

THE EMOTIONALITY OF WILLIAM BLAKE'S POEMS:  
A QUANTITATIVE COMPARISON OF SONGS OF  
INNOCENCE WITH SONGS OF EXPERIENCE<sup>1</sup>

CYNTHIA WHISSELL

*Laurentian University*

*Summary.*—Analyses of the words contained in William Blake's *Songs of Experience* and *Songs of Innocence* with the new Dictionary of Affect, a tool listing the pleasantness, activation, and imagery of several thousand words, indicated that the *Innocence* poems were both more pleasant and more active than the *Experience* poems. On the whole, both sets of poems were richly imaged, rather pleasant in tone, and more emotional than both normative English and the work of Blake's Romantic contemporaries.

William Blake was a British poet of the late eighteenth and early nineteenth century. He was a contemporary of Wordsworth, Shelley, and Byron but did not in any meaningful way share the lyrical nature-based style of the first poet, the passionate and Romantic style of the second, or the gloomy and ironic style of the third.

Blake's writings were permeated with religious connotations absent from the work of the other poets of his day. Given these connotations, Blake has been compared more often to Milton than to his own contemporaries. Blake, a mystic, was influenced by the extreme Swedenborgian sect centered in London. The intended audience of his poems was not a highly educated or a nonchalant one likely to appreciate casual literary allusions to aeolian harps, Prometheus, or Don Juan. Blake wrote more as a prophet than as a poet. The illustrations which accompanied his work (he was an engraver by trade) were used to amplify his prophesies.

One of Blake's first published works—a combination of poetry and illustration not unlike the simple chap books of earlier times—was *Songs of Innocence* (Stevenson, 1989, pp. 53-74). The estimated publication dates for this work are 1789-1790 (Stevenson, 1989, p. 83), although the work was begun some five years earlier. The songs referred to are poems in praise of humble, guilt-free innocence. Blake's innocence has also been interpreted by others as unfettered joy or unfettered sexuality (Cox, 1992, p. 39; Hagstrum, 1964, p. 78). *Songs of Innocence* included a *Shepherd's* song and a *Laughing Song*. In the poems there are many little boys and little girls, and there is

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<sup>1</sup>Address enquiries to C. Whissell, Ph.D., Psychology Department Laurentian University, Ramsey Lake Road, Sudbury, Ontario P3E 2G6, Canada or e-mail (cwhissell@nickel.laurentian.ca).

also a description of *Infant Joy* which may or may not refer to the birth of Christ. The *Echoing Green*, which begins with the words "The sun does arise,/And make happy the skies;/The merry bells ring/To welcome the spring" is a good example of the mood in the innocence poems.

Somewhat later in his career (1794), Blake published a second illustrated manuscript alongside the first—*Songs of Experience* (Stevenson, 1989, pp. 208-223). For Blake, experience, in contrast to innocence, was ugly and demeaning. It was guilt-laden, and it culminated not in joy but in judgment (Hagstrum, 1964, p. 83). The fact that experience was meant to form a contrast to innocence is evident in Blake's publication of the two sets of poems jointly, in his titling of them as "Showing the Two Contrary States of the Human Soul," and in the clear parallels between individual poems in either set. Songs of experience include *A Poison Tree*, *Infant Sorrow*, and the famous *Tiger* poem (Tiger, tiger, burning bright/In the forests of the night,/What immortal hand or eye/Could frame thy fearful symmetry?). The mood of experience is encapsulated by the very brief poem *The Sick Rose* (O Rose thou art sick:/The invisible worm/That flies in the night,/In the howling storm,/Has found out thy bed/Of crimson joy;/And his dark secret love/Does thy life destroy.) Even in short examples presented here, one may easily identify the emotional polarity of the two sets of poems. Innocence is cheerful and pleasant, experience sadder and more unpleasant.

The research described in this paper quantified the emotional tone of the poems in Blake's *Innocence* and *Experience* categories in an objective manner using the new Dictionary of Affect, a tool designed to measure the emotional connotations of individual words. The new Dictionary is an extension of earlier work by Whissell (1989, 1994). It is double the size of the older Dictionary and has four times the hit rate. Emotional word scores had been assigned to individual words in the new Dictionary on the basis of previous emotional judgments made by volunteers about them. The emotional scoring of a work of art could be used to describe it, to modify knowledge about it, or to identify new information of a kind not normally accessible to casual readers of the work. In this paper, it was used for all these purposes.

#### *Background to the Dictionary of Affect*

Osgood (1969) theorized that words carry more than one level of meaning. The first level, known as the denotative level, embodies the literal definition of the word while the second level, the connotative one, encompasses the emotional definition. Emotional definitions have for the past several years been understood in terms of the dimensions of an emotional space in which all words may be located. The chief dimension of this space is pleasantness or evaluation and the second dimension (second in terms of its predictive value and stability) is activation (Whissell, 1989). In the research described

in this paper, the emotional meaning of Blake's poems is studied in terms of the emotional or connotative scores of the words in the poems along these two dimensions.

Imagery is another type of meaning which can characterize words. Some words are concrete and easily pictured while others are abstract and difficult to envision. Imagery has been known to have a considerable influence on memory for verbal materials. Imagery also has the power to influence a reader of poetry in interesting ways. Richly imaged poetry leaves the reader with a head full not only of words and sounds but also of pictures: it is poetry about things rather than poetry about abstract concepts. Imagery is of special interest where Blake is concerned because he was an artist (an experienced imager) as well as a poet.

The first prediction tested by the research described in this report was that Blake's poems would be richly imaged or, in other words, that they would use more words capable of producing mental images than most standard materials in English. The second prediction tested focused on emotional meaning. If Blake's poems on the themes of innocence and experience reflect these two concepts successfully, there should be emotional differences between the two sets of poems. *Songs of Innocence* should be more pleasant and more active than *Songs of Experience*.

#### METHOD

The new Dictionary of Affect in Language contains an ecologically valid sample of some 8,700 words. It is a measurement tool developed on the basis of people's ratings of words. Each word in the Dictionary has been rated by several people in terms of its pleasantness, its activation, and its imagery. Instead of containing definitions, as a standard dictionary does, the Dictionary of Affect contains a list of 8,742 words accompanied by the three scores produced by raters on tasks involving roughly a quarter of a million rating judgments by different volunteers at different times. Words used in the Dictionary were selected from among those commonly used in English. The scales used are anchored by 1 (unpleasant, passive, or poorly imaged) and 3 (pleasant, active, richly imaged).

Examples of Dictionary-scored words from *Songs of Innocence* are 'child' (2.4, 2.0, 3.0), 'laughing' (2.9, 2.7, 2.8), and 'sing' (2.8, 2.6, 2.6). The first number in the brackets represents pleasantness, the second activation, and the third imagery. All three words are pleasant and highly imaged. 'Laughing' and 'sing' are more active in their connotations than the word 'child'. Sample words from *Songs of Experience* are 'cruel' (1.25, 1.54, 2), 'darkness' (1.1, 1.7, 2.8), and 'chained' (1.4, 1.3, 2.8). All of these words have low pleasantness scores, and 'darkness' is the most active of the three words. 'Darkness' and 'chained' have extremely high imagery scores, mean-

ing that most readers are able to form very clear mental pictures when encountering these words.

Blake's poems were downloaded from Project Gutenberg (<http://www.promo.net/pg>) in the combined format selected by the author himself when the second set of poems had been completed. A program written by Paul Duhamel (<http://www.vianet.on.ca/pages/hdc/wdal/wdal.html>) was used to score Blake's poetry by matching every word in each poem to the Dictionary of Affect and by importing values for that word into a data set. The Dictionary had an 87% matching rate for *Songs of Innocence* and an 85% matching rate for *Songs of Experience*.

Measures of secondary interest—because they were not the subject of any specific hypothesis—were word frequency (reported per 350,000 words of English in Whissell's 1998 research), and the use of punctuation marks—specifically periods, exclamation points, and question marks. These measures were scored by the same program which accomplished the Dictionary scoring. The broadly sampled corpus of 350,000 words used by Whissell (1998) included English texts sampled from many media and from conversations and essays. It served as the normative comparison for Blake's work.

#### RESULTS

*Songs of Experience* and *Songs of Innocence* differed from one another in several ways. They also differed from normal or standard English.

The mean pleasantness value for *Songs of Innocence* was 1.94. That for *Songs of Experience* was 1.88. According to two-tailed  $z$  tests for single means ( $p < .05$ ), both values were significantly higher than the mean of the normative corpus (Whissell, 1998;  $M = 1.85$ ,  $SD = .36$ ). According to a two-tailed  $z$  test comparing the two sample means, *Songs of Innocence* were more pleasant than *Songs of Experience* ( $z = 6$ ,  $p < .01$ ).

The mean activation value for *Songs of Innocence* was 1.69, that for *Songs of Experience* 1.67. The first of these values was significantly different from the normative mean (normative  $M = 1.67$ ,  $SD = .36$ ,  $z = 2.6$ ,  $p < .05$ ), while the second was not. The two values also differed significantly from one another. *Songs of Innocence* were more active than *Songs of Experience* ( $z = 2$ ,  $p < .05$ ).

The two sets of poems had mean imagery scores which did not differ significantly from each other (1.67 for *Innocence*, 1.68 for *Experience*), although both sets were significantly higher in their imagery than the normative corpus ( $M = 1.53$ ,  $SD = .63$ ;  $z = 10.2$ ,  $11.9$ ,  $p < .01$ ).

The emotional nature of Blake's poetry can perhaps best be understood in comparison with the poetry of his contemporaries. An analysis of 142 representative samples of poetry written by Wordsworth, Byron, Coleridge, Keats, and Shelley selected from Wu's (1994) Romantic anthology produced

a mean pleasantness score of 1.86, a mean activation score of 1.64, and a mean imagery score of 1.69. Blake's songs were significantly more pleasant and significantly more active than the Romantic poetry. Romantic poetry was as highly imaged as Blake's *Songs of Experience*.

According to *z* tests, word frequency means were slightly below normal for both sets of Blake's poems, and they were higher for *Experience* than for *Innocence* (corpus  $M=2528$ ,  $SD=4312$ ; *Innocence*  $M=2177$ , *Experience*  $M=2350$ ).

The number of periods used in each set of poems was proportional to the words in the set. Exclamation marks, however, were proportionally more frequent in *Songs of Innocence* (39 versus 25,  $\chi^2=5.6$ ,  $p<.05$ ) and question marks in *Songs of Experience* (35 versus 15,  $\chi^2=3.95$ ,  $p<.05$ ). *Innocence* was therefore characterized by exclamations (presumably of joy) and experience by queries.

The effect sizes for the significant differences observed in these analyses were small or moderate. Differences were on the order of one-quarter of a standard deviation or less, suggesting *eta* values of .5 or lower.

In overview, Dictionary scoring demonstrated that *Songs of Innocence* were more pleasant and more active than *Songs of Experience* and also that they employed more uncommon words, more exclamation points, and fewer question marks. Blake's poetry was pleasant and richly imaged in comparison to a normative standard, and pleasant and active in comparison to the poetry of his Romantic contemporaries.

Mean values on pleasantness, activation, and imagery for individual poems are listed in Table 1. The most pleasant of the innocence poems was *Infant Joy* (2.24) and the least pleasant were *Little Boy Found* and *On Another's Sorrow* (1.79). The most pleasant of the experience poems was *My Pretty Rose Tree* (2.05) and the least pleasant was *The Tiger* (1.77). *Infant Joy* was also the most active innocence poem (1.79) while *The Shepherd* was the least active (1.51). *The Fly* was the most active of the experience poems (1.78), and *The Lily* the least active (1.59).

*Infant Sorrow* was the most highly imaged of all the poems (1.93) while *The Clod and the Pebble* was the most poorly imaged (1.39).

By and large, poems referring to very young children or to nurses in either set (for example, both *Cradle Songs*, both *Nurse's Songs*, *Infant Joy*, and *Infant Sorrow*) were pleasant and highly imaged. Even when embedded in experience, infants seem to have some claim to innocence which gave their poems a warmer colour.

When Blake published both sets of songs together, three of the songs from the *Innocence* set were moved to *Experience*. These were *The Little Girl Lost*, *The Little Girl Found*, and *The Voice of the Ancient Bard*. All three of the poems were of below average pleasantness in comparison with

TABLE 1  
PLEASANTNESS, ACTIVATION, AND IMAGERY VALUES FOR INDIVIDUAL POEMS

Poem	Pleasantness	Activation	Imagery
<i>Songs of Innocence</i>			
Introduction	2.03	1.76	1.66
The Shepherd	1.92	1.51	1.54
The Echoing Green	1.90	1.72	1.61
The Lamb	1.93	1.64	1.49
The Little Black Boy	1.98	1.70	1.72
The Blossom	2.01	1.74	1.83
The Chimney-Sweeper	1.85	1.67	1.64
The Little Boy Lost	1.83	1.71	1.68
The Little Boy Found	1.79	1.62	1.78
Laughing Song	1.99	1.71	1.63
A Cradle Song	2.16	1.70	1.89
The Divine Image	2.00	1.72	1.83
Holy Thursday	1.93	1.65	1.71
Night	1.86	1.65	1.62
Spring	2.01	1.72	1.83
Nurse's Song	1.92	1.68	1.87
Infant Joy	2.24	1.79	1.67
A Dream	1.87	1.70	1.66
On Another's Sorrow	1.79	1.74	1.60
<i>Songs of Experience</i>			
Introduction	1.87	1.67	1.68
Earth's Answer	1.87	1.75	1.76
The Cod and the Pebble	1.80	1.60	1.39
Holy Thursday	1.83	1.65	1.55
The Little Girl Lost	1.91	1.62	1.84
The Little Girl Found	1.79	1.63	1.77
The Chimney-Sweeper	1.90	1.73	1.76
Nurse's Song	1.91	1.73	1.76
The Sick Rose	1.86	1.76	1.89
The Fly	1.96	1.78	1.62
The Angel	1.86	1.75	1.68
The Tiger	1.77	1.68	1.74
My Pretty Rose Tree	2.05	1.65	1.77
Ah, Sunflower	1.95	1.63	1.56
The Lily	2.00	1.59	1.60
The Garden of Love	1.84	1.64	1.54
The Little Vagabond	1.94	1.69	1.53
London	1.79	1.68	1.67
The Human Abstract	1.85	1.67	1.60
Infant Sorrow	2.00	1.75	1.93
A Poison Tree	1.91	1.69	1.58
A Little Boy Lost	1.84	1.65	1.62
A Little Girl Lost	1.91	1.67	1.72
A Divine Image	1.97	1.60	1.81

(continued on next page)

TABLE 1 (CONT'D)  
PLEASANTNESS, ACTIVATION, AND IMAGERY VALUES FOR INDIVIDUAL POEMS

Poem	Pleasantness	Activation	Imagery
A Cradle Song	2.03	1.66	1.91
The Schoolboy	1.91	1.63	1.64
To Tirzah	1.88	1.68	1.70
The Voice of the Ancient Bard	1.80	1.62	1.51

*Note.*—The modal standard deviation for Pleasantness scores in individual poems was .425, that for Activation .375, and that for Imagery .725. On the basis of the error term from a one-way analysis of variance and the Studentized range statistic for the comparison of two means, any difference in Pleasantness means greater than or equal to .12 (the *LSD* or least significant difference) would indicate a significant difference between means. Corresponding *LSD* values for Activation and Imagery were .10 and .20.

the mean for the group of innocence poems. Their average pleasantness was 1.83 which placed them even below the average for the experience poems and made the change in category logical in terms of emotional effect.

#### DISCUSSION

The practice of computing emotional and imagery scores for Blake's *Songs* is not intended either to mimic or to replace the experience of reading the songs themselves while viewing the accompanying art work. The measurement described in this report applies to a different level of poetic analysis than do subjective responses to poetry. It complements or supplements the latter level. A quantified level of analysis is probably more useful to the critic than to the casual reader of poetry. It is one type of truth about poetry even though it is not the whole truth.

Sometimes quantitative analysis confirms previously known or suspected facts about poetry. In this case, it confirmed the pleasant and active emotional tone of *Innocence* as opposed to *Experience* and the high imagery of both sets of poems. Other times, quantitative analysis raises interesting (and unanticipated) questions. For example, why was the pleasantness score for *Songs of Experience*, although lower than that for *Songs of Innocence*, also higher than normal? One possible answer is that Blake used highly emotional words of all kinds in his poems, contrasting "good" and "evil" in the less pleasant ones. For the normative corpus of English, 33% of the words used tended to belong to one or another category of extreme emotional words. For Blake's songs, the figure was a significantly higher 40% ( $p < .01$ ). Blake's writing is saturated, not only with imagery but with words of high emotional impact. A scan of the poem *The Sick Rose* cited above indicates the presence of several extreme emotional words of different types. 'Sick', 'worm', 'howling', 'storm', 'dark', and 'destroy' are the unpleasant words which create the mood of the poem. They do this, however, when placed in juxtaposition to 'rose', 'joy', and 'love', which are their counterpoints.

Quantitative scoring of a text may also bring to light interesting facts, not originally predicted, which are coherent with the general understanding of the work. In this case the preferential use of exclamation marks in *Innocence* and question marks in *Experience* underlines the different type of confidence in humanity (exclamatory, doubtful) expressed in the two works. As well, the movement of poems from one set to the other is easily understood when the pleasantness values for the poem are examined. The fact that Blake's poems were more emotional (pleasant and active) than those of his Romantic contemporaries was not predicted but also not surprising.

There are two obvious limitations of an approach to poetry such as the one described in this paper. The first is that the emotional meaning and imagery of words in Blake's poems was established in terms of the connotations likely to occur to today's readers. The connotations of several words might have changed somewhat in the two centuries between the writing of the poems and the present day. Unless change across time is profound, however, it will only have a small influence on the scores generated for each poem. If Dictionary scoring were to be used in conjunction with a historicist approach to Blake's poetry, possible pitfalls of this kind would be avoided.

Another limitation inherent in context-free scoring such as that produced by the Dictionary and the programs which accompany it is that the meaning of a word cannot be modified by the context in which the word occurs. The word 'rose' is pleasant, moderately active, and highly imaged (2.4, 2.0, 3.0). Regardless of whether the word appears in a happy or in a sad poem, it is scored in the same manner. Furthermore, there is more than one meaning to the word 'rose' which might represent a verb (for example, "he *rose* and walked to the door") as well as a noun. When people who produced the scores in the Dictionary were giving their impressions of individual words such as 'rose', they were provided no clue as to how to interpret the words. The assumption was that the most common meaning (in this case the flower) would dominate the ratings, but that alternative meanings might also occur to some individuals. It is relatively unlikely that multiple meanings of a single word would have extremely different pleasantness ratings, so the differences attributable to different meanings would be matters of magnitude.

Although this second limitation must be recognized, it can also to some extent be discounted. If contexts and multiple meanings were extremely significant sources of variation in scoring, individual words would not have distinct emotional ratings, and it would not be possible to produce any sensible results using the Dictionary. Since words do differ radically from one another, the problem must be limited in its scope. Again, a careful reading of materials from the perspective of the importance of context and multiple

meanings should accompany Dictionary interpretation of works of art, especially when the results produced by the Dictionary are counterintuitive.

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