole table laughing in the dining hall, and he enjoyed presiding or serving as master of ceremonies at meetings. (1957, pp. 52–54)

Because the handwriting analyst is so specific in his speculations about Hale's sexual life, it is probably appropriate to note that his development was early, his heterosexual relationships stable and satisfying, and that he showed a surprisingly mature capacity for love.

In short, the handwriting analysis is rubbish. One might have suspected that all along. The important point is this: When an attempt was made to apply the notions of the analyst to a specific case, one could see how ill those notions fit. Case analysis is as close as one can get in the social sciences to that mundane sort of problem solving whereby scientists judge whether a person knows what he is doing or not and judge whether a theory is useful or not.

*Hartley Hale's decision to enter medicine.* Career choice is a central issue in the writing of Robert White, as it is in the lives of all of us.[32] Because the career was so important to Hartley Hale, his decision to enter medicine is remarked on as a life-central one. The analysis of that decision is also central in White's interpretation of the Hale corpus. Hale tells a story (in the postwar corpus, more than 10 years after the decision had been made) that a neighbor in his student dorm convinced him in a night of argument that he should switch his course of study from advertising to medicine, using rational arguments grounded on his knowledge of Hale's abilities, Hale's manifest interests, and his

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[32] This issue appears also in White's popular writing, as in the undergraduate psychology text *The Enterprise of Living*, which uses other case study material to present some themes of personality study.

perception that Hale was psychologically suited for a career in medicine—which he described in a challenging and heroic light.

In his comment on this situation as described by Hale, White properly cast the interpretative questions in a mode that argues they involve judgments about a balance of influences involved in such decisions:

> Hale was not in the habit of responding submissively to the advice of others. In the early study he did not mention the part his friend played in the shift from advertising to medicine, allowing the decision to sound like one he reached of his own accord. Why was he so decisively influenced on this particular occasion? Partly because he respected reasonableness and could see that his friend had no axe to grind. Partly because an appeal was made to inclinations already at work though not formulated in his own mind. But perhaps the strongest impact came from the element of flattering challenge that was implicit in what his friend had to say. The friend was arguing, in effect, as follows: "Medicine is a great career, an heroic one, not a dull one; I have been observing you, and you have the qualities that fit you for this great and heroic career." Through the combined appeal of logic, fact, and the display of personal interest, Hale was converted from a lower to a higher calling. Advertising represented to him an easy, exciting, profitable way of continuing the brash irresponsible life of his high-school years. Medicine appealed to something different in his personality. . . . It mobilized his capacity for deep absorbed interest, patient continuous work, dedication to the goals of discovery that transcended the immediate satisfaction of personal needs . . . and it gave to his college career a feeling of purpose and direction. (1975, pp.48–49)

It would be possible, based on information in the corpus, to provide an interpretation of this crucial decision that would have quite a different balance, one less "of the surface" and more rooted in Hale's relationships with women, especially his mother and sister, and the two surgeons in his immediate family. The essential argument is that Hartley Hale loved these two women but felt unloved by them. Comments by the analyst of the Thematic Apperception Test focus on the unresolved conflict in his relations with women:

Comments About Relations with Women

In his general philosophy of life, S is rather pessimistic. Of all stories, 10 ended in a pessimistic note, 5 optimistic, and 5 indifferent or ambiguous. S is most pessimistic with regards to heterosexual relationships. Women are of two kinds, intellectual and sexual. Man has to choose between the two but neither is satisfying. Mothers are demanding and prevent the development of independent activities (6);[33] if one invests emotionally in a woman she is apt to cause pain and suffering by dying (13), one may get killed by her (4), or abandoned (20). In fact, a

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[33] The number here and in the following refers to a specific test item with the Thematic Apperception Test. The earlier numbers were counts of occurrences.

woman is best suitable for casual, matter-of-fact sex relations (10). On the other hand, women tend to be selfish (2, 4), unpleasant and debauched (18). Generally, S is quite hostile to women. In his stories they are suicidal (3), have operations without proper facilities (8), die of disease (13), may get killed by a man (13, 20). The underlying sadism is not difficult to detect. But nevertheless, S longs for female companionship; he does not feel that women are worth it (7) and, torn between the two tendencies, this problem remains unsolved. (1950, Hartley Hale corpus)

Other details show that surgeons were important and nearby role models for Hale both while he was young and while in college. His maternal uncle was the surgeon who removed his appendix at age 7 and the man with whom he started a small company to exploit his "inventions" at that time.[34] Given the frequent conflict between his parents, it would not be surprising if Hale's mother and her brother were close. Although the families did not live near each other, they did visit while the children were young. After marriage, Hale's sister lived in a town near his college, and her husband was a doctor in the Harvard Medical School, failure to gain entrance to which Hale later remarked was "the greatest disappointment of my life." Surgeons were respected men, close to two women he loved, who were not close and warm to him (as Hale did find other women to be).

One alternative analysis would argue that this situation was more important to Hale's decision than it was credited with being by White, that the balance should be different. White (1975) wrote the decision was affected "partly because an appeal was made to inclinations already at work though not formulated in his own mind." The alternative suggests that the issue of love with women in his family shaped his career choice and that the conversation with his dorm neighbor "released" it from inhibitions more than it "shaped" the choice.

Is this secondary analysis any better than the handwriting analysis? Is it not merely cocktail-party psychodynamics? This alternative analysis is based on information in the corpus about the subject. It is an alternative hardly hinted at in *Lives in Progress*. It is presented as a small example at this point of what sort of results can be expected from secondary analysis based on availability of corpus materials. Do I stake my reputation on the validity of this interpretation? No. It is presented as an example. It is even possible that White formulated his interpretation after considering this information and rejecting it.

*Conclusions about the secondary analyses.* The handwriting analysis is not only wrong, it is silly. It is good for a would-be science to have at hand examples of wrong notions and the detailed examples and analyses to exhibit their fallacies. Will public use of such material offend the handwriting analyst? I imagine it will, if the person is still active, primarily because I have character-

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[34] This is revealed in the prewar corpus materials on Hale's early memories.

ized it as so wrong-headed. Will the alternative analysis of Hartley Hale's career choice offend Robert White ? I do not think so, because he has been generous enough and brave enough to make the corpus available in the first place. More to the point, his analysis is sophisticated and well-rooted in the available information, though possibly imperfect. Scholars can discuss such questions between themselves and with their students.[35] They should have the opportunity to do so.

The public availability of the corpus has two benefits. First, access to the detailed information in the corpus permits critics to raise such questions as are shown in the examples. Such public cross examination is where science begins. Second, if all the information is available, a critic can challenge the interpretations of the corpus creator, without rebuttal by the late introduction of previously unavailable information. Then the critic will not be so vulnerable to wasting his time. Elimination of that threat is essential to encourage secondary analysis.

## The Individual's Right to Privacy

Even if one believes that sharing corpora and the use of computer-based tools can advance the science of psychology, one may be antipathetic about such projects through concern that computer embodiment of these materials will make individuals vulnerable. That is a legitimate concern. Does computer embodiment of materials improve or diminish the protection afforded to individuals? *Have I done wrong to Hale?* In the discussion of his career choice, I have revealed some facts about Hartley Hale that were not previously public. Have I done wrong to him or those he holds dear? This is an issue especially because Hale was uneasy about publication of what White wrote about him even in 1958. In the 1975 edition of *Lives in Progress*, the study of Hale concludes:

PART THREE: FROM THIRTY-THREE TO FIFTY-SIX

When the chapter up to this point was completed, it was sent to Hale with a request for permission to publish. Lack of response for a while seemed consistent with his tendency to procrastinate, but when silence continued an appointment was sought with him at his office in New York. He said that he had read the typescript and that its publication seemed to him utterly impossible. Although he had earlier given permission to report results of the research, he had never supposed that this meant putting his whole life story into print. He felt that his privacy was invaded and that recognition of his identity, should the disguise prove fallible, would be acutely embarrassing. When told of the purposes of the book, however, he agreed to read the chapter again; and after making certain corrections of fact

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[35] Professor White may think that I am ignorant or foolish, and THAT certainly is his privilege. We have discussed his view of the use of his corpus. If I understand him rightly, he sees *Lives in Progress* as a literary work more than a scientific one.

and amendments of disguise he consented to publication, but on condition that the study should never be carried further. (White, 1975, pp. 85–86)

The question of doing him wrong in this case amounts to two issues: Have I revealed information about the subject that would be improper or damaging to him personally? Have I revealed the subject's identity (if so to whom)? For the first question, in my judgment the answer is "no." Consider that we are discussing a career choice made by a person before the World War II. Having two surgeons in the family is not a crime or something to be ashamed about. And if I suggest he felt his mother and sister did not love him with enough warmth, such is not the stuff that causes notoriety in our time. Finally, I do not imagine that even the ascription of sadism (an unpleasant personality trait mentioned by the interpreter of the Thematic Apperception Test) would be taken seriously by Hale's loved ones; it will not concern him directly, for he died some decades in the past.

Have I in fact revealed information that would let someone determine the true identity of Hartley Hale? Surely not. Is it possible to discover the name of the actual person behind the disguise constructed by White? Indeed it is; I can say that with authority because I have done it. In my review of the paper archive, I found one place where the subject's name was not altered from the original, due to a clerical oversight. With that single piece of information, it was possible to use the indices of libraries to piece together a collection of the man's published papers, including those presented in memoriam at his untimely death. If the corpus of Hartley Hale had been embodied in machine-readable form, the person preparing the material could have used word processor global change commands to guarantee that no such clerical error would occur in any version of the material made available.

*Conclusions about protecting a subject's privacy.* The issue of protecting a subject's privacy is one that must be considered, almost certainly on a case-by-case basis. Others may propose and argue for general principles; that is beyond my scope here. At this point, I would merely like to suggest that embodying materials in machine-readable form may help people protect a subject's privacy as much as it may make those subjects vulnerable. Locks keep out only the innocent and the curious. Disguises can be penetrated as well.

If computer-based datacases become widely used, those that contain sensitive information should have limited access. In such circumstances, computer-based datacases could be considered as laboratory facilities or analytical workbenches for advanced students in clinical psychology. In such a role, they would be invaluable in permitting students to compare developed interpretations with the information on which they were based. Having detailed case materials available is superior to reading the interpretations alone. The comparison will show students the masters of their craft at work. In areas where no secrecy is required, such facilities will be useful generally as a support for the construction of meaning by theorists who are developing new ideas and by others who criticize or seek to follow the logic of earlier analysts.

It was both generous and courageous of White to make his corpus available, even under the constraints of privacy enforced by the Murray Center Archive. White said (in personal conversation) that he never expected his interpretations and corpora to have a future; he felt they would be forgotten and ignored, and he was content with that. In his view, his psychological interpretations were literary constructs and did not embody any attempt to be scientific in a narrow sense. Other such acts of generosity can be the foundation for a more open and credible case study method in the future. The case analyst will henceforth be put under cross-examination and held accountable for whatever interpretations may be advanced. We should expect no less, but no one should imagine the experience will be pleasant for either the analyst or the subject of the study.

My hope is that we will move into a period where more analysts join the effort to make this would-be science into a more credible field of study. The gains possible if this approach can be made effective include:

- A change of stance: Case studies of individuals will come to be viewed less as magna opera than as nonrepeatable studies open to later examination and investigation.
- Theory development: Secondary analysis could lead to alternative interpretations of richly detailed case corpora.
- Improved data collection: Attempts at secondary analysis should lead to a better appreciation of how to make future studies more broadly useful.

Case studies will be then a field where major works are open to criticism; thus the general quality of work will be open to improvement, even if we conclude that such studies comprise a field of science with a time constant longer than the life of the individual researcher.

## SUMMARY OF EFFORTS AND LESSONS LEARNED

These four projects represent a progressive series of attempts to realize and embody the vision of a case analysis support system represented in Figure 2.3. Because the problems proved more difficult than first imagined and for accidental reasons, various detours have been undertaken, but each has concluded with specific accomplishments and lessons learned for use in subsequent design efforts.

### The HALE Datacase

In this project, the intention was to develop a facility that would support the textual comparisons essential for capturing insights and making sense of information available in remotely connected stores of data. Two novelties were intro-