Zeitgeist: The Development of an Operational Definition

Bronwen Hyman
University of Toronto

and

Alfred H. Shephard
University of Manitoba

A study was conducted which sought to demonstrate the usefulness of an operational definition of *Zeitgeist*. Using Laffal's Contextual Associates Analysis instrument, data were obtained from selected written communications regarding four target words: personality, behaviour, environment, heredity. These sources were drawn from two specific time periods in England during the nineteenth and early twentieth centuries. The methodology generated expectations from which predictions, consonant with statements made by historians about these time periods, were advanced. The data were analysed in relation to these predictions, with efforts being made to ensure that the entire methodological procedure developed would be objective and verifiable. These criteria appear to have been met, and the results obtained permitted statements to be made which were compatible with those derived from the subjectively inferential methodologies of some social historians.

E.G. Boring's use of the term *Zeitgeist* as a tool for historical analysis has been strongly attacked. Ross (1969) has advanced the criticism that the term is not operationally defined in the manner of an empirical scientific concept such that the definition is independent of the phenomenon being explained. While this criticism is justified, challenge can be laid to her subsequent argument that since it is an undefined "non-concept," the use of the term *Zeitgeist* should not figure in attempts to account for historical advance.

A study was conducted to develop a methodology which would prove useful as an operational definition of *Zeitgeist*. Efforts were made to ensure that the procedure developed would be objective and verifiable, meeting criteria suggested by Bruner and Allport (1940) for an operational definition of *Zeitgeist*. The study emerged in the context of Boring's perspective of *Zeitgeist* ("time ghost") as a macrocosmic structure, within which are embedded microcosmic substructures, or intra-cultural groups, called *Zeitgeistchen* or "little time ghost" (Boring, 1955). From his

statements as to the nature of *Zeitgeist* (Boring, 1963), it is clear that Boring considers both *Zeitgeist* and *Zeitgeistchen* to be variable across time, but constant within any given time period. Two historical epochs of one country were selected, and the technique of Contextual Associates Analysis (Laffal, 1973) was applied to specific words appearing in systematically isolated vehicles of written communication.

Method: Selection and Definition of Variables

Geographical Location and Time Periods

Periods of particular and acknowledged historical importance were felt to be more pertinent to the intentions of this study than those represented only by numerical breaks such as decades, centuries, etc. Two such historical epochs related to the history of England were selected.

The historian Asa Briggs specified the period in England between 1851 and 1867 as one "which seems to possess a real unity of its own — the period between 1851, the year of the Great Exhibition, and 1867, the year of the Second Reform Bill" (Briggs, 1954, p. 16). Others have referred to this span of seventeen years as the High Victorian Period (Altick, 1973; Burn, 1968).

The second time period is bounded on one side by the beginning of the end of the Liberal Party as a major political body in England, when Gladstone resigned in 1894. On the other side, 1914, is World War I, and the demise of the Edwardian period. While the beginning of the Edwardian period is frequently specified as 1901, when Queen Victoria died, the subject does give rise to considerable historical debate. Some specify 1887 as the end of the Victorian period (Cruse, 1938). 1888-1900 tends to be left in limbo as a period which arose from a certain past, and moved into a specifiable future: it is treated simply as the *fin de siecle* (Jackson, 1966). As a consequence, the strong element of continuity between the end of the nineteenth century and the beginning of the twentieth is lost. This continuity was essentially that of transition: the passage of time between one period and another, from the Victorian period to modern England. As Hynes (1972, p. 1) pointed out, "divisions of time are always arbitrary; . . . nevertheless they are the temporal patterns which shape our own lives." The death of Queen Victoria did signal the end of an era, in the sense that "Victorianism," as a period, was over. But the death of the old political order began demonstrably in 1894; from that time onwards the domestic, social, and political scenes were characterised by conflict between the old and the new (Hynes, 1968). It was decided that the study would focus on these two periods in British history:

1. the era of High Victorianism — 1851 to 1867
2. the post-Victorian and Edwardian Period — 1894 to 1914

Zeitgeist: Attitudes Popular During the Periods Studied

Written documents achieving best-selling status during the respective

periods were chosen as the vehicles of communication selected for analysis. Three best-selling novels were selected for each of the two periods, where each novel was published originally during the period for which it was chosen. The criterion of "best-seller" is not clearcut for the first time period, since no detailed sales records were maintained during this time. However, it was possible to collect figures and statements from bibliographies, records of publishing houses, biographies of authors, and survey histories of English literature. The selection of best-sellers for the second period was made from the lists of "most popular novels of the year" in Desmond Flower's *A Century of Best Sellers* (1934).

Novels were selected from the beginning, middle, and end of each of the two periods. Where more than one fulfilled the selection criteria for any one segment of each period, the choice was made on the basis of availability. This point was particularly relevant to the second period: best-sellers in England at the beginning of the twentieth century were difficult to locate. Those from the High Victorian period have either acquired the status of curios and been reprinted, or are now categorised as "classics," and therefore readily available.

The reading public, particularly during the first period, was a tiny minority in England, but an examination of the *Dictionary of National Biography* reveals that virtually all the professional figures of both periods were born into the upper and middle classes: the same social classes which comprised the reading public. At the same time, in an article on sociological aspects of authorship in England, Altick (1962) was able to establish that from 1835 to 1870, 99.1 per cent of British authors were born into the upper (11.3 per cent) or middle (87.8 per cent) classes. Of these, 94.1 per cent had schooling that extended to the end of secondary level or beyond. Thus popular works produced between 1851 and 1867 were written, and read, by members of the same social classes, those which also produced the scientists, the professionals, the doctors and lawyers, and many of statesmen who governed the country.

This claim cannot be advanced so strongly for the period between 1894 and 1914. The passage of Forster's Education Act in 1870 meant that this period contained a much larger reading public; nevertheless, from 1900 to 1935, 84.2 per cent of writers were still born into the middle classes. As Altick points out (1962, p. 403), while the author class remained relatively stable for 135 years, the reader class did not. However, while one variable — the readers — changed in value, two others remained constant — the social origins of their authors and the popularity of the books.

Of these thousands of books which began quite suddenly to pour into the market from publishers whose business was rapidly becoming acutely consumer oriented, the most popular were novels. Fiction was the largest category of books stocked in Mudie's famous circulating library, although other categories were more widely published. Fiction, however, dominated literature in the second half of the nineteenth century in England (Booth, 1886; Griest, 1970).

Some research has been undertaken on various aspects of best-sellers. In a study of the most common themes appearing in popular novels published in England between 1815 and 1832, these themes were linked with public opinion current during the time (Gossman, 1956). Jordan (1967) examined best-selling novels from 1870 to 1890 for a reflection of the changing attitudes towards imperialism in Britain, which reached their zenith of enthusiasm in the "jingoism" of the late 1890's. R. deCharms and G. Moeller (1962) were interested in cultural change within the United States from 1800 to 1950 and used children's readers listed in school curricula (and therefore very widely read), to trace an achievement imagery curve to its peak around 1900, and its subsequent steady decline. Sulman (1973) presents a strong case for the influence of a best-seller on its readers by an analysis of important magazine articles appearing both before and after the publication of Benjamin Spock's *Baby and Child Care* in 1945. All of these studies used a content analysis technique for their data collection.

Popular Novels of the High Victorian Period: 1851-1867

It has been suggested that Victorian literature was one of the public fields in which the Victorian compromise between science and religion — that is, Victorian rationalism — was attacked, defended, modified, and, by the late nineteenth century, destroyed. Many saw this battleground as essentially productive, because it encouraged serious debate (Chesterton, 1966).

The assaults were mounted in different forms, and fictional literature was strongly influenced by many of them. Discussions of English literature during this period have almost universally grouped the contemporaneous fiction being published into five general classes. At times, the same group of novels is given a different name — "Romantic mslodramas" are also called "adventure novels" — but the books listed under each class are sufficiently consistent to permit a consideration of the literature of the period to develop in relation to these five novel "types."

In many ways these classes overlap, but there is enough distinction among them to suggest that a representative sample of popular novels of the High Victorian period be selected with these fictional forms in mind. The three novels chosen for this period were all referenced as best-sellers by a minimum of five sources (Altick, 1957; Batho and Dobrée, 1962; Cruse, n.d.; Leavis, 1939; Pollard, 1970). Each was drawn from a different fiction class, such that the beginning, the middle, and the end of the period 1851-1867 were represented. The novels selected were as follows:

Charlotte Yonge. *The Heir of Redclyffe* (1851)
Mary Elizabeth Braddon. *Lady Audley's Secret* (1862)
Ouida. *Under Two Flags* (1867)

Popular Novels of the Post-Victorian and Edwardian Period: 1894-1914

The end of the nineteenth century, and the beginning of the twentieth,

have been seen by their social and literary historians as a period reflecting essentially a conflict between two forces — the "old" of the Victorian in- heritance, and the "new" of the modern world. Hynes in particular points to the social and political conflicts and changes; the inertia of the Liberal Party and general feeling of idealism unassociated with action: the social fragmentation and class bitterness; the absence of either a religious or philosophical framework for man's awareness of his place in the universe; the overwhelming weight of all the unresolved issues (Cruse, 1938; Hynes, 1968, 1972).

The two forces at war with each other during this period in England are reflected, as both Elwin (1939) and Cruse (1938) suggest, in popular novels of two types — those of the "persistent Victorians" and others of the assertively new Edwardians who rejected the old solidity with scorn. These basic fictional forms responded, of course, to a similar division amongst their readers, but the nineties — the *fin de siècle* — saw a vivid upsurge of many types of novels, responding again to a fragmentation of the reading audience which continued into the Edwardian period (Jackson, 1966). A representative sample of best-selling fiction of this period should reflect some of this fragmentation of interest in the readers.

Of the three novels selected for this period, one was representative of the "old" type, and the others of the "new." Of these two, one was a "new" style Edwardian romance, and the other was an offshoot of the Haggard- type adventures, together with a heavy lacing of Ouida's lush romance. The "persistent Victorian" selected combined in her novels an incredible collage of "science made popular," aspects of spiritualism which outraged the serious disciples, and interpretations of Christian dogma which provoked scathing attacks from the press and the pulpit (Bigland, 1953). It was felt that, besides meeting the criterion of "best-seller," these three novels were representative of some of the broader trends in fictional writing of the period. All were selected from Flower's *A Century of Best Sellers*:

Marie Corelli. *The Sorrows of Satan* (1895)
W.J. Locke. *The Morals of Marcus Ordeyne* (1905)
Ethel M. Dell. *The Way of An Eagle* (1912)

Zeitgeistchen: Substructures of Zeitgeist

The *Zeitgeistchen* of the burgeoning scientific discipline of psychology in England during the two specified periods was considered in this study. It would be both legitimate and possible to isolate a large number of *Zeitgeistchen* for examination, in order to trace the more immediate con- tributions of these disciplines to the developing one of psychology. However, the perspective adopted was not "how did psychology arrive at position X," but rather, "where did psychology stand at Time 1, and in what ways was its position different at Time 2." Consequently, one *Zeitgeistchen* selected for investigation was that of *scientific psychology*, i.e., that area of interest in human behaviour which emerged, during the

nineteenth century, from medicine, philosophy, theology and physiology, leading to the development of a separate scientific discipline whose practitioners spoke to the psychology of man.

The *Zeitgeistchen* of scientific psychology was considered as having two components:

i. conventional wisdom psychology

ii. insight psychology

Works which were considered representative of the *conventional wisdom* in psychology were those written by people holding both prominent and respected positions within their discipline, and whose works were cited as standard texts at leading British universities during the respective time periods. Works from each period which hindsight shows us as having a major impact upon psychology in England within twenty years subsequent to the periods during which they were published, were selected as representative of *insight* into issues of concern to scientific psychology. It was felt that this procedure should permit both the established scientific psychology *Zeitgeistchen* of each period and the forerunners of the subsequent *Zeitgeistchen* to be investigated.

Conventional wisdom in scholarly psychology. One "conventional wisdom" figure was selected for each period. The selection was based on the results obtained from elitist profiles of people mentioned in Boring's (1950) authoritative work on the history of psychology. The construction of the profiles was based on the following criteria, with information obtained from the *Dictionary of National Biography*:

i) graduate of a leading university (Oxford or Cambridge)

ii) number of academic and/or professional positions

iii) number of academic and/or professional elective positions, e.g., fellow of a leading university college, etc.

iv) editor of a leading academic or professional journal, e.g., *Mind*, up to and including, but not subsequent to, the relevant time period

v) number of texts published during the relevant time period

vi) number of reprints of the above during the critical period

vii) "standard text" qualifications mentioned for the text(s) listed under section (v)

viii) more than 5 articles published in academic or professional journals prior to or during the critical period

ix) number of academic awards

After elitist profiles had been constructed, attention was focused on those whose text(s), published for the first time during the periods the elites represent, dealt with any of the following:

organic and functional nervous diseases

mental pathology

mental diseases

pathology of the mind

structure and function of the mind

behaviour

By following this process, one text from each period was selected which represented the accepted position of the community of scientific psychology with regard to contemporaneous psychological thought.

Insight in scholarly psychology. One book was selected which hindsight permits us to see as having made *no* significant impact on the emerging discipline of psychology at its time of publication, but which had a major influence on the discipline within twenty years subsequent to the relevant period. The selection of these books was made on the basis of information obtained from leading histories of psychology (e.g., Boring, 1950; Klein, 1970; Wolman, 1968). This was supplemented by sales records and dates of reprints from biographies and autobiographies of their authors, and by reference to a list of leading psychologists prepared in 1968 (Annin, Boring & Watson, 1968). The two authors selected both appeared in the list of most highly ranked figures.

Conventional Wisdom in Scholarly Psychology for the High Victorian Period: 1851-1867

Boring argues that psychology, even as an informal discipline, had no separate place in the scholarly arena in England during the mid-Victorian period. However, psychological texts and articles were being produced; in particular, those by Bain, one of whose books became a standard text in the field after 1870 (Boring, 1950, p. 235). The more formally accepted works being written were subsumed within medicine. By isolating some of these books and articles, the nature of the psychological speculations of the period can be investigated. Texts of scholarly psychology were considered for selection as the conventional wisdom source for this period.

Histories of medicine were investigated for references to prominent figures in the field, and Bucknill and Tuke's *A Manual of Psychological Medicine* (1858) was named as the standard text by 1860, supplanting Pritchard's *A Treatise on Insanity* dating back to 1835. The clear choice for another scholarly text was Bain's *The Senses and the Intellect* (1855).

Following the selection of the books by Bain, and by Bucknill and Tuke, elitist profiles for the authors were constructed from information obtained from the *National Dictionary of Biography*. While the two books met the time of publication restrictions, and the content specifications outlined above, the book by Bucknill and Tuke was selected as the conventional wisdom source for the period 1851-1867 on the basis of the profiles obtained.

Conventional Wisdom in Scholarly Psychology for the Post-Victorian and Edwardian Period: 1894-1914

Boring clearly specifies Stout and Ward as the leading psychologists in Britain during this time period, and, in fact, well beyond it. He mentions many others — MacDougall, Sully, Romanes, Morgan, Rivers — but Stout's position was that of the effective communicator. Of his *Manual of Psychology* (1899), Boring (1950, p. 464) states that "without a successful

competitor it determined for many years the pattern of British systematic psychology." Elitist profiles were constructed for Ward and Stout; the results indicated that Stout's *Manual* be selected as the conventional wisdom source for this period.

Insight in Scholarly Psychology for the High Victorian Period: 1851-1867

Both Boring (1950, pp. 240-243) and Wolman (1968, p. 4) suggest that Herbert Spencer had a major influence on the development of psychology in England during the second half of the nineteenth century. Spencer, of course, preceeded Darwin in the evolutionary field. His *Principles of Psychology* (1855) was "a serious attempt to found psychology from first principles upon an evolutionary basis" (Hearnshaw, 1964, p. 41). However, as Spencer records in his *Autobiography* (1904), the book's sales record was minimal, its reception in scientific circles was nonexistent, and the nature of its reviews was hostile. It was not until the second, and exten- sively revised edition, was published in 1870 that his evolutionary prin- ciples were accepted. Clearly, *Principles of Psychology* made no significant impact on psychology at its time of publication, but did so three years sub- sequent to the end of the mid-Victorian period. Spencer appears as one of the fifty-three most highly ranked figures in the Annin et al. article listing important psychologists from 1600-1967. He therefore meets the criteria specified earlier for the selection of an insight figure in scientific psy- chology, and *Principles of Psychology* was selected as a source represen- tative of insight in psychology during the mid-Victorian period.

Insight in Scholarly Psychology for the Post-Victorian and Edwardian Period: 1894-1914

It would appear that, at the beginning of the twentieth century in England, the discipline of psychology chose a careful, conservative path to tread. One clear example of this caution relates to the reaction of the *British Journal of Psychology* to Freud. His *Interpretation of Dreams* (1900) first appeared in the list of "publications recently received" in Volume 7, 1914, as the authorised translation of the third edition. However, of the new publications listed in all the volumes issued up to May, 1914, twenty-one of them were untranslated German works, of which twenty were reviewed — in German. In fact, between the *British Journal of Psychology*, and *Mind*, a leading academic journal founded by Bain in 1876, only eight articles referring to Freud appeared between 1894 and 1914. None of these articles endorsed his theories, and all went to some pains to draw a distinction between the operations of an abnormal, as opposed to a normal, mind. However, abnormal psychology was still more the preserve of medical psychologists — the discipline of psychology in England at that time focused more on comparative psychology, in- dividual differences, and psychometrics.

Boring (1950, p. 460) has pointed out that "after the First World War applied psychology sprang up and flourished with the economic support of

industry." Clearly, Freud made no significant impact on psychology in England up to 1914, and a statement of his subsequent influence on the discipline in England, as everywhere else, is a truism of historical psychology. Like Spencer, Freud appears in the list of most highly ranked figures in the article by Annin et al. His book *The Interpretation of Dreams* (1900) was selected as the insight psychology source for the period 1894-1914. This particular work was chosen in preference to others by Freud published before 1914 because it a) appeared, like Spencer's book, early in the relevant time period, and b) was Freud's first systematic expression of his theories of unconscious motivation. The book is considered by many to be his greatest work.

Spiritualism Zeitgeistchen

It was also felt that written communications from a second definable *Zeitgeistchen* which both attracted popular interest, and claimed allegiance to the general scientific body, could provide some interesting information. One field which met the two criteria of popularity and scientific commitment was spiritualism, the investigation into psychic phenomena.

Public curiosity about spiritualism was aroused in England during the 1840's and 1850's in response to reports of psychic mysteries provoking excitement in America (Gault, 1968; Podmore, 1902). American mediums visited England during the 1850's, acquiring notoriety for themselves, and considerable public discussion of their apparent gifts. Such prominent scientists as Faraday and Huxley attacked the movement with vigor, and in Huxley's case, with vitriolic abuse, maintaining that psychical mediumship (table-rapping, etc.) was fradulent (Gauld, 1968, p. 83). Other equally important figures in the scientific community like Elliotson, Esdaile, Barrett and Crookes were wholly convinced that these phenomena merited further investigation, Elliotson founding and editing the magazine *Zoist*, "the chief organ of the movement up to 1856" (Podmore, 1902, p. 3). Certainly the reports of psychic phenomena appeared to contain information of a sufficiently bizarre nature to arouse considerable public controversy.

Interest in the subject faded during the seventies and eighties, but at the turn of the century it was revived with a fervour when a book on talking with the spirits of the dead was published. A leading historian of the spiritualist movement wrote in 1902:

> The remarkable speculations of the late Frederic Myers have gone far to vindicate, on new lines, the Spiritualist contention, and to bring it once more as an open question before the court of science. (Podmore, 1902, p. 357)

By this time, the major activity in the field was psychical research, which Hearnshaw, in his history of British psychology (1964, p. 157), calls

> ... an ostensibly scientific activity ... a cross between the spiritualism, and the religious starvation of the scientific agnostic. ... it restored the hope of immortality and alleviated the fear of 'spiritual extinction' and 'spiritual solitude.'

Hearnshaw (1964) sees a considerable link between research into psychic phenomena and psychology, particularly abnormal psychology.

Data obtained from written communications about *spiritualism* permitted a consideration of aspects of this *Zeitgeistchen* in relation to the scientific psychology *Zeitgeistchen* and the macrocosmic *Zeitgeist*.

Major histories of spiritualism were researched for a list of books on spiritualism and/or psychic research published originally during the two periods (Barrett, 1911; Carrington, 1937; Gauld, 1964; Nelson, 1969; Podmore, 1902). Lists of those referenced in these histories as important and influential works were compiled, and ultimately, one for each period was selected. The final choice was based in the last analysis on the availability of these works.

Copies of the spiritualism sources published during the mid-Victorian period were difficult to obtain, primarily, it appeared, because of the ephemeral nature of their popularity. However, a copy of one book, *Footsteps on the Boundary of Another World* (Owen, 1860) was located. Reference was made to this work and its author in Podmore's history of spiritualism, in Gauld, and in Nelson. This source was accepted as representative of the writings about spiritualism in England during the High Victorian period.

An interest in a modified form of the old spiritualism of the fifties and sixties re-emerged at the end of the century, partly in response to the fear of spiritual extinction and spiritual solitude felt by many of the intellectuals unattracted by the socialist utopias of the late nineteenth century. The Society for Psychical Research was founded in 1882 and published a journal and its Proceedings regularly. William James was President of the Society around the turn of the century, and other prominent psychologists like MacDougall contributed articles to the Proceedings and the *Journal of the Society for Psychical Research*; the Society had never denied its interest in problems of a "speculative and transcendental character," as had the *British Journal of Psychology* (Ward, 1904). This new journal claimed its total commitment to science — yet the Society for Psychical Research could boast the enthusiastic allegiance of some of the leading scientists of the day, for example, Sir Oliver Lodge, Lord Rayleigh, Alfred Wallace, J.J. Thomson, as well as that of Gladstone, Balfour, Tennyson and Ruskin.

The work of the Society for Psychical Research came, inevitably, into very close contact with aspects of abnormal psychology: one of its most important members felt that both pathological and psychical phenomena had a common origin in the subliminal mechanisms of the mind (Hearnshaw, 1964, p. 157). This theory was developed by Myers in a massively documented, two-volume work, *The Survival of the Human Personality after Bodily Death*, published posthumously in 1903. Myers was highly regarded by William James (James, 1901), and his theory of personality has been seen as a foretaste of Freud's dynamic conception of psychology (Hearnshaw, 1964, p. 159). This work has been selected as the

source representative of spiritualism (psychic research) in England for the period 1894-1914.

In this way, a total of twelve books — six from each period — were selected as vehicles of written communication.

Target Words in Contextual Associates Analysis

The target words, whose contextual associates constituted the operational focus of this study, were selected on the basis of the following restrictions:

a. Each word should bear an important functional relationship to the development of the discipline of scientific psychology.

b. Each should represent a broad conceptual field within psychology; the term "instinct," for example, would be considered to have a much wider reference area than the more specific "reflex." This particular restriction was adopted in order to eliminate the possibility of highly technical terms appearing only occasionally in popular novels.

c. Each word selected must appear in a standard etymological dictionary as having been used in England during the two time periods.

Since the sources used were published originally from sixty-four to one hundred and twenty-three years ago, and word usage is not stable over time, it was necessary to develop lists of words and phrases used synonymously during each period with the target words. In order to derive these lists, the following procedure was adopted:

i. All the meanings in operation at the time for each of the target words were obtained from *A New English Dictionary of Historical Principles* (Murray, 1909);

ii. The synonyms for each target word appearing in the appropriate editions of Roget's thesaurus were listed. Where any word did not appear in the Index to the thesaurus, all of the descriptive definitions for the term found in the etymological dictionary were used as the reference words for the collection of synonyms from the thesaurus (Roget, 1853, 1913).

A total of four target words were selected.

The contextual associates of up to ten appearances of each target word or its synonyms were analysed for each of the twelve sources. Each book was divided into ten equal parts, and the first occurrence of each target word in each tenth of every source was analysed. In order to control for the possibility of the occurrence of one target word influencing the nature of the contextual associates of another, first occurrences had to be such that they did not appear on the same page as another target word. Where any target appeared only ten times or less in any one source, the contextual associates of each appearance were analysed. Where any target word did not appear in a section of a source, its first appearance in the subsequent section was selected, and its second appearance in that section represented a "first" occurrence for that tenth. Where any target did not appear in the final tenth section of a source, the second appearance of that word in the

preceding section was used.

Target words selected. Four target words were chosen for this study:
1. personality
2. behaviour
3. environment
4. heredity

It was felt that the restrictions for selection outlined above were met by these words. All four appear in *A New English Dictionary of Historical Principles* as being in use during the two time periods. The word "environment" was, according to this source, used in England for the first time by Spencer in *Principles of Psychology*. The French word *"environs"* had been used prior to Spencer's anglicizing the term. In addition, the selected target words seemed to be of a sufficiently broad and non-technical nature to ensure their appearance in popular novels. However, while it was essential that the words meet these technical restrictions, the specification that they should bear an important functional relationship to the development of scientific psychology in England was considered the most central requirement.

Darwin published *The Origin of Species* in 1858; the theory of evolution had a major influence on all subsequent scientific thought, including that of psychology. Darwin's name, in fact, appears in the list of most highly ranked figures compiled by Annin et al. (1968) and it was decided that the selection of the target words would be given some direction by choosing initially a word which reflected awareness of evolutionary theory. At this point the word "heredity" was selected, and "environment" was an obvious associate, particularly since the nature/nurture controversy became such an important one during the latter half of the nineteenth century. The other two target words followed fairly automatically as companions to the internal/external (heredity/environment) model already established. However, it should be pointed out that the selection of the target words was, within the stated restrictions, essentially arbitrary.

The synonyms for each target word for the two periods were selected from the appropriate editions of Roget's *Thesaurus* as specified above. Particular care was taken in relation to the grammatical forms of the root words which could be used, since certain forms could include different meanings, thus reducing the precision of the synonym selections. For example, "instinctive" (adjective) was a synonym for "heredity" during both time periods, but "instinct" was not. Therefore, only the grammatical forms of the synonyms given in the *Thesaurus* were used; if these included only nouns and verbs — demeanour/demean oneself, for example — then no other forms of the words were marked as targets in the sources.

Associational Contexts for Target Words

Laffal has consistently defined a context, which he calls a passage, "as a sequence beginning three lines before a line containing a key word (i.e., target word) and ending three lines after a line containing a key word"

(Laffal, 1960). Without retyping every passage using the same size type and exactly the same margins, this definition of a passage becomes somewhat imprecise when more than one source is used. A passage for this study was defined as one containing a total of forty Laffal Dictionary concepts ("categories") where twenty preceded the appearance of a target word and twenty succeeded it. These specific numbers were arrived at by counting the number of Dictionary concepts which preceded and followed target words in passages reproduced by Laffal in his publications. The twenty/twenty split was very consistent.

Consideration of Data Collected

The methodology was established with certain general expectations in mind as to possible variations in the data. The data investigation therefore focused on the differences and similarities in the conceptual analysis frequency profiles for each target word between each of the source categories

i. within one period
ii. between the two periods

The amount and nature of overlapping segments of the frequency profiles obtained were also of interest in the data investigation.

The data were examined critically in consideration of appropriate methods of analysis of data obtained in this way. They were used less for making statements about variables than about the feasibility of the method. On the basis of the investigations, it was felt that specific hypotheses could be advanced, which appeared to be addressed appropriately by the method used in this study.

Predictions Derived From the Model

On the basis of the general expectations as to possible patternings of the data which influenced the development of the methodology, some specific predictions were advanced. These expectations, and consequently the predictions, were derived from the logic of Boring's philosophy with regard to the concept *Zeitgeist* and from statements regarding each of the two time periods made by social historians. Where predictions made on these bases were congruent with statements made from the empirical data collected in this study, the methodology advanced as an operational definition of *Zeitgeist* was considered useful.

Earlier discussions have indicated that a number of social historians have perceived the two periods selected — 1851-1867 and 1894-1914 — as clearly different from each other. It would appear, on the basis of statements made by historians, that the *Zeitgeist* of each time period is seen as a distinguishable entity, such that one would expect to isolate certain observable differences between them. Relative to the data collected for this study then, one would expect to find differences between the same representative sources, such that the configurations of the clusters associated with the target words would vary between the two periods. Where these expectations are supported by the data collected, it would be

possible to make empirical statements which are congruent with those made by the social historians.

The general expectation that the data obtained would, upon analysis, provide evidence of some difference between the two time periods led to *Prediction 1*:

> The *Zeitgeist*, as reflected in the best-selling novels representative of popular at- titudes, will be different for the two time periods, where *Zeitgeist* is defined in terms of the conceptual frequencies associated with any of the target words.

One microcosmic sub-structure of the macrocosmic *Zeitgeist* addressed in this study was the *Zeitgeistchen* of scholarly psychology. The logic of the model on which the methodology was based would posit a similar difference between this *Zeitgeistchen* in the High Victorian period and the *Zeitgeistchen* of scholarly psychology in the post-Victorian and Edwar- dian period. This prediction related to expectancies with regard to the con- ventional wisdom psychology of both periods; that which, in Boring's words (1950, p. 3), is found within the limitations of "the habits of thought which pertain to the culture of any region and period, that is to say, limited by the *Zeitgeist*." Hence, *Prediction 2*:

> The conventional wisdom psychology *Zeitgeistchen* will be different for the two time periods, where this *Zeitgeistchen* is defined by the conceptual frequencies associated with any of the target words selected from the appropriate sources.

A statement made by Boring in his history of psychology influenced the development of a third prediction. When he discusses the historical theories of the great man versus historical determinism, Boring (1950, p. 744) maintains that:

> . . . the great man is seen to be only one of many causes of any piece of progress and he stands also as a symptom of the times, since causes have their causes. The times must be working with him if he is to have success. He can not, in fact, be successful without an audience, and he has to speak his wisdom in the right century or even the right decade to be heard.

Concerning the designated "insight" psychologists, Spencer and Freud, evidence has been offered to the effect that neither had any significant im- pact on scholarly psychology during their respective periods, but that each was recognised as important and influential subsequent to the periods dur- ing which their selected works were published. It would be expected, then, that the data collected from sources representing conventional wisdom psychology for each period, when compared with those obtained from in- sight sources, reveal differences within each respective period. This led to *Prediction 3*:

> The insight psychology *Zeitgeistchen* will be different from the conventional wisdom psychology *Zeitgeistchen* of the same period where *Zeitgeistchen* is defined by the conceptual frequencies associated with any of the target words selected from the ap- propriate sources.

Investigation of the Illustrative Data Collected

Data Analysis Procedure

Forty-eight sets of data were collected, where a "set" denoted one list of frequencies for Laffal's 118 categories, tabulated for the total number of contexts isolated for each target word from each source. The twelve sources and four target words accounted for the forty-eight sets of data obtained.

As indicated earlier, the selection of up to ten appearances of each target word per source provided up to ten target word contexts for each source. Where less than ten instances of any one target word appeared in any one source, the number of appearances for the other three were systematically reduced in order to ensure equal N's in each source. For example, where "personality" did not appear in the 3rd, 7th, 8th, and 9th sections of Yonge's *The Heir of Redcliffe*, the other three target word appearances were removed from the same sections. Similarly, where two or more sets of data from different sources were compared, equal N's were maintained by eliminating the data collected from any of the relevant sections which corresponded to sections where data was not obtained from a different source.

While the three predictions stated above were advanced in general terms such that they would relate to any of the target words, the data selected for consideration were those associated with just two of these four. The data were analysed using Friedman's Two Way Analysis of Variance by Ranks; this model has been applied to data collected in a similar fashion (Kendall, 1955). Since the investigation pursued in this study is in its initial stages, it was decided to reject the appropriate null hypothesis for all values of the x_r^2 having a probability of .10 or less.

Before applying Friedman's model to the data, Laffal's method for eliminating consistently high and consistently low frequency categories was used, in order to remove the possibility of artifactually raising or lowering the results of analysis. Laffal (1960, 1961) recommends that the sixteen high and forty-four low frequency categories be dropped from the overall total of 118 categories. This elimination process was conducted separately for each group of data, such that the consistency of the category frequencies was specific to each of the two sets of data to be compared. The number of categories eliminated varied very slightly from group to group because of the occurrence of tied ranks.

The three predictions in relation to which certain aspects of the data were investigated were expressed in the following specific terms:
1. The conceptual frequencies associated with the target word *personality* obtained from the sources representative of popular attitudes will vary across the two time periods.
2. The conceptual frequencies associated with the target word *environment* relative to the sources representing conventional wisdom psychology will vary across the two time periods.

3. The conceptual frequencies associated with the target word *environment* relative to the source representative of insight psychology, and to that representing conventional wisdom psychology, drawn from the High Victorian period, will be different.

Results

Prediction 1. For each of the two periods, the three sets of conceptual frequencies obtained from the popular novels were converted to median scores, thus permitting a comparison between two sets of data. The obtained x_r^2 of 1.61 was not significant, and the prediction that these two sets of data would differ was not supported.

Prediction 2. The x_r^2 of 4.77 obtained for this comparison was significant, permitting the null hypothesis to be rejected, and thus supporting the prediction.

Prediction 3. Similarly, this prediction was supported by the obtained x_r^2 of 3.19, indicating that the conceptual frequencies associated with the target word *environment* did vary significantly between the source representing conventional wisdom psychology and that representing insight psychology during the High Victorian period.

Appraisal of the Methodology From the Data

The investigation of aspects of the illustrative data collected in this study produced some evidence in support of the predictions advanced. Where such evidence was not inconsistent with the predictions, there were grounds for maintaining that statements could be made which were consonant with those based on such other methodologies as the historical analysis of social historians, and historians of psychology.

Of the three predictions advanced, the first — that the conceptual frequencies associated with *personality* in the popular novels would vary when compared across time periods — was not supported. There is some evidence to suggest that the particular novels chosen as representative of popular attitudes during the High Victorian period may not have been entirely appropriate. While all three met the stated specifications, it would appear that these criteria for selection should also include the restriction that the popularity of the novels be ephemeral.

In 1907, a list of most frequently read authors, compiled from twenty-one of the largest circulating libraries in England, contained the names of Mrs. M.E. Braddon and Ouida among the top six, indicating that their popularity was long-lasting (Hudson, 1964). These two authors wrote two of the novels selected for the High Victorian period; Braddon, in fact, was considerably ahead of the other five. Further investigation could determine if a more evanescent popularity should be included in the criteria for selection of the popular novels.

However, consideration must be given also to the fact that, according to Hudson (1964), "many Edwardians [were] absorbed in the popular fiction of the preceding generation." Leavis (1939, p. 27) has contended, with

some acerbity, that this was so because "the general reading public of the twentieth century is no longer in touch with the best literature of its own day or of the past." If this was the case, then the criteria for selection of popular novels would need to be sufficiently specific to take this, and any other features of the reading habits relative to a time period, into account.

Statements made on the basis of the data investigated for Predictions 2 and 3 were consistent with the expectations advanced. In relation to the target word *environment*, the associated frequencies varied significantly between the conventional wisdom sources representing the two time periods. It was pointed out earlier that all of the social histories dealing with nineteenth century England consulted for this study made clear and definite statements to the effect that the High Victorian period had quite specific boundaries which permitted it to be investigated as a distinct historical epoch. Similar statements were made with regard to the post-Victorian and Edwardian period, although its precise beginning has always been a matter of minor historical debate. The difference revealed in the conventional wisdom psychology data pertaining to these two periods was therefore congruent with these statements made by historians.

The support obtained for the third prediction was consonant with statements made by Boring about the times needing to be in harmony with new ideas. Speaking of the "agent of progress," Boring (1950, p. 744) maintains that

> The times must be working with him if he is to have success. He cannot, in fact, be successful without an audience, and he has to speak his wisdom in the right century or even the right decade to be heard.

Following Boring's claim, it was felt that, where the criteria for the selection of an insight psychology source were such that its "wisdom" was not being spoken in the right decade, then comparison of data from an insight source with that from a conventional wisdom source, both representing the same period, would reveal differences. The confirmation obtained for this prediction relative to the High Victorian period was in accord with Boring's statement.

Further Support for the Definition

Clearly, the logic of the methodology gives rise to expectations of finding no "real" difference between certain comparisons. However, while there is no model that would permit proof of the null hypothesis, this condition, should it apply, would be compatible with the argument advanced in this study for the usefulness of the methodology as an operational definition of *Zeitgeist*.

An illustration of such a "no difference" expectation relates to the comparison between insight psychology during the High Victorian period and conventional wisdom psychology during the post-Victorian and Edwardian period. In order to meet the specifications of a representative of insight psychology, an author and his work had to be judged as "important"

by those in a position both to know the present, and to look back on the past. The delimitations of "important" presented in their article by Annin et al. (1968) were such that each juror had to give three check marks to any name on the original list of 1040 psychologists "if he considered the person of such distinction that his name should surely be included in a list of the 500, most important psychologists since 1600." Both Spencer and Freud were chosen as important, and placed in the highest ranked category. The evidence in relation to Spencer, whose "insight" can be compared with the conventional wisdom of the post-Victorian and Edwardian scholarly psychology, is that his *Principles of Psychology* was largely ignored until early in the 1870's, after which time it became an important text in its field. It is suggested that, from the nature of the specifications related to the selection of a source representative of insight psychology, data collected from it would *both*

a) reveal patterns of variations when compared with data obtained from the source representative of conventional wisdom psychology for the same period; and

b) reveal *no* evidence of variation when compared with data collected from the source representative of conventional wisdom psychology of a subsequent period.

It was felt, therefore, that this comparison should be investigated, since it could supply some evidence relating to the discriminant validity of the methodology.

When these data were analysed, the results obtained were not inconsistent with the expectation that there would be no difference in the conceptual frequencies for *environment* between the insight psychology source for the High Victorian period and the conventional wisdom psychology source for the post-Victorian and Edwardian period.

Summary and Conclusions

The purpose of this study was to develop a methodology which would prove useful as an operational definition of *Zeitgeist*. It was stated that, to the extent that predictions made on the basis of other methodologies were supported by the data obtained, the methodology delineating this operational definition would be considered useful.

Arguments were advanced in support of the usefulness of the concept *Zeitgeist*. Many writers of high standing have used this term, e.g., Boring, Cronbach, Wolman, Altick, Burn, and Briggs. However, Ross (1969) has contended that the concept is not defined in the manner of empirical scientific concepts, and has no definition independent of the phenomenon being explained. Ross is, of course, entirely correct, but it has been a purpose of this study to lay some challenge to her subsequent statement that, because of its standing as a "non-concept," its use should not figure in attempts to account for scientific advance.

As a "non-concept," *Zeitgeist* can be used only in the postulatory sense that Ross criticises. However, it was felt that constructive arguments

against the use of this apparently needed concept could not be sustained while it remained undefined. Consequently, Ross's implication that as a concept, *Zeitgeist* was not simply undefined but, rather, undefinable, was questioned, and an attempt was made to develop a demonstrably useful definition of *Zeitgeist*.

Efforts were made to ensure that the procedure developed would be objective and verifiable, meeting the criteria for an operational definition of *Zeitgeist* suggested by Bruner and Allport. The methodology advanced in this study would appear to meet these criteria, and to permit statements to be made which are consonant with those derived from other methodologies. It is felt, therefore, that the study has taken the initial steps towards supplying a useful definition of *Zeitgeist* which will permit a critical examination of its use in historical analysis.

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