

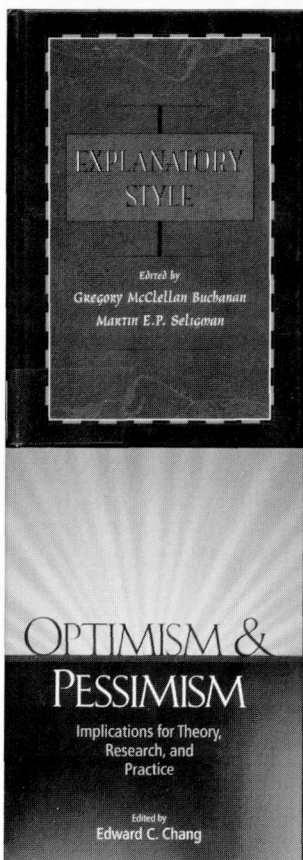
Psychology, explanatory style and history:

A quantifiable and verifiable text-mining method for historians?

De door Martin Seligman en Christopher Peterson ontwikkelde CAVE-methode biedt de mogelijkheid psychologische informatie uit een geschreven tekst te halen. Volgens Erik Hofstee zou deze methode voor historici een prima instrument kunnen zijn om de psychologische toestand van individuen of groepen uit het verleden te verklaren of zelfs te voorspellen.

Preface

Methods based on the works of psychologists have seldom fared well in the historical profession. Yet the overlap between the two disciplines suggests that there should be fruitful grounds for collaboration. Both are interested in human motivations and seek to explain their behavioral choices, albeit for different purposes. Psychology tends to focus more on individual actions than history does, but this difference is one of emphasis. The most obvious and substantial point of departure between the two disciplines is that historians explicitly devote their attentions to the (sometimes recent) past, while psychologists seldom do. Psychologists seek to describe the principles underlying human behavior without regard to time, while historians seek change over time in order to describe and explain past societies and events. The historian never has the luxury of isolated experimental conditions or subjects and seldom that of precisely quantifiable data. The data acquisition and processing methods of psychologists and historians are frequently incompatible. An important reason psychology and history have not been closer and more successful partners is the applicability of the methods of the two disciplines to each other, not the applicability of findings. The crux of the problem is that historians generally deal with individuals and groups of individuals who



Gregory McClellan Buchanan and Martin E. P. Seligman eds., *Explanatory style* (New Jersey 1995); Edward C. Chang ed., *Optimism & Pessimism. Implications for Theory, Research, and Practice* (Ann Arbor 2001).

are not available for direct questioning, let alone participation in experiments. Psychology, in turn, has delivered very few, if any, methods that can be applied by historians with the confidence that the results that they obtain are in fact verifiably applicable to their work. Recent developments in cognitive psychology, learned helplessness research and explanatory style theory, however, suggest that this may change in the near future.

Background

Before the mid nineteen sixties, psychology as a discipline tended to focus on external determinants of behavior at the expense of internal, individual motivations. Since then psychologists have become progressively more concerned with the individual as the locus of behavior. In other words, they are increasingly accrediting the subject an agency that has previously been under-emphasized. The theory discussed here is in this tradition. It locates human behavior in individual and collective choices, and proposes a method with which to measure certain psychological characteristics of individuals and groups, and to suggest the choices they are likely to make. The work is based on research in learned helplessness and cognitive approaches to depression.¹

When individuals repeatedly experience that their actions are ineffective in generating a desired outcome, they show symptoms of learned helplessness. They learn to expect that their efforts will be ineffectual in the future. This effects future behavior. Three components are central to learned helplessness theory: contingency, cognition and behavior. Contingency refers to the relationship between an

1 For a more complete overview, see Christopher Peterson, Gregory McClellan-Buchanan, and Martin Seligman, 'Explanatory Style: History and Evolution of the Field', in: *Explanatory Style* (New Jersey 1995) 2.

individual's actions and the outcome experienced, cognition is the manner in which the individual perceives, explains and extrapolates from the contingency, and behavior is the manner in which the individual chooses to behave or not to behave as a result.² The second component, cognition, lies at the very heart of learned helplessness theory. Explanatory style – the manner in which individuals explain positive and negative events to themselves – is a vital aspect of contingency. When individuals encounter adversity, they implicitly or explicitly ask themselves why certain events happened, or why certain actions did not lead to the desired outcome. If the answer they arrive at is one that suggests that the causes of negative events are likely to last for a long time (stable) and to affect many other situations (global), then the individual will show hopelessness. If the explanation is personal (internal), self-esteem suffers. The manner in which individuals habitually explain the events in their lives can lead to an increase in passivity, a reduction in motivation, and create a vulnerability to depression. Alternately, it can increase resiliency to adversity and inspire active problem tackling.³ People with an optimistic explanatory style show a greater flexibility in adapting to new circumstances, especially when confronted by negative or threatening situations, than those with a pessimistic explanatory style do. They are also more likely to moderate beliefs and behaviors and, if necessary, disengage from intractable situations.⁴ People with a habitually pessimistic explanatory style suffer from lower motivation, passivity, and a greater chance of illness and depression, among other deficits. The findings of explanatory style tests correlate reliably with standard depression tests.⁵ A number of different tests have been developed to measure explanatory style.

The most commonly used test is the Attributional Style Questionnaire (ASQ) which measures explanatory style for both positive and negative

- 2 Christopher Peterson, Steven Maier and Martin Seligman, *Learned Helplessness: A Theory for the Age of Personal Control* (New York 1993) 8.
- 3 Jane Gillham et al, 'Optimism, Pessimism, and Explanatory Style', in: *Optimism & Pessimism: Implications for Theory, Research and Practice* (Ann Arbor 2001) 54.
- 4 Lisa Aspinwall, Linda Richter, and Richard Hoffman, 'Understanding How Optimism Works: An Examination of Optimists' Adaptive Moderation of Belief and Behaviour', in: *Optimism & Pessimism*, 218-219.
- 5 For a review of 104 clinical studies that explore the link between explanatory style and depression see P. Sweeney, K. Anderson and S. Bailey, 'Attributional Style in Depression: A Meta-Analytic Review', *Journal of Personality and Social Psychology* 50 (1986) 974-91.

hypothetical events, and returns sub-scores for the levels of internality, stability and globality of the explanations. A similar test is available to measure explanatory style in children, the Children's Attributional Style Questionnaire (CASQ). It returns the same scores as the adult ASQ. More recently expanded ASQs have gained in popularity. These emphasize explanations of negative events. Researchers are still debating to what degree the optimism and pessimism constructs are opposite poles and to what degree they operate independently of each other. Preliminary findings suggest that while both exist in individuals, they are expressed relatively independent of each other. In other words, it is possible for someone to have a pessimistic explanatory style for bad events and a positive explanatory style for positive events simultaneously, or any of the other three possible combinations.⁶ Whatever the final word on the debate will be, negative event explanations have been found to predict depression and to correlate more reliably with future behavior explanations for positive events. Thus they draw a disproportionate amount of attention from psychologists. Explanations for negative events outnumber those for positive events in spontaneously written material.

All ASQs require the administration of questionnaires to a subject and grading of the answers supplied by the subjects to arrive at their final score. Historians, of course, can almost never administer standard psychological tests to their subjects. Their subjects are either dead or, in the case of contemporary historians, inaccessible. There is, however, a method of assessing explanatory style that does not require the cooperation of the subject. Martin Seligman and Christopher Peterson have developed the Content Analysis of Verbal Explanations (CAVE) technique, which determines a subject's level of optimism and pessimism based on an analysis of the causes they attribute to actual positive and negative events that befall them. The CAVE method allows any written or spoken material to be utilized to determine explanatory style as long as the material contains events and explanations of those events. The results obtained by the CAVE method correlate reliably with the ASQs.⁷ As with the ASQs, the quantified analysis

6 Julie Norem and Edward Chang, 'A Very Full Glass: Adding Complexity to Our Thinking About the Implications and Applications of Optimism and Pessimism Research', in: *Optimism & Pessimism*, 349.

7 P. Schulman, C. Castellon and M. Seligman, 'Assessing Explanatory Style: The Content Analysis of Verbsatim Explanations and the Attributional Style Questionnaire', *Behavior Research and Therapy* 27 (1989) 505-12.

of the written material can be used to explain and in certain cases, even pre- or postdict future behavior. In sum, a reliable method of extracting psychological information from written texts that correlates with and predicts certain behavioral styles exists.

The Method

The CAVE method requires the researcher to identify and extract causal statements from the text under consideration. Causal statements are defined as event-explanation units in text. Some causal explanations are relatively easy to identify, as they contain words and phrases such as 'because', 'since', 'therefore', 'as a result of', 'this led to' and the like. However, others are considerably more difficult. The sentence: 'The teacher yelled at me; I guess he's in a lousy mood again' is one such. To qualify for extraction and evaluation an event must be either a clearly positive or negative event from the subject's point of view. If establishing this is not possible, the event-explanation unit must be discarded. For example, without knowing more about the subject's views on the matter, the sentence 'We had our son's tonsils removed because tonsil problems run in the family' could either be perceived by the narrator as a positive or a negative event. Context is thus important. Causal statements must express the subject's own explanation for the event. An agreement with or the quoting of someone else's explanation is unacceptable. The explanation for the event must also show a clear causal relationship with the event. Simple sequences of events that do not unambiguously answer the question 'why?' are not included in the analysis.⁸ An event may have more than one explanation, in which case the event is separately matched with every explanation pertaining to it. After the usable causal statements have been isolated in a text, the researcher must quantify them on a scale of one to seven on three separate criteria. The statement is evaluated on:

- How *stable or unstable* the explanation is. This requires an evaluation of whether the reason given is permanent or likely to last a long time, or whether it is transitory.
- How *internal or external* to the subject the explanation is. Here the researcher must determine whether the reason is explained in terms of internal factors, such as effort or a characteristic of the subject, or

8 Karen Reivich, 'The Measurement of Explanatory Style', in: *Explanatory Style* (New Jersey 1995) 33.

- in terms of external factors, such as, for example, other people.
- How *specific or global* the explanation is. This requires a determination of whether the explanation is specific to the event, or whether it is a global reason that will affect many events in the individual's life.

The causal explanation 'I failed the test because I am stupid' rates much higher on the stability criteria than, for example the explanation, 'I failed the test because I didn't study hard enough' would. Low intelligence is much less amenable to change than study habits are. Both explanations score high on the internality criteria, as in both cases the subjects clearly blame themselves. If one of them had explained failing the test by noting that 'The noise in the room distracted me', the internality rating would have been much lower. The noise in the room is external to the subject, unlike the two other explanations offered. Explaining the failing of a test in terms of one's low intelligence returns a higher score on the globality criteria than explaining the failure in terms of not studying hard enough. Limited intelligence will effect many more events than only the test, but not studying hard enough limits the negative effects to the single failed test.

The ratings for the three criteria per causal statement are averaged to provide a composite score. Averaging the composite scores for all the rated causal statements provides a reliable measure of an individual's optimism and pessimism levels. The habitual explaining of negative events in stable, internal, and global terms establishes a pessimistic explanatory style, while doing so in unstable, external, and specific terms establishes an optimistic explanatory style. The opposite is true of the explanation of positive events. The grading is impressionistic to a degree, but several studies indicate that the inter-reliability between trained graders is high enough to provide reliable results.⁹

Explanatory style shows consistency over time, though it fluctuates over different situations and at different times. Individuals have a center of gravity to which they return after experiencing 'ups' or 'downs'. Explanatory styles are believed to originate in childhood, though there is a moderate genetic predisposition to a particular style.¹⁰ It is, however, possible to

9 For a discussion on this, see Reivich, 'The Measurement of Explanatory Style', 42.

10 See S. Nolen-Hoeksema and J. Girgus, 'Explanatory Style and Achievement, Depression, and Gender Differences in Childhood and Early Adolescence', and Jane Penaz-Eisner, 'The Origins of Explanatory Style: Trust as a Determinant of Optimism and Pessimism', both in *Explanatory Style*. See also S. Nolan-

change explanatory style – and thus an individual's level of optimism or pessimism – by cognitive therapy.¹¹ Explanatory style is not related to wealth, intelligence or other factors that confer advantages in life on those who possess them.¹² Harrold Zullow and others have convincingly demonstrated that groups of individuals, sports teams and societies also have explanatory styles, and that these, like individual explanatory styles, fluctuate over time.¹³ Also like those of individuals, group explanatory styles predict certain phenomena, including success in sports, economic depressions and other events.

Scores of articles and dissertations in the field of psychology have investigated explanatory style and a broad range of applications has been established. A positive explanatory style has been shown to be linked to – and to predict – health, scholastic achievement and accomplishment in individual and team sports. It also predicts work productivity, marital satisfaction, social acceptance, and even political victory and military assertiveness.¹⁴ The results can be replicated by independent researchers, and hold over different situations. In other words, they are not only an explanatory paradigm for a given case study. Rather, the measurement of the psychological make-up the individual or group is linked to, and perhaps the determinant of, the action.

Hoeksema, J. Girus and M. Seligman, 'Learned Hopelessness in Children: A Longitudinal Study of Depression, Achievement, and Explanatory Style', *Journal of Personality and Social Psychology* 51, 2 (1986).

- 11 D. Antonuccio, W. Danton, and G. DeNelsky, 'Psychotherapy Versus Medication for Depression: Challenging the Conventional Wisdom with Data', *Professional Psychology: Research and Practice* 26, 3 (1995).
- 12 S. Epstein and P. Meier, 'Constructive Thinking: A broad Coping Variable with Specific Components', *Journal of Personality and Social Psychology*, 57, 332-350.
- 13 Too many studies have been undertaken on groups of individuals to list here. Sports teams, companies, and religious and political organizations are but a few examples of groups whose explanatory styles have been analyzed by the CAVE method. A good starting point on the topic is Harold Zullow's, 'Pessimistic Rumination in American Politics and Society', in: *Explanatory Style* (Ann Arbor 2001) 187.
- 14 Again, there are too many studies to list here. Edward Chang's, *Optimism and Pessimism: Implications for Theory, Research and Practice* (Ann Arbor, 2001) provides a good overview of the applications and the theory underlying explanatory style analysis and is well referenced. A popular work that provides a good introduction to the topic is Martin Seligman, *Learned Optimism* (New York 1998).

Causal explanations and historians

There are at least three important ways in which explanatory style theory and the CAVE method are relevant to historians. First and foremost the CAVE technique offers a new and verifiable method for measuring, describing and explaining aspects of past happenings. By allowing the historian to measure and describe verifiable psychological characteristics of individuals and groups, and to relate that to later behaviors, a richer description of past happenings can be obtained. By measuring the change over time in causal explanations, a more nuanced representation of events – and perhaps motivations – may be arrived at. Although the relation between a given CAVE score and subsequent behavior is complex and not fully understood, the predictive power of CAVE scores with regard to behavioral tendencies is intriguing. Once a substantial body of work is established, content analysis based on the CAVE method may allow limited objective causal relationships to be established between historical actions and events.

Two articles by Seligman that attest to the benefits of the approach to historians have appeared in psychological journals. His 'Pessimistic Explanatory Style in the Historical Record' demonstrates that the winners of post 1945 American presidential races could have been predicted with a high degree of accuracy, and that President Johnson's major initiatives in the Vietnam war could have been anticipated by analyzing his explanatory style.¹⁵ Studies predicting the 1988 United States presidential and senate elections before the results were known confirm that the method is as effective in predicting elections where the result is not known beforehand, as it is for post-dicting those of which the result is a matter of historical record. Gabrielle Oettingen and Seligman's 'Pessimism and Behavioral Signs of Depression in East versus West Berlin' suggests very strongly that political systems can and do have a measurable psychological impact on the citizens living under a given (not particular) regime.¹⁶ The potential applications of the method appear to be very broad, but much work remains to be done to establish the limits of the method for historical purposes. That the method

15 Martin Seligman et al, 'Pessimistic Explanatory Style in the Historical Record: CAVEing LBJ, Presidential Candidates, and East Versus West Berlin', *American Psychologist* 43, 9 (1988) 673-82.

16 Martin Seligman and Gabrielle Oettingen, 'Pessimism and Behavioural Signs of Depression in East Versus West Berlin', *European Journal of Social Psychology* 20 (1990) 207-220.

has considerable promise as descriptive tool is clear, but how these observations can be integrated with existing historical work is as yet unclear.

Second, the method promises to open huge amounts of written materials to (re-) analysis. Interviews, biographies, diaries, personal correspondence and speeches are among the obvious sources. But newspapers, policy documents, political records and many other forms of written material are also suited to this type of analysis. Spontaneous causal attributions are common in many types of historical sources, both traditional and non-traditional. Zullo, for example, has used popular song lyrics (top 40 Billboard songs from 1955 – 1989) and the captions on 1,827 *Time* magazines to measure the explanatory style of American society at different times. He found a significant predictive effect with regard to consumer optimism and GNP growth.¹⁷ Comparisons between related documents (those of various political parties during an election campaign, for example), and change of explanatory style over time within documents from the same source promise to be especially interesting. Establishing collective explanatory styles may be at least as important to historical work as establishing those of individuals. Such work will also be of interest to psychologists, who have thusfar emphasized the measurement and analysis of the latter.

This last point is related to the third reason that explanatory style may prove to be of interest to historians. Explanatory style may serve to make the work of historians more broadly and socially relevant than ever before. Work with causal explanations has to date been largely confined to contemporary situations for contemporary purposes, using contemporary data. Historians are in a position to provide the models to test theoretical aspects of the method, and to establish new areas of investigation. History can serve as a yardstick for scholars in other fields. Sociologists, political scientists, and students of cultural studies, for example, would be ideal partners in this work. Historians are in a privileged position in this regard. They have the data that can be used to build and test the models that psychologists and others need to apply their work to current social events. Equally important, historians are trained to identify and isolate the historical context in which human actions take place. Already scholars such as Richard Nisbett (University of Michigan), Steven Pinker (Massachusetts Institute of Technology), and Gérald Prunier (Sorbonne) among others are leading a large-scale project aimed at identifying the characteristics of humane

17 H. Zullo, 'Pessimistic Rumination in American Politics and Society', 187.

leadership. The goal of the project is to combine insights from various disciplines to establish the 'bio-psycho-social framework' of leaders and their constituents, and ultimately to possibly predict future historical processes.¹⁸ Similarly, Seligman (University of Pennsylvania) and others are working on a project that aims to understand ethno-political warfare in the hope of being able to evaluate, in real time, the risk of such conflicts breaking out into large-scale violence in the future. These are both heavily interdisciplinary undertakings that include scholars from fields as diverse as psychology, political science, sociology, anthropology and history. These are but two examples of projects that might make the work of historians more socially relevant. There is no reason why the work of historians might not form the basis for other projects with contemporary applications.

Caveats and complications

While the CAVE method is a promising addition to the historian's arsenal of analytic tools, caution is warranted. It is not a panacea. The method, though intriguing, has several issues, theoretical and practical, that still need to be addressed. Many intervening factors inevitably interact to determine the explanatory style for any given event and individual. How important events are, how prone an individual is to rumination (the propensity to mull over events), and the magnitude of the difference between expected outcome and actual results are all examples of intervening factors that affect individual explanatory styles and subsequent behavior.¹⁹ Explanatory style is also mediated by circumstances, both positive and negative. Intervening events are important to determining explanatory style, and to future behavior.

The questions historians typically pose, again, center around causality, of which the identification of explanatory style or attitudinal set is only one aspect. Explanatory style alone will not bear the weight of explanation that historians require to describe any given historical event. Obviously there are many other characteristics that make up the individual, some biological, some psychological, and some circumstantial. The matter is complicated even further when groups of people or whole societies are considered. The base measure of an individual or group's explanatory style, taken out of its time and context, is of limited value to historians. It provides a picture of

18 See <<http://www.psych.upenn.edu/seligman/hlprogressreport.htm>>.

19 Gillham, 'Optimism, Pessimism, and Explanatory Style', 61.

the individual or the group, even an indication of how they are likely to react to certain circumstances, but it is only a snapshot. The complete unfolding of many events and the analysis of any given historical subject in context requires a far more sophisticated analysis.

The three measures of explanatory style (the globality, internality, and stability ratings) are usually combined into one composite score. This provides a convenient single figure, but poses the very real possibility that nuances will be lost. The globality and stability measures show a high inter-correlation, while the internality measure is relatively independent of both. When measuring explanatory style for the purpose of determining whether an individual is or is likely to become depressed, this may not be a crucial problem, as depression is a multi-faceted phenomena, involving an individual's actions, how they feel about themselves and the world, and physical well-being. But when using the method for purposes that typically interest historians, greater specificity will often be necessary.

Explanatory style is also mediated by culture. Different cultures, particularly those that place less emphasis on individualism, use different explanatory styles. Individuals that originate from a culture that emphasizes interdependency, such as many Asian cultures do, tend to have more pessimistic explanatory styles.²⁰ Peterson, Buchanan and Seligman have hypothesized that 'Causal attributions may be a special concern of residents in Western societies during the late 20th century.' They suggest that societies that have a 'highly articulated sense of the self as distinct from the world, who exalt individuality, and who try "predict and control" the events that befall them' will use more, and presumably be more influenced by, causal explanations. Several studies have shown some differences between Asian and American explanatory styles, and between Indian and American styles of explanation.²¹ The related question of a possible difference in explanatory style over time is even more complex. Very little work has been devoted to this, to historians, critically important area. While the work on different cultures suggests strongly that such a difference is likely to exist, measuring it and establishing a 'baseline' explanatory style for a particular group of people in the past remains a daunting task.

On a purely practical level, the reliability of the scores obtained increases with the number of causal attributions analyzed. The average of at least ten

20 Norem, 'A Very Full Glass', 361. See also Gabriele Oettingen, 'Explanatory Style in the Context of Culture', in: *Explanatory Style* (Ann Arbor 2001) 209.

21 C. Peterson et al 'Explanatory Style: History and Evolution of the Field', 15.

event-explanation scores is needed to generalize with any confidence. Typically meeting the minimum number of causal statements required will not be a problem for historians as they will often have sufficient amounts of primary documentation at hand. However, these minimum requirements point to another, more serious limitation of the CAVE method for historians. A much larger number of causal statements are required to make valid historical and cultural observations over time. Change over time can only be established by sampling material from different times, and this requires a large amount of work. The problem is compounded proportionately by the number of groups or individuals to be examined. Time hardly allows for the close reading of the thousands of pages of text necessary to examine even one life in detail, let alone the large body literature necessary to comment reliably on groups of people.

Conclusion

In spite of the cautions above, the analysis of individual and group explanatory styles offers a radically new way of using historical knowledge and of conceptualizing and explaining past behavior. The CAVE method provides historians with a tool to do just that. However, at least for historians, the method is still in its infancy. This should not prevent experimental works from being attempted. Any method that promises an empirical and verifiable method of describing (aspects of) the psychological state of individuals and groups in the past, and which can be empirically shown to relate to future behavior must be taken seriously by historians. Explanatory style analysis has not yet found a home in the historical profession, and few historical studies have been attempted using the CAVE method. In part this may be because of the obscurity of the method in historical circles and because of the, admittedly often justifiable, suspicion that many historians have of psychological and quantitative methods. The difficulty of working in an intensely interdisciplinary environment may also be a factor. Yet the potential uses of explanatory style analysis for historians and the contributions that history could make to other fields by using explanatory style analysis both suggest that the method may have a future in the historical profession.

Supplement



De demonstraties in Rotterdam van 26 januari 2002.

Boven: de demonstratie van de NVU;

Midden: een extreem-rechtse demonstrant;

Onder: de linkse tegen-demonstratie;

Uit: <<http://www.internationalesocialisten.org>>.

