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## DOES MEANING COMPUTE? A SYMPOSIUM

### USING A COMPUTER TO "FIND MEANING" IN HISTORICAL TEXTS

by **John W. Mohr**,  
University of California at Santa Barbara

Interpretation is a critical dimension of historical research. Though we can never really know how historical subjects understood their situation, their actions, or the actions of others, we continually strive to do so. The work is difficult and complex. It demands careful attention to detail and an immersion in large quantities of primary source material. It is also the part of our work which we are most likely to associate with a more humanistic style of knowing.

Increasingly, however, we are advancing on other ways of knowing, ways of using computers and formal methods of investigation to describe and measure the meanings which are embedded within historical texts. Moreover, with the proliferation of fast desktop computers and inexpensive scanners, I believe we are entering a new era of historical

research, one in which computer assisted interpretation of textual materials will become a common activity, something that one routinely learns as a graduate student.

I am not the first to make such a claim. There have been three rather distinctive eras of content analytic work in historical research, and each cohort has expressed its own enthusiastic optimism about what could be accomplished. I believe we are now entering into a fourth era. My goal in this essay is to highlight some of the distinctive features of this new type of content analytic work and to show some of the continuities and departures from previous incarnations.

The propaganda analysis projects of the second world war ushered in what might be called the first wave of content analysis in historical research. This was an era when ambitions ran very high and there was much talk of establishing a rigorous science of interpretation. Large teams of coders were set to work on projects such as Pool's (1952) analysis of political symbols in some 20,000 newspaper editorials spanning 60 years of history in 5 countries. The second wave of content analysis methodologies, roughly dating from the end of the 50's through the mid 70's, were even more ambitious in their aims and more clearly shaped by computer technologies. Psychologists such as Charles Osgood (Osgood, Suci, and Tannenbaum, 1971) used semantic differential techniques and factor analysis to interpret subjective meanings. Meanwhile, Philip Stone and his colleagues (1966) were developing their "General Inquirer" computer dictionaries and search routines and using them to semi-automate the process of coding textual content. Various research projects were carried out using these programs, including historical analysis of presidential nomination speeches (Smith, Stone, and Glenn, 1966) and political party platforms (Namenwirth, 1973). There was again much talk about how computers would change the way social scientific research was conducted.

Not everyone was convinced. Indeed, it was around this time that a significant backlash against these types of methodologies began to set in. While some areas of the social sciences (such as cognitive anthropology and artificial intelligence studies) continued to pursue lofty ambitions for computerized interpretation of meanings, in other areas skepticism prevailed. Among those who studied history there had always been a hard-core cadre of skeptics who worried about any attempt to quantify historical research (see Franzosi and Mohr, 1997), but the bold claims of content analysts made for especially vulnerable targets. Forceful criticisms were made about research which relied upon word counts, or computer programs that were intended to read and interpret historical texts (Markoff, Shapiro, Weitman, 1975). It was in this context that Charles Tilly and his colleagues established the framework for a third wave of formal approaches to textual analysis (Snyder & Tilly, 1972; Tilly & Shorter, 1974; Tilly, 1978).

Three characteristics distinguished this approach to content analysis. First, the projects were manifestly institutional in focus. The goal was to identify and catalogue the range of actors, classes of events, and repertoires of collective action which existed at specific locations and moments of time. The emphasis on mapping out institutional structures provided an analytical grounding for the work and moved the locus of theorizing out of

the text and into society. Second, the coding was inductive. Rather than trying to translate texts into a finite number of concepts which fit the analysts' theoretical agenda, the new goal was to preserve historically specific distinctions and vocabularies. Third, coding was organized syntactically. Efforts were made to devise ways of directly translating the semantic logic of texts into flexible coding schemes which mirrored the structural flow of natural language (e.g., subject/action/object) (Franzosi, 1989; Roberts 1989; Ruef, 1997). This was a critical prerequisite to the goal of developing a more inductive style of coding because a relatively small number of codes could be combined to generate a nearly infinite number of institutional combinations. Thus, the focus shifted away from attempts to develop automated computer routines for coding texts toward the development of sophisticated coding procedures and computer programs which were intended to facilitate (rather than supplant) the work of human coders (Franzosi, 1990).

In contrast to the ambitions of many second wave researchers, one of the defining features of this third wave of textual analysis was a reluctance to venture too far away from the "manifest" meanings of the text. Markoff, Shapiro, and Weitman (1975) expressed this very clearly. They analyzed more than 40,000 cahiers de doléances or local grievances that were delivered to the French Estates General on the eve of the revolution in 1789. Their goal was to employ content analytic methods in order to gather information about institutional phenomena which they then combined with other types of data. They took pains to emphasize that they had no interest in using their computer to interpret the meaning of these documents, they merely wanted to use them as tools for measuring the manifest contours of the institutional landscape. This was a prevalent sentiment among third wave analysts. It seems to me that we are now entering a fourth wave of content analysis in historical research. This work seeks to preserve the insights of third generation analysts about how to use computers to inductively gather, store, and analyze syntactically-organized institutional information that has been extracted from historical texts. But fourth generation content analysts also share in some of the ambitions of the second wave. Computers are once again being employed to find meanings that are not immediately apparent or manifestly visible in the texts themselves. Charles Tilly (1997) is a pioneer in this endeavor along with a number of others who are pursuing a wide range of intellectual projects (for example, DiMaggio and Mullen, 1993; Griffin, 1993; Mohr 1994; Guerra-Pearson, 1998, Bearman and Stovel, forthcoming).

A key feature of this work is its reliance upon a particular theory of meaning (or discourse) which might be described as a kind of institutional structuralism. Like traditional structuralist and semiotic methodologies, the emphasis is on revealing patterns of similarities and differences that inhere among the coded elements of the text (Mohr, 1998). But structuralism has always had a problem with locating the relevant relational registers, knowing in what way semiotic elements are similar or different from one another. Practice theorists like Bourdieu (1977) and Giddens (1984) have criticized structuralist methodologies for this failing and proposed that the logic of difference in cultural texts should be grounded in the practical demands of institutional life. The new approach to content analysis reflects this insight by analyzing relations of similarity and difference among elements within a discourse according to how the

corre-sponding cultural categories are embedded within forms of institutional practice (Mohr and Duquenne, 1997).

Consider Tilly's recent work (1997). Using textual accounts describing some 8,000 contentious gathcrings that occurred in England between 1758 and 1834, Tilly analyzes his data to see which collective actors made which kinds of claims (attacking, donkeying, petitioning, arresting, applauding, addressing, etc.) against which other actors. In this essay, Tilly wants to do more than count contentious events and locate them in time. He wants to interpret the shifting meanings of political rights, meanings which are not immediately apparent from a reading of the texts themselves. His methodology is structuralist. he maps out the enormously complex relations of contention between various social groups using network analytic tools. But it is also institutional. The relations which link categories of social agents to one another are both practical and discursive. They are practical in the sense that they reflect incidences of collective action. They are discursive in that they derive from shifting cultural logics of social rights and duties. Tilly identifies these logics by mapping which social actors use which modes of collective action against which others. He uses this information to derive the system of similarities and differences that produce changing discursive structures. In short, Tilly uses his computer to sift through thousands of interactions across nearly a hundred years of history in order to see and to interpret discursive meanings that would not otherwise be visible.

A second example comes from my own analyses of the New York City Charity Directories. In a recent paper (Mohr and Duquenne, 1997), Vincent Duquenne and I use an institutional structuralist approach to interpret the meaning of poverty classifications that were invoked by relief agencies operating in New York City between 1888 and 1917. We use network-style analytic methods (Galols lattices) to see how poverty categories (e.g., poor, desti-tute, worthy, deserving, needy, distressed, etc.) were embedded within and productive of distinctions among relief practices (giving money, giving food, giving advice, offering shelter, job training, putting individuals in a poorhouse, making them chop wood for a meal, etc.).

Doing this allows us to discover quite a bit about what workers in relief agencies meant when they invoked a specific classification. For example, we find that in 1888 there were two general sub-categories of poverty, the needy and the destitute. The worthy, the indigent, and the homeless were (institutionally speaking) sub-categories of the destitute, and the distressed was a sub-classification of the needy. We discover that all of these categories of destitution were subjected to work-tests of one sort or another, while those identified as needy or deserving were not. We find that neither the worthy nor the deserving were ever regarded as candidates for job placernent, that the misfortunate were institutionally identified with various types of home labor schemes, and that the homeless were most clearly identified by the reluctance of any agencies to provide them with cash. We track these linkages across 30 years and find that the institutional consensus fell apart during the Progressive Era but re-emerged in a new form by 1917. By then the meanings of these classifications had become considerably more precise, class based distinctions were less evident, and investigations by social workers had

become the structural equivalent of the 1888 poorhouse.

Projects such as these represent a new style of content analytic endeavor. Historical texts are coded so that nuances of meaning are preserved and levels of institutional life are differentiated. Computers are then used to reduce the enormous complexities of these data files in such a way that the deeper patterns of institutional discourse can be revealed.

Of course, the question that always arises is whether the computer is actually "interpreting" meaning and, if so, what kind of meaning is this? In the cases described here it is a deep level of meaning which is being identified, one which stretches across a field of institutional action and may provide the discursive foundation upon which other more nuanced and local interpretive disagreements are constructed. It is a type of meaning which may only be visible during relatively stable periods of social life, when an organizational field has been institutionalized (DiMaggio and Powell, 1983). It is also a meaning structure that only reflects those voices that are recorded in the source texts. So, for example, our analysis of poverty discourse says something about how relief practitioners (rather than relief recipients) understood their endeavors. But, it is, nonetheless, an interpretation which is strikingly precise, which supplements and frequently contradicts the findings of more traditional historiographic methods. It is a form of knowing that brings to bear an enormous sweep of information, and does so in a fashion that is methodologically transparent and replicable.

Thus, although we can never really know how historical subjects experienced their situation, their actions, or the actions of others, we can bring a wide range of tools to bear upon our efforts to understand them, including our desktop computer. In some ways, this is an old claim, dating back a half century or more. But, as I have tried to suggest here, it is also a new claim, one that builds upon many years of accumulated wisdom.

## References

Bearman, Peter and Katherine Stovel. 1999. "Becoming a Nazi." Forthcoming in *Poetics*, Special Issue on The Formal Analysis of Culture.

Bourdieu, Pierre. 1977. *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.

DiMaggio, Paul J. and Ann Mullen. 1993. "Organizing Communities: Models of Collective action in National Music Week, 1924." Paper presented at the American Sociological Association Meetings in Miami.

DiMaggio, Paul J. and Walter W. Powell. 1983. "The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields." *American Sociological Review* 48: 147-160.

Franzosi, Roberto and John W. Mohr. 1997. "New Directions in Formalization and Historical Analysis." *Theory and Society* 26: 133-160.

Franzosi, Roberto. 1989. "From Words to Numbers: A Generalized and

Linguistics-Based Coding Procedure for Collecting Textual Data." *Sociological Methodology* 19: 263-298.

Franzosi, Roberto. 1990. "Computer-Assisted Coding of Textual Data." *Sociological Methods and Research* 19: 225-257.

Giddens, Anthony. 1984. *The Constitution of Society: Outline of a Theory of Structuration*. Berkeley: University of California Press.

Griffin Larry J. 1993. "Narrative, Event-Structure Analysis, and Causal Interpretation in Historical Sociology." *American Journal of Sociology* 98: 1094-1133.

Guerra-Pearson, Francesca. 1998. "Discipline, Charity, and Urban Memory in New York City: Toward a Spatial Culture of Charitable Architecture". Unpublished Ph.D. dissertation. University of California, Santa Barbara.

Markoff, John, Gilbert Shapiro, and Sasha R. Weitman. 1975. "Toward the Integration of Content Analysis and General Methodology." Pp. 1-58 in *Sociological Methodology* (vol. 5) edited by David Heise. San Francisco: Jossey-Bass.

Mohr, John W. 1994. "Soldiers, Mothers, Tramps and Others: Discourse Roles in the 1907 New York City Charity Directory." *Poetics*, 22: 327-357.

Mohr, John W. 1998. "Measuring Meaning Structures." *Annual Review of Sociology*, 24: 345-70.

Mohr, John W. and Vincent Duquenne. 1997. "The Duality of Culture and Practice: Poverty Relief in New York City, 1888-1917." *Theory and Society* 26: 305-356.

Osgood, Charles, George Succi, and Percy Tannenbaum. 1971. *The Measurement of Meaning*. Urbana, IL: The University of Illinois Press.

Namenwirth, J. Zvi. 1973. "Wheels of Time and the Interdependence of Value Change in America." *Journal of Interdisciplinary History* 3: 649-83.

Pool, Ithiel de Sola. 1952. *Symbols of Democracy*. Stanford: Stanford University Press.

Roberts, Carl W. 1989. "Other than Counting Words: A Linguistic Approach to Content Analysis." *Social Forces* 68: 147-77.

Ruef, Martin. 1997. "Computational Social Grammar: Metatheory and Methodology for Exploring Structural Dynamics." *Current Perspectives in Social Theory* 17: 129-157.

Smith, Marshall S., Philip J. Stone, and E. N. Glenn. 1966. "A Content Analysis of Twenty Presidential Nominating Speeches." Pp. 359-400 in Stone, Dunphy, Smith, and Ogilvie (eds) *The General Inquirer: A*

Computer Approach to Content Analysis. Cambridge, MA: MIT Press.

Snyder, David and Charles Tilly. 1972. "Hardship and Collective Violence in France, 1830-1960." *American Sociological Review* 37: 520-532.

Stone, Philip J., Dexter C. Dunphy, Marshall S. Smith, and Daniel M. Ogilvie. 1966. *The General Inquirer: A Computer Approach to Content Analysis*. Cambridge, MA: MIT Press.

Tilly, Charles and Edward Shorter. 1974. *Strikes in France, 1830-1968*. Cambridge: Cambridge University Press.

Tilly, Charles. 1978. *From Mobilization to Revolution*. Reading, MA: Addison-Wesley.

Tilly, Charles. 1997. "Parliamentarization of Popular Contention in Great Britain, 1758-1834." *Theory and Society* 26:245-273.

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## REFLECTIONS OF A SECOND-WAVE MEANING-MEASUREMENT MAN

by **John R. Hall**,  
University of California at Davis

John Mohr's meaningful, historical (non-quantitative!) account of quantitative/formal meaning measurement strategies stirred deep memories. Since memory is arguably an important source in the construction of meanings across time and "historically," I use my own as a crucible in which to consider the research program that John Mohr has set forth.

No doubt memoirs are the last refuge of an aging sociologist. Still, it was a great pleasure to find myself invisibly embedded in the meaningful structure of Mohr's narrative. I can only tell the story, not quantify it. During what Mohr describes as the "second wave" of content analysis, Zvi Namenvirth employed me as an undergraduate research assistant on his projects analyzing U.S. party platforms from 1860 to 1960. These were the early days of using computers in social-science research (partly funded by the Defense Department), and I found myself lugging box upon box of IBM cards from Linsy-Chit to the Yale Computer Center. Some of the cards contained what is now called "software" -- precious hand-crafted analysis programs that social scientists would copy and trade around among themselves, like baseball cards, but at a much more sophisticated and useful level. Other IBM cards contained the famous Lasswell political value dictionary, and then came the data cards, more boxes of cards containing all those party platforms.

John Mohr is right that the computers and the analytic techniques have come a long way since that era. Yet even at the time, "crazy Zvi" (as some of his more affectionate students called him) was onto something.

Searching for the holy grail, Zvi hoped to find complex cycles of value trends that mapped Talcott Parsons's famous four-fold functions onto a "wheel of time." Factor analysis, coupled with complex curve-fitting programs, did seem to show that one epoch of value discourse begat another. Moreover, as I discovered by plotting residuals on value trends embedded in the party platforms, quantitative analysis could reveal changes in strategies of competition between political parties in the U.S. Prior to the 1890s, the two major parties seem to have moved in opposite directions: if one party emphasized rectitude, the other one downplayed it. But at the peak of the populist movement in the 1890s, the direction of the two parties' trend residuals began to move in tandem. As I wrote in a term paper then, and continue to think today, these data reflect a fundamental shift in which the two dominant parties began to compete for the same middle ground, rather than trying to appeal to radically opposed segments of the electorate by strongly differentiating themselves from each other.

Thirty years ago, in the year that Martin Luther King and Robert F. Kennedy were assassinated, I completed my undergraduate degree. Alvin Gouldner's "coming crisis" came for many sociology students of my generation before he could even get the book into print in 1970. In the countercultural critique that I embraced, counting was just one more form of the objectification of people-as-things that I rejected. I lived in two communes, and turned to the study of utopian countercultures by a non-positivistic method that tempered Max Weber's interpretive approach with phenomenology's analysis of the everyday lifeworld. Since then, that path has led me both to the study of culture in its meaningful structures, and to the formulation of a cultural account of inquiry attuned to the Methodenstreit of our day (Hall 1999). From these sources, I here sketch two inferences concerning the efforts to measure meaning quantitatively that John Mohr has described.

First, "measurement" is itself a hermeneutic interpretive process. After Rorty and Derrida, we can never delude ourselves that we are measuring "the thing itself" by way of concepts that "correspond" to reality. Rather, we measure phenomena in ways that bring various aspects of it into view. I emphasize this point [not to condemn measurement, but to embrace the critical reflexivity about measurement that Stanley Lieberson (1985) has proposed. Once we abandon the idea of "describing" social reality," including "the" meaning of texts, we can reform the quantitative sociological enterprise as a project of analytic hermeneutics (Hall 1996). Numbers, after all, are cultural artifacts, constructed either historically or by the activities of inquiry (Donnelly 1997).

Second, inquiry is not so fundamentally divided by the particular techniques of data analysis (quantitative, qualitative, comparative) as researchers sometimes think. After all, field workers are increasingly using computers to sort through issues of meaning in their observations and interviews. The more fundamental issues concern the purposes, substantive foci, and analytic logics by which inquiry is structured.

Larry Griffin (1993) and John Mohr (1994) measure meaning, Griffin takes it as his project to describe a typified path-dependent narrative based on



historical observers' accounts about multiple episodes, whereas Mohr seeks to unearth an "institutional structure" of meaning in artifactual texts generated within the "social world" of charity organizations in New York City. The two endeavors both study meaning structures by way of formal techniques, but those techniques have different analytic rationales, connected to different genealogies of inquiry. Roberto Franzosi's syntactical approach, cited by Mohr, is different yet again. We are best served if we neither lump such practices together nor treat them as mutually exclusive alternatives, but rather seek to understand the potential for communication and translation across their differences in concept formation and theorization of meaning. Together, these two inferences suggest several precepts about the study of meaning.

A post-structuralist and post-subjectivist model of meaning emphasizes a historicity of textual circulation in which neither the autonomy of textual codes as symbolic structures nor the meaning-making agency of any temporarily stable "author" or "reader" can be theoretically privileged in advance. With the collapse of the fixed subject and the fixed symbolic structure, phenomenology and poststructuralism converge in pointing toward manifold-historically unfolding textual circuits of meaning operating in the lifeworld and the media connected to it. Rather than speaking of "measuring meaning," it might be more precise to talk of interpreting meaning through measurement. In the poststructural situation, we are better served if we admit to the kaleidoscope of meanings that can be read off any given textual data set. Our efforts at interpretation are driven by our analytic purposes, rather than by "the" meanings in the texts themselves. This does not imply that interpretations are somehow "inventions" that bear no relation to the texts; rather, it emphasizes that manifold aspects of meaning can be discerned.

Phenomenologically, "objective" time is not always appropriate as an axis along which to drape multiple data points of meaning (Hall 1980), such an axis can only be expected to yield meaningful comparisons in circumstances where the phenomena themselves are rationalized or otherwise mediated through "intrinsic" mutual focus on events (such as the common conversation about charity documented over time by John Mohr).

Like other sociohistorical things, meaningful events are sometimes important in ways that don't derive from the sheer number of occurrences. Therefore, the enterprise of counting occurrences has to be undertaken in relation to a broader hermeneutic enterprise that asks about the cultural significance of meanings.

De Saussure once wanted to avoid the problem of actual speech, parole, sticking instead to the semiotic codes. But things are not so easy today. In the wake of Bourdieu's *Outline of a Theory of Practice* (1977), we will always want to keep in mind that any posited institutional structure of coded meanings is subject to the play that alters it in the practice of action. This means that we will want to attend not only to codes and structures (Mohr 1994), but also to narratives (Griffin 1993), genealogies (Hall 1995), and discursive hybridizations (Kane 1997) that model meaningful action processes.

I hope and believe that these brief reflections suggest common cause with

John Mohr's agenda. The number of social analysts devoted to content analysis has always been relatively small but their influence, like some meanings, has been greater than their absolute numbers. Rightfully so, for content analysis of meanings can reveal things otherwise invisible, and that is a fundamental goal of sociohistorical inquiry. The task now, for all of us interested in the historicities of meaning and culture, is to draw together a new generation of students who will start a Fifth Wave.

## References

Alexander, Jeffrey., and Philip Smith. 1993. "The discourse of civil society: a new proposal for cultural studies." *Theory and Society* 22: 151-207.

Bourdieu, Pierre. 1977 [1972]. *Outline of a Theory of Practice*. New York, N.Y.: Cambridge University Press.

Donnelly, Michael. 1997. "Statistical classifications and the salience of social class." Pp. 107-31 in John R. Hall, ed., *Reworking Class*. Ithaca, N. Y.: Cornell University Press.

Griffin, Larry J. 1993. "Narrative, event-structure analysis, and causal interpretation in historical sociology." *American Journal of Sociology* 98: 1094-1133.

Hall, John R. 1995. "Public narratives and the apocalyptic sect: from Jonestown to Mount Carmel." Pp. 205-35 in *Armageddon in Mount Carmel*, Stuart A. Wright, editor. Chicago: The University of Chicago Press.

\_\_\_\_\_. 1996. "Measurement and the two cultures of sociology." Pp. 181-208 in Stephen P. Turner, ed., *Social Theory and Sociology*. New York: Blackwell.

\_\_\_\_\_. 1999, forthcoming. *Cultures of Inquiry, From Epistemology to Discourse in Sociohistorical Research*. Cambridge: Cambridge University Press.

Kane, Anne. 1997. "Theorizing meaning construction in social movements: symbolic structures and interpretation during the Irish Land War, 1879-1882." *Sociological Theory* 15: 249-76.

Lieberson, Stanley. 1985. *Making It Count*. Berkeley: University of California Press.

