

POETRY IN MOTION: DESCRIBING AUSTRALIAN POETRY 1890—1900

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There has been a feeling that the beginning of the 1890's in Australia was marked by the production of poetry that spoke with a particularly Australian voice. According to H.A. Green:

'Now for the first time Australia began to produce a literature from which the last echoings had almost entirely faded, which had a nature and individuality essentially its own...'¹

Judith Wright makes the same kind of point: for her the poets of the nineties communicate an authentic Australianism pioneered by Gordon which had lain quiescent in the seventies and eighties.²

Modern judgement is not so clearcut, as one would expect; the lengthening of the historical viewpoint produces a proportion and perspective, so that Vivian Smith writes:

'The nineties have at times been oversimplified, because this was the period when nationalist and obvious Australianist tendencies were most strongly articulated. It is now clear that the period from 1880 to the end of the First World War has as much to offer in the way of variety as that of unity.'³

The purpose of this study is to examine what it was that happened to Australian poetry in the nineties, how it was different from whatever

characterized the previous decade, and to investigate what lay behind whatever differences may have existed. If the discussion may seem at times to range rather widely, it is because a real understanding of the poetry depends, as will be seen, on processes of a much deeper and more general nature.

The first requirement for a study is that it should be so based as to be capable of answering the questions addressed, and for this purpose its source will require to be in some sense comprehensive and also coherent: it is easy to mislead or to be misled by selective quotation. To ensure unity of context the poetry examined here was all taken from *The Bulletin*, which began publication at the beginning of 1880 and which from the start always published original poetry, although the amount of poetry published varied considerably from time to time. Facetious poems, parodies and lampoons were excluded from examination as being different in genre from the primary subject of interest, as were any poems of editorial or of extra-Australian origin. What remained were contributed poems by Australian authors, both known and unknown.

From this body of material eight samples each of fifty poems were taken at intervals of two and a half years beginning in 1880. So for 1880 the sample consisted of the last twenty five poems published before the 30th of June and the first twenty five published after it, for 1882-1883 the last twenty five poems published in 1882 and the first twenty five published in 1883, and so on. The four hundred poems thus selected constituted the corpus on which the study was to be based. This seemed large enough to be representative without being overwhelming, but still presented a mass of material and a multitude of possible ways of discussing it. In the interests of containing the investigation and still maintaining an objective approach to it I decided to concentrate on the words in which the meanings of the poems were embodied and to see whether there appeared to be any systematic change in the words used from any one of the eight samples to another. This sample of the corpus was then further reduced first to nouns, and then from the list of some thousands of nouns to those that occurred in at least five per cent of the poems, a total of 228 different words. Each poem was then reduced to a list showing the presence or absence in it of the nouns selected, the lists were aggregated within each sample of fifty, and across the eight samples a string of numbers showed the successive popularities of each item from sample to sample. For example, the word 'blood' occurred in 59 poems, distributed thus:

| | | | | | | | |
|------|--------|------|--------|------|--------|------|--------|
| 1880 | 1882-3 | 1885 | 1887-8 | 1890 | 1892-3 | 1895 | 1897-8 |
| 1 | 7 | 10 | 14 | 12 | 6 | 5 | 4 |

and every other word in the sample has its own pattern.

The object of the investigation is then to determine which are the predominant patterns, which words belong together in terms of the patterns that they display, and what this can reveal about the poetry in its period. The process of extracting the underlying patterns from such a body of data is known as factor analysis, and involves a set of mathematical procedures most easily carried out by a computer. The result of such analysis is a set of patterns, or factors, and for each item a set of weights showing to what extent that item represents each pattern.⁴ If one wished one could regard the weights as the coordinates of each item in some kind of space; in this case the space is one in which every lexical item is defined by its collocational possibilities. The extent to which any two words show the same pattern of occurrence through the time interval covered by the corpus is a measure of the extent to which they tend to occur together, and hence of their proximity within a syntagmatic semantic space.⁵

Some of the variation in the frequency of an item from one sample to another is of course no more than random and meaningless fluctuation, and some of the patterns that account for the data are bound to reflect this, being no more than measurements of randomness. As such patterns have no internal distinguishing characteristics they will have to be distinguished by their lack of correlation with any external qualities. Those patterns that can be interpreted will be taken to measure real variation, and those that cannot to measure random variation.

The five most important patterns identified in the analysis, selected because it seemed unlikely that it would be possible to interpret more than five, if indeed it was possible to interpret so many, were as follows, in decreasing order of importance:

| | 1 | 2 | 3 | 4 | 5 |
|--------|-------|--------|--------|--------|--------|
| 1880 | 0.831 | -0.405 | 0.110 | 0.230 | 0.272 |
| 1882-3 | 0.897 | -0.213 | -0.020 | 0.057 | -0.164 |
| 1885 | 0.881 | -0.069 | 0.219 | -0.252 | -0.051 |
| 1887-8 | 0.844 | 0.281 | 0.295 | 0.245 | -0.213 |
| 1890 | 0.845 | 0.369 | 0.101 | -0.146 | 0.297 |
| 1892-3 | 0.846 | 0.234 | -0.373 | 0.190 | 0.036 |
| 1895 | 0.889 | -0.047 | -0.230 | -0.126 | -0.076 |
| 1897-8 | 0.893 | -0.132 | -0.089 | -0.169 | -0.076 |

These patterns were then examined from the point of view of interpretation, in particular to see whether any of the patterns of variation corresponded with movements in the Australian economy in the same period.⁶ As the patterns stand, a connexion is not obvious, but then the analysis was not seeking to make a connexion. If one is looking

for squares, then a diamond will not suit unless it is rotated: it is a matter of point of view. Similarly one may in a continuation of the spatial metaphor rotate the axes of the semantic space, or in other words look at the space from another point of view, to see whether some new set of characteristic patterns is more revealing than the old.

The matrix of patterns is rotated to give four new patterns by multiplying it by the transformation matrix:

| | | | |
|--------|--------|--------|--------|
| -0.987 | 0.078 | -0.017 | 0.131 |
| 0.076 | 0.921 | -0.368 | -0.051 |
| -0.085 | 0.271 | 0.645 | -0.593 |
| -0.088 | -0.208 | -0.297 | -0.757 |
| -0.064 | -0.173 | -0.601 | -0.236 |

where the first column shows what multiple of each of the five factors must be added to give the new first factor, the second column specifies the derivation of the new second factor, and so on. The new matrix of patterns, containing four only, the fifth having been discarded as uninterpretable, is as below:

| | | | | |
|--------|--------|--------|--------|--------|
| 1880 | -0.898 | -0.373 | -0.026 | -0.174 |
| 1882-3 | -0.895 | -0.115 | 0.132 | 0.136 |
| 1885 | -0.868 | 0.126 | 0.257 | 0.192 |
| 1887-8 | -0.844 | 0.390 | 0.126 | -0.214 |
| 1890 | -0.821 | 0.412 | -0.220 | 0.072 |
| 1892-3 | -0.805 | 0.134 | -0.420 | 0.168 |
| 1895 | -0.845 | 0.003 | -0.065 | 0.369 |
| 1897-8 | -0.863 | -0.028 | 0.071 | 0.322 |

Each of these patterns corresponds closely with one of a related set of economic variables. The basic variable, with which corresponds the second of these factors, is Gross Domestic Product per head of population in the years concerned⁷, estimated in pounds sterling as:

| | |
|--------|-------|
| 1880 | 59.92 |
| 1882-3 | 61.32 |
| 1885 | 63.61 |
| 1887-8 | 64.88 |
| 1890 | 63.06 |
| 1892-3 | 57.87 |
| 1895 | 52.07 |
| 1897-8 | 50.86 |

This series is for practical purposes identical with the pattern of the second factor ($r=0.995$), except that the pattern is on a slight rising trend from 1880 to 1897-8.⁸ Thus the second factor corresponds to a general measure of economic prosperity. The first factor corresponds to the integral of the economic variable, that is to capital accumulated,⁹ and the third to the rate of change of the economic variable. The fourth factor is related to the quantum of change in the economy and to its rate of change independent of sign. All of these correspondences are statistically highly significant.

Each word is assigned a weight for each pattern of occurrence measuring the extent to which its use in poetry conforms to that pattern. By looking at the words that are heavily weighted for each pattern one gives names to the dimensions of the semantic space and seeks to explain why they correspond to economic factors in the way they do.

The first pattern, which reaches its peak in 1892-3, is negatively correlated with word frequency. That is to say that when the variable is at its most negative the very common words are used most and the less common ones used less. As the value of the variable increases the proportion of all occurrences accounted for by the most common words diminishes, and the relative frequencies of the words used become more even. In other words the information content of the vocabulary varies directly with this variable.¹⁰ Halliday anticipates this when he writes:¹¹

Language has 'formal meaning' and 'contextual meaning'. Formal meaning is the 'information' of information theory, though (i) it can be stated without being quantified and was in fact formulated in linguistics independently of the development of information theory as a means of quantifying it, and (ii) formal meaning in lexis cannot be quantified until a method is found for measuring the information of non-finite ('open') sets ... The formal meaning of an item is its operation in the network of formal relations.

In fact it would seem that information is the first and most important dimension of semantic space, and that the amount of information that a society generates varies with the amount of capital that it holds.

The second pattern may best be characterised by listing some of the words that have high loadings on that pattern. With positive loadings of 1.5 standard deviations or greater there are *blood, day, foot, land, man, nation, people, right, son, sun, toil*, whereas words with negative loadings of corresponding size are *arm, beauty, evening, flower, girl, God, grace, kiss, leaf, life, love, music, sigh, smile, song, summer, way*. This semantic dimension might be characterized as unromantic as

against romantic, or in some such way. It is noticeable that words for males as a group - *boy, father, king, lord, man* - have a significantly more positive loading than the corresponding words for females - *girl, mother, queen, lady, woman*, (a mean of 1.126 compared with -0.946). The unromantic set also includes the words for activity - *labour, toil, work* - and struggle - *battle, fight, war* - whereas the passive word *rest* is with the romantic set. Variation in this dimension follows the economy: times of prosperity see an increase in unromantic/male/active vocabulary whereas when prosperity fades the use of romantic/female/passive vocabulary increases.

The third pattern seems in a general way to divide the ideal from the real, the inner from the outer, the imagined from the experienced. Positive loadings of 1.5 or more standard deviations are found for the words: *brain, dream, face, glow, grave, heart, light, moment, rose, shade, son, sound, sun, tear, thought, vision, wing* whereas correspondingly large negative loadings are found for *arm, chance, day, earth, fire, flood, fool, head, heaven, hope, horse, labour, man, name, shame, story, way, wife, work*. A positive rate of change in prosperity favours the vocabulary of imagination, a negative rate of change the vocabulary of realism.

The fourth pattern varies with economic change of whatever kind. The vocabulary associated with this factor shows a number of strands. Times of rapid change produce words suggesting disquiet: *death, despair, hell, night, pain, winter*, words of escape: *cattle, country, grass, horse, mate, mile, plain, river, stream, tree* and words of transition: *change* itself and *door, gate, road, track*. The combined message of these lexical sets seems clear enough. Times of little change favour a vocabulary suggesting on the one hand that man is very much in control: *brow, fame, glory, might, name, nation, will* and on the other that comfort of a very traditional kind is not far away: *cheek, kiss, knee, mother, smile, touch, woman*.

These then are the four major dimensions of the semantic space detectable in Australian poetry of the last twenty years of the nineteenth century — information density, active male 'toughness' against passive female romanticism, idealism and thought against realism and action, and apprehension against complacency. Against this background it is easy to understand the particular authenticity of poetry of the early 1890's as a record of the Australian experience. As the boom faded towards the end of the eighties poetry moved towards realism, but times were good enough to make this a realism directed towards the world of men and their activities. In parallel with the continuing growth of society's capital this real world of men and work was delineated in a rich and wide ranging vocabulary, providing a

heightened verisimilitude that its audience could recognize and relate to. As the country gradually emerged from depression towards the end of the decade the forces that produced this lexical complex abated and the 'bush ballad' genre was lost, except to imitation - it was no longer the appropriate time. Perhaps the most characteristic poet of the end of the nineties is Brennan, of whom Vivian Smith says:¹²

Brennan's work is saturated in period diction and iconography: all the stock *fin de siècle* words occur: roses, stars, pale, and dim, grey and weary, dream, sorrow and passion.

This is the vocabulary of bad times getting better: romantic idealism whose conventional vocabulary reflects the dissipation of capital in the depression.

So it may be taken that the location in semantic space of the lexical items used in a poem reflects the location of its author in some kind of perceptual space, and the general literary trends reflect the common experience of writers in their society.

II

One may understand how the content of poetry comes to reflect the world outside the poem by considering each poem as a form of behaviour elicited by the context of situation in which the writer finds himself. Variations in context of situation will call forth variations in response, and the generality of this variation will be a measure of the generality of the contextual variable that produced it. On the one hand the internal world and private circumstances of the individual produce individual variation — on the other the economic and political experience of the society will affect all its writers. In poetry in the aggregate individual and idiosyncratic variations cancel one another, leaving behind the general variation that reflects the mood of the society as a whole or of those sections of it that the writers represent.

If the writing of poetry is to be considered a form of linguistic behaviour, which in turn is but one kind of human behaviour, then behaviour itself needs to be described. As, however, most discussion of human behaviour has tended to be concerned not so much with what behaviour is but with its relation to personality, one must seek in understanding behaviour to understand personality and to find some harmony between the various ways in which it has been described. Prior to the modern period, personality was discussed in the European tradition in terms of the four humours: blood, phlegm, black and yellow bile. These were thought in the human sphere to represent the four

elements, air, water, earth and fire respectively, which in turn embodied the two ultimate pairs of opposed principles, hot:cold and wet:dry. According to the temperament of the four humours a personality might be sanguine, phlegmatic, melancholic or choleric, or a mixture of these as the word 'temperate' implies.

As a theory of personality this may appear no more than a folk taxonomy, though one must be reluctant to dismiss a schema which satisfied the subtlest minds of its time. It may at least embody truths about the way in which personality is perceived. It is instructive to compare it with the rather similar but apparently quite independent Chinese taxonomy: in this five elements - wood, water, metal, fire and earth - form a dynamic system which embodies in the physical sphere the yang:yin opposition which more generally distinguishes active from passive, male from female, light from dark, rarefied from condensed, and so forth.¹³

This idea, in the form that the difference between male and female is one which is necessarily involved with other distinctions, is one which, whether true or false, has had a continuing appeal. So, C.S. Lewis:

Sex is, in fact, merely the adaptation to organic life of a fundamental polarity which divides all created beings. Female sex is simply one of the things that have feminine gender; there are many others, and Masculine and Feminine meet us on planes of reality where male and female would be simply meaningless. Masculine is not attenuated male, nor feminine attenuated female. On the contrary, the male and female of organic creatures are rather faint and blurred reflections of masculine and feminine. Their reproductive functions, their differences in strength and size, partly exhibit, but partly also confuse and misrepresent, the real polarity.¹⁴

Helene Cixous:

'Where is she?'

Activity/passivity,
Sun/Moon,
Culture/Nature,
Day/Night

Father/Mother,
Head/heart,
Intelligible/sensitive,
Logos/Pathos.

Form, convex, step, advance, seed, progress.

Matter, concave, ground - which supports the step, receptacle.

Man

Woman

.....

The hierarchization subjects the entire conceptual organisation to man. A male privilege, which can be seen in the opposition by which it sustains itself, between *activity* and *passivity*. Traditionally the question of sexual difference is coupled with the same opposition: activity/passivity.

That goes a long way. If we examine the history of philosophy - in so far as philosophical discourse orders and reproduces all thought - we perceive that it is marked by an absolute constant, the orchestrator of values, which is precisely the opposition activity/passivity.

In philosophy, woman is always on the side of passivity.¹⁵

Luce Irigaray:

'She' is indefinitely other in herself. That is undoubtedly the reason she is called temperamental, incomprehensible, perturbed, capricious - not to mention her language in which 'she' goes off in all directions and in which 'he' is unable to discern the coherence of any meaning. Contradictory words seem a little crazy to the logic of reason, and inaudible for him who listens with ready-made grids, a code prepared in advance. In her statements - at least when she dares to speak out - woman retouches herself constantly. She just barely separates from herself some matter, an exclamation, a half-secret, a sentence left in *suspense* - When she returns to it, it is only to set out *again* from another point of pleasure or pain. One must listen to her differently in order to hear an '*other meaning*' which is constantly in the process of weaving itself, at the same time ceaselessly embracing words and yet casting them off to avoid becoming fixed, immobilized.¹⁶

This last passage brings to mind Kretschmer's identification of schizothymia, defined as the ability to analyse complex experience, contrasted with its opposite, cyclothymia, as the major dimension of personality.¹⁷ Sheldon's tripartite division between viscerotonia, somatotonia and cerebrotonia (corresponding to the physical typology of

endomorphs, mesomorphs and ectomorphs)¹⁸ is very similar, though with the emphasis on bodily rather than mental behaviour. The same kind of distinction again is embodied in Jung's active categories of thinking and feeling (the latter referring to interaction with the environment, not merely experience of it), contrasted with the passive ones of intuition and sensation.¹⁹ Jung, of course, invokes also the independent dimension of introversion as against extraversion, thinking and intuition being essentially introverted categories, and feeling and sensation extraverted.

All of these intuitive categorizations have a general coherence which may be summed up in a distinction between active and passive behaviour on the one hand and inner and outer behaviour on the other. More objective studies have led to conclusions that are in many ways similar, though the conclusions are often masked both by the methodology and by the terminology used to describe them. Cattell²⁰, for example, characterised subjects' behaviour in terms of 35 groups of named traits, and extracted from these a number of factors: the most important are those he called cyclothymia (in order to preserve the terminological coherence of the discipline, though Cattell's cyclothymes, who are characterized by success in dealing with people rather than with things, or by tendency of habits to disappear with lack of reward, are perhaps closer to Jung's extraverts than to Kretschmer's cyclothymes), intelligence, ego strength, excitability, dominance, and surgency (a combination of qualities such as cheerfulness, sociability, takativeness, adaptability). It is unfortunate that lack of mutual independence between these factors leaves one wondering just how many dimensions one is dealing with, though one is immediately led to compare the first three of them with Eysenck's statement that:

If we were reduced to describing a person in just three figures, then I have no doubt that we would get the closest approximation to his real nature by using these figures for an assessment of his intelligence, his extraversion, and his neuroticism,²¹

It is interesting that Cattell's 'intelligence', which he calls the expression in personality of Spearman's *g*, is itself a bundle of characteristics which include thoughtfulness, conscientiousness and assertiveness as well as intelligence per se, and it is correlated with the other factors which may be thought to express ascendance or aggression.

A very similar set of distinctions seems to underlie Guildford and Zimmerman's fourteen, once more intercorrelated, characteristics based on analysis of responses to 70 tests.²² Their general activity, ascendance, masculinity and confidence seem to be measures of an

underlying active/potent dimension, their calmness, seclusiveness, reflectiveness and objectivity of an inward looking as against outward looking dimension, and the cycloid disposition of a neuroticism dimension, while the remaining characteristics that they distinguish appear to measure more than one of these underlying variables.

A slightly different set of variables emerges from the work of Borgatta, Cottrell and Mann²³, who had students rate each other in terms of 16 trait names and 24 descriptions of behaviour. The behavioural variables exhibited a substantially two dimensional arrangement of dominant activity (does most of the talking, is most active, does most to determine discussion, makes the most suggestions, is most spontaneous in response, interrupts others, discusses things in personal terms) contrasted with passivity (withdraws from active participation) as the first dimension, and approved vs. disapproved behaviour as the second (shows solidarity and friendliness, supports others' suggestions, makes others feel he understands them, is most cooperative, facilitates the group operation vs. disagrees most, dismisses opinion of others, makes most emotional responses, tends to be antagonistic, is most tense). Considering the traits by themselves, however, the first dimension is one of originality (initiative, social sensitivity, inquisitiveness vs. conventionality), while the second is active/aggressive (unreasonableness, self reliance, intelligence, initiative vs. friendliness, likeability, social sensitivity, agreeableness), and the third is an inner:other dimension (clearmindedness, self reliance, intelligence, initiative vs. conventionality, emotionality, friendliness, suggestibility). The second and third of these factors have a familiar cast to them but the first seems more closely related to Hudson's distinction between divergent and convergent personalities²⁴, which is based on projective tests, the divergent character being the one that produces the less usual responses. With this one might compare Eysenck's radical vs. conservative dichotomy, where the two attitudes are explained as the integration respectively of unrewarding and rewarding life experience²⁵.

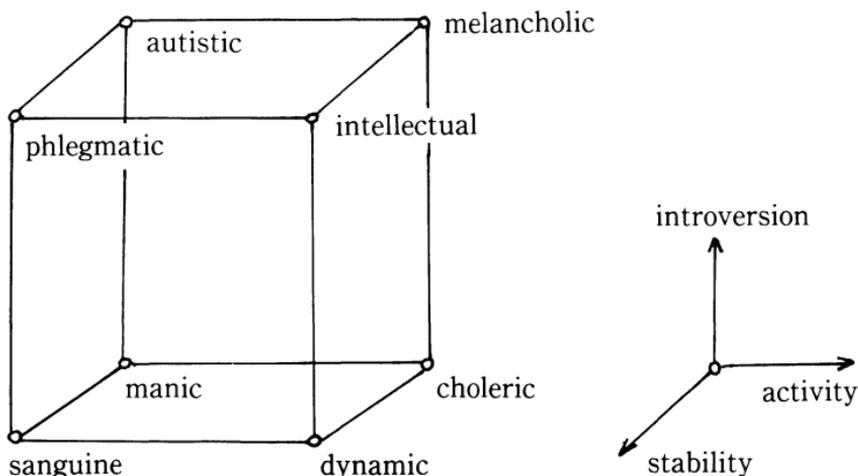
Eysenck has already been mentioned as categorizing personality in terms of the three scales of intelligence, extraversion and neuroticism, the latter two of which he relates to the types of personality defined by the four humours: neurotic introverts are melancholic, neurotic extraverts choleric, normal extraverts sanguine and normal introverts phlegmatic. The strength of Eysenck's analysis²⁶ is that he deals wholly in orthogonal (mutually independent) factors, and that he seeks an explanation of the introversion:extraversion dimension by relating it to a neurological origin in the excess of nervous excitation in the case of introverts and of inhibition (resistance to the continuation of activity) in the case of extraverts. Its weakness is in assuming rather than proving

the optimality of his dimensions, and in his treatment of intelligence as a quality *sui generis* without investigating the way it is related to other qualities as it appears to be in the work of Cattell and of Borgatta *et al.* These deficiencies in his theoretical structure lead Eysenck to neglect the personality disorders of the sanguine and the phlegmatic temperaments (manic euphoria and autism respectively), and to propound views about intelligence in advance of a thorough analysis which have caused much controversy without coming any nearer to validation. One could resolve these difficulties, bring Eysenck's theories into harmony with those of other psychologists and preserve the value of his analysis by assuming that his three basic variables were themselves correlated with underlying variables in some such way as this:

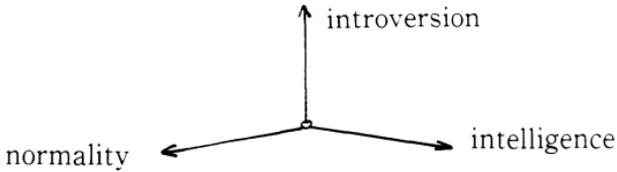
| | | assumed underlying variables | | |
|---------|--------------|------------------------------|--------------|-----------|
| | | activity | introversion | stability |
| Eysenck | intelligence | 0.707 | 0.000 | 0.707 |
| | introversion | 0.000 | 1.000 | 0.000 |
| | normality | -0.707 | 0.000 | 0.707 |

This would assume that Eysenck's variables and those which underlay them were both internally orthogonal sets, but that the axes which Eysenck calls intelligence and normality respectively were rotated 45° from the underlying axes: thus Eysenck's intelligence would be the sum of measurements on the underlying activity and stability axes and his normality would be their difference.

In this analysis the three underlying variables define eight ideal types as extreme points in a field within which a personality may be placed:



The axes of Eysenck's analysis are rotated 45° in the horizontal plane with respect to the postulated underlying axes:



The first underlying variable would manifest itself phenotypically as capacity for analytic thought in the context of introversion or for effective activity in the context of extraversion. The second would be the same as Eysenck's introversion and the third would take account of Eysenck's active unstable neurotics, their analytic capacities or activity directed against the self in the case of introverts or against others in the case of extraverts, but would provide categories for the passive and unstable as well²⁷.

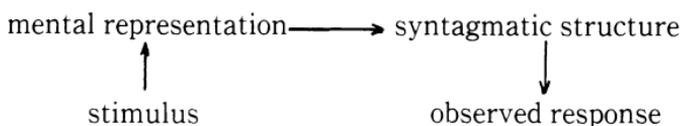
One may thus find a concord among a wide variety of views of personality, both scientific and non-scientific (it is difficult to bring Freud into the consensus, but as his primary concern with personality is with the abnormal his theories are not necessarily relevant to understanding the varieties of behaviour associated with the normal personality²⁸). It will be assumed that the major underlying variables will take account of convergence and divergence, activity and passivity, introversion and extraversion and stability and instability. A given personality will be satisfactorily described by rating it according to these criteria, bearing in mind that any personality will have a range of behavioural manifestations depending on its interaction with various contexts of situation. What light then do these dimensions of personality throw on behaviour in general?

One may answer this by considering that personality in these terms is a disposition towards certain types of behaviour: no behaviour is peculiar to any type of personality, but though all kinds of behaviour may be common to all there will be those who spend more time in contemplation, more time in physical exertion, and so on.

Any instance of behaviour may be described in static terms by localising it with respect to the activity:passivity and mental:physical axes²⁹:

| | |
|--------------------|-------------------|
| mental passivity | mental activity |
| physical passivity | physical activity |

but any instance of behaviour may also be seen dynamically as a cycle that moves through each of these quadrants. Thus Kaplan³⁰ distinguishes four elements in behaviour: first comes the stimulus, perhaps some object in the external world. This stimulus is processed by the recognition system and assigned a mental representation. Then the mental representation is associated with others to explore its implications, and finally a response is generated as a result of this association³¹.



Characteristic behaviour is seen in these terms as a tendency to move through this cycle at an uneven rate, spending more time in some parts of it than in others, or in other words as having the centre of one's individual cycle displaced from the intersection of the two axes. The cycle itself may be powered by the two principles of activity (limited by fatigue) and excitation (limited by inhibition)³². Those people the centre of whose activity lies above the horizontal axis (the introverts) are excitation rich, while those below it are excitation hungry³³. Those to the right of the vertical axis are activity rich, while those to the left of it are activity hungry. Excitation issues in activity and generates inhibition: activity uses up excitation; passivity dissipates inhibition and makes a fresh excitation possible. The stability variable may be explained by relating it to the quantum of excitation/inhibition or activity/passivity irrespective of its direction: if excitation for example is generated more quickly than it can be used up, a kind of poisoning will result. Claridge³⁴ suggests inhibition poisoning as a factor in psychosis, whereas Toffler is speaking about excitation poisoning when he writes:

While there are differences, to be sure, between a soldier in combat, a disaster victim, and a culturally dislocated traveler, all three face rapid change, high novelty, or both. All three are required to adapt rapidly and repeatedly to unpredictable stimuli. And there are striking parallels in the way all three respond to this overstimulation.

First, we find the same evidences of confusion, disorientation, or distortion of reality. Second, there are the same signs of fatigue, anxiety, tenseness, or extreme irritability. Third, in all cases there appears to be a point of no return - a point at which apathy and emotional withdrawal set in.

In short, the available evidence strongly suggests that overstimulation may lead to bizarre and anti-adaptive behaviour.³⁵

Neither the contrast of convergent with divergent behaviour nor that of conservatism with radicalism is quite of the same kind as the distinction between introverted and extraverted or active and passive behaviour. Convergence and divergence and their political correlates are recognizable only by contrast in a way that is not equally true of the term defining the other dimensions of personality. In both cases it would seem that one is dealing with characteristics lying at the same pole in a dimension whose two extremes are polarization and pragmatism. Both convergence and divergence are extreme kinds of reaction, predictable and bizarre respectively, as opposed to a measured responsiveness to the particular situation. The corresponding contrast in terms of political attitudes would seem to be between reaction and radicalism on the one hand, and on the other an attitude typified by Pope's:

For forms of government let fools contest:
Whate'er is best administer'd is best.³⁶

These two poles may, as suggested by Eysenck (1957), be related to the summation of life experience: so one might expect that the summation of challenging and rewarding experiences would lead to pragmatism, of life experiences too easy or too hard to a doctrinaire extremism of one kind or another and to the development of sharp distinctions between divergent and convergent patterns of thought.³¹ This interpretation brings Hudson on personality and Eysenck on political tendency into harmony with Borgatta, Cottrell and Mann on group dynamics.

Although any combination of the variables may exist, people will cluster in terms of their behaviour³⁸ because not all combinations are stable, in the sense of being self-sustaining. An active introvert may maintain an indefinite balance between the rate at which excitation is generated and the rate at which it is consumed in activity, and similarly a passive extravert may maintain a balance between the generation of inhibition and its dissipation in inactivity. Active extraverts, however, depend on a constant supply of stimuli to maintain their activity - hence their aggressiveness - and when they are deprived of stimuli the activity must diminish and move them into passive extraversion. Passive introverts on the other hand must continually be repressed or frustrated by external agency to prevent their excitation propelling them into the active introvert category. Housewives suffering from 'suburban neurosis' fall into this category - they are the ones for whom surgery is not enough and self assertion is not possible³⁹.

A similar pattern of stable and unstable states will exist in respect of activity and pragmatism. Active pragmatism and passive extremism

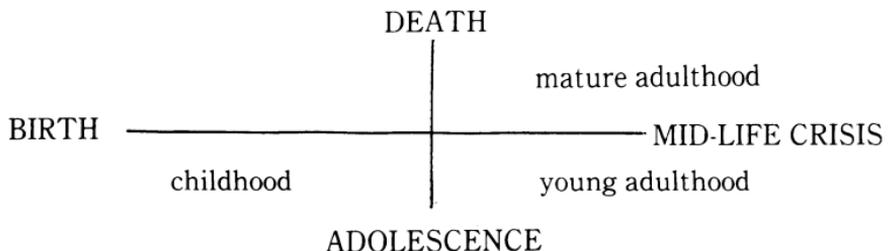
are stable states, whereas active extremism must either betray its ideals by compromise on the way to a new stability or become more extreme to maintain its unstable configuration.

The supporters of any doctrinaire solution to social ills will either be betrayed or horrified if their leaders gain power. According to Christopher Booker:

We can begin to see ... how it is that nationalist movements become increasingly violent ... and how it is that such apparently successful revolutions as those of 1789 or 1917 should have become progressively more violent and out of hand until they ultimately destroyed almost all of their original leaders, let alone, as the dream of freedom turned inevitably into the reality of tyranny, their original dream intentions.⁴⁰

Passive pragmatism is equally at risk: the history of the Democratic Party after Lyndon Johnson's failure in Vietnam is a case in point.

Apart from these inherent instabilities which may move a person from one quadrant to another, it should also be recognised that one man in his time plays many parts, moving during a lifetime from one combination of attributes to another. The role of the child is one of passive extraversion: children absorb stimuli as fast as they are presented, but have little opportunity to control their environment. Young adults are active extraverts, still seeking stimuli but asserting themselves over their surroundings. Mature adults are active introverts: their need for external stimulus is much diminished, and they control their environment by using their internal resources. The boundaries between these states are marked by the four endogenous crises common to all humanity⁴¹.



Depending on the society these may be periods at which neurotic symptoms are generated in response to change. The journey from childhood to maturity, as will be appreciated from the previous discussion, is against the inherent dynamic of the system, and calls to mind Christina Rossetti's:

'Does the road wind up-hill all the way?
Yes, to the very end.
Will the day's journey take the whole long day?
From morn to night, my friend...'⁴²

A person failing to make the transition will be carried back into dependence.

To return to the discussion of personality, the four major variables that describe it, namely pragmatism, activity, introversion and stability, are seen to be related. If one takes the active dominant:passive/-submissive variable as a starting point, then the introversion:extraversion dimension is related to the rate of change in the basic variable because excitation determines the rate of change of activity, the stability:instability dimension measures the quantum of change, and the pragmatism:polarization dimension the summation of active/-dominant as against passive/submissive behaviour. Cattell (1957) makes the same kind of link between dominance and intelligence, which suggests that in some senses at least, intelligence may have a lot in common with pragmatism. Without opening up the question of what intelligence may have meant to different investigators, one might suggest that the underlying variable which manifests itself in behaviour as pragmatism might be called commonsense⁴³.

The way is now clear to relate the kind of activity pursued at any time to the economic circumstances that surround it. While the experience of each person is unique, all share the common experience of their society. Economically good times promote activity, and as society becomes more active the responses of its members are those appropriate to the active personality. Economic bad times have the reverse effect, and unemployment goes hand in hand with the passive personality. Times of economic improvement provide increasing stimuli to society and are reflected by the introverted behaviour of the stimulus rich, whereas times of economic collapse rob people of their accustomed satisfactions and cause the extraverted behaviour of the stimulus hungry. Increasing wealth promotes pragmatism, decreasing wealth extremism. Thus while each individual pursues his own pattern of behaviour, some diametrically different from others, all alike are carried on the swell of their common experience of which a main element must be economic.

This explains the links between economics and behaviour; what of the links between behaviour and word meaning?

The first dimension of meaning was the dimension of information. It has been seen that the information content of poetic vocabulary varies as the integral of the economy, just as is suggested for movement of behaviour in the dimension whose two poles are extremism and

pragmatism. It should follow that the utterances of those with a history of unrewarding life experiences convey less information than those of the more successful. That this is so has been shown by Bernstein (1971-73), in describing how the restricted code used more typically by working class subjects relies heavily on the context of situation to convey information and may literally not make sense outside that context. The same is true of the literature of political and religious extremism: commonsense and making sense are but allotypic expressions of the same variable in different spheres.

The second dimension of meaning was the division between the romantic and the unromantic, between the inactive and the active, between words for females and words for males. These varied with the economy, just as does the active/dominant:passive/submissive variable. Economic activity not only stimulates active/dominant responses but the use of words referring to activity and domination, and vice versa.

The third dimension of meaning was the division between the internal and the external, the mental and the physical, the imagined and the experienced, and this is paralleled by movement along the introversion:extraversion axis. Again, economic improvement stimulates both introversion and the words to describe it.

The fourth dimension of meaning, combining the vocabulary of change, of apprehension and of escapism, goes with the stimulus to the unstable in personality given by periods of rapid change. Of the abundance of the heart the mouth speaketh.

It seems that all of the perceived order of the world depends on its relation to the varieties of and to the possibilities for variation in human experience, and that the dimensions of man himself are the dimensions of his perception⁴⁴. The microcosm and the macrocosm are made in the same image, and as similar systems they respond in similar ways.

Mr Yin, a native of Chinchow, once asked a (Taoist) monk, Chang Yeh-Yuan, 'What is really the fundamental idea of the Book of Changes?'

The latter answered, 'The fundamental idea of the *I Ching* can be expressed in one single word, Resonance.'

Mr Yin then said, 'We are told that when Copper Mountain collapsed in the west, the bell Ling Chung responded, by resonance, in the east. Would this be according to the principles of the *I Ching*?'

Chang Yeh-Yuan laughed and gave no answer to this question.⁴⁵

FOOTNOTES

1. H.A. Green, *A History of Australian Literature Pure and Applied*, Angus & Robertson Ltd, Sydney 1961, Vol. 1 p. 347.
2. In *The Literature of Australia*, ed. Geoffrey Dutton, Penguin 1974.
3. 'Poetry', *Oxford History of Australian Literature*, ed. Leonie Kramer, Oxford University Press, London 1981 p. 298.
4. Peter Gould and Rodney White, *Mental Maps*, Penguin 1974, Chapter 2 has a reasonably clear exposition of the process.
5. It should be noted that there is no such thing as a paradigmatic semantic space. What makes a dog a dog and a rose a rose as distinct lexical items is the way they combine with other items; how some object in the external world may be recognized as being a dog or a rose is another matter altogether. In an optimal system of linguistic performance, the markers of syntagmatic classification would be coterminous with the criteria used diagnostically — the only relevant features of items would be syntagmatically defined. No doubt real systems contain various supplementary criteria, some of them idiosyncratic. It remains however the case that it is words that carry linguistic meaning, not things, and lexical items are the only proper inhabitants of semantic space. A failure to recognize this is a fundamental fallacy in Eugene A. Nida, *Componential Analysis of Meaning*, Mouton Publishers, The Hague, 1975. The same may be said of Jerrold J. Katz and Jerry A. Fodor, 'The structure of a semantic theory', *Language* 39(1963). M.A.K. Halliday, 'Categories of the theory of grammar', *Word* 17, 3 (1961) is much closer to the kind of semantic space here envisaged.
6. A correlation between the titles of paintings exhibited in New South Wales in this period and the economic conditions of the time has been demonstrated by my brother P.O. Jones in research, some of which was submitted in a B.A. Honours thesis in Fine Arts at the University of Sydney. The present study arose from a desire to find out whether the same was true of creative activity in another field.
7. Data from N.G. Butlin, *Australian Domestic Product: Investment and Foreign Borrowing 1861-1938/9*, Cambridge University Press, Cambridge 1962 and *Commonwealth of Australia Yearbook No. 1 (1908)*, Commonwealth Government Printer, Melbourne, 1908. To make it possible to calculate the derived functions, the raw

figures (in a series extending from 1875 to 1902-3) were approximated by a ninth-order polynomial. It is an interesting sidelight that the variation in birthrate for these years shows a pattern almost identical to that of GDP per head.

8. This trend is related to the fact that what affects people, even poets, is what they think the economy is doing rather than what it is actually doing, and their perception, their 'business confidence', depends on the difference between current conditions and a rolling weighted mean of conditions experienced in the past. The present condition of the economy will participate in the formation of a new mean expectation. Thus one escapes from a slump by accepting it as normal; the only thing to fear is fear itself.
9. The rate of formation of capital is essentially the same as the GDP — see N.G. Butlin, 'Private Capital Formation in Australia — Estimates 1861-1900', ANU Social Science Monographs: No. 5 (1955), and Roland Wilson, *Australian Capital Imports, 1871-1930*, Melbourne University Press, Melbourne, 1931.
10. On the subject of information in the technical sense see Joshua Whatmough, *Language, a Modern Synthesis*, Secker & Warburg, London, 1956.
11. op. cit. s. 1.8.
12. op. cit. p. 328.
13. Joseph Needham, *Science and Civilisation in China*, Vol. 2, Cambridge University Press, Cambridge, 1956.
14. *Voyage to Venus*, Pan Books, London, 1982, p. 186.
15. In *New French Feminisms*, ed. Elaine Marks and Isabelle de Courtivron, Brighton, The Harvester Press, 1980.
16. Marks and de Courtivron, op. cit.
17. E. Kretschmer, *Physique and Character*, Kegan Paul, Tench, Trubner & Co. Ltd, London, 1925.
18. W.H. Sheldon, *The Varieties of Temperament*, Harper, New York, 1942.
19. M.J. Dicks-Mireaux, 'Extraversion-introversion in experimental psychology', *Journal of Analytical Psychology*, 1964, 2, 117.

20. Raymond B. Cattell, 'The Description of Personality', *American Journal of Psychology*, 58 (1945), 69; see also *Description and Measurement of Personality*, World Book Company, Yonkers-on-Hudson, 1946 and *Personality and Motivation: Structure and Measurement*, World Book Company, Yonkers-on-Hudson, 1957.
21. H.J. Eysenck, *Fact and Fiction in Psychology*, Penguin Books, 1965, p. 60.
22. J.P. Guildford and Wayne S. Zimmerman, 'Fourteen Dimensions of Temperament', *Psychological Monographs* 70 (1956), 10, 1-26.
23. E.F. Borgatta, L.S. Cottrell Jr. and J.H. Mann, 'Individual Interaction Characteristics', *Psychological Reports*, 1958, 4, 239-319.
24. Liam Hudson, *Contrary Imaginations*, Methuen & Co. Ltd, London, 1966.
25. H.J. Eysenck, *Sense and Nonsense in Psychology*, Penguin Books, 1957, pp. 265ff.
26. As set out for example in *The Structure of Human Personality*, Methuen & Co. Ltd, London, 1970.
27. When intelligence is understood as one of a group of dynamic and dominant characteristics, it is easy to see why members of a group who inherit a subservient status may be characterized as unintelligent. An often recognised corollary is that emancipation from the status ineluctably involves abandoning the rest of the bundle: warmth, spontaneity, responsiveness to people, etc. It is not only their chains that the workers will lose.
28. The extent to which it is possible to align Freud's theories with those of others is discussed in Paul Kline, *Fact and Fantasy in Freudian Theory*, Methuen & Co. Ltd, London, 1972.
29. Compare the division which to me appears implicit in Halliday's discussion of verbal processes ('Types of Process', Chapter 11 in *Halliday's System and Function of Language*, ed. Gunther Kress, Oxford University Press, London, 1976), between active and non-active and material and non-material processes. The four categories might be summarized as below:

| | | |
|------------|--------|--------------|
| non-active | active | |
| sum | cogito | non-material |
| patior | facio | material |

30. Stephen Kaplan, 'Cognitive Maps in Perception and Thought', *Image and Environment*, ed. Roger M. Dow and David Stea, Aldine Publishing Company, Chicago, 1973.
31. The dimensions of this diagram are clearly those of realization (bottom to top) and signification (right to left). The stimulus and the response realize the mental representation and the syntagmatic structure respectively, whereas the syntagmatic structure and the observed response signify the mental representation and the stimulus.
32. So Cattell (1957) speaks of a feedback loop controlled by inhibition and fatigue.
33. 'Some people, for reasons still not clear, are pitched at a much higher level of stimulus hunger than others. They seem to crave change even when others are reeling from it. A new house, a new car, another trip, another crisis on the job, more house guests, visits, financial adventures and misadventures — they seem to accept all these and more without apparent ill effect.' Alvin Toffler, *Future Shock*, The Bodley Head, London, 1970, p. 335.
34. Gordon Claridge in H.J. Eysenck, ed., *Experiments in Personality*, Routledge and Kegan Paul, London, 1960.
35. *op. cit.* p. 309.
36. *Essay on Man*, III 303-4.
37. Working class black children in the United States have shown strongly divergent responses in word-association tests: Basil Bernstein, *Class, Codes and Control*, Routledge & Kegan Paul, London, 1971-73, Vol. 1, p. 180.
38. Charles R. Bolz, 'Types of Personality' in *Multivariate Personality Research, Contributions to the Understanding of Personality in Honor of Raymond B. Cattell*, ed. Ralph Mason Dreher, Claistor's Publishing Division, Baton Rouge La., 1972.
39. Betty Friedan, in *The Feminine Mystique*, Victor Gollancz Ltd, London, 1963, explores with much hindsight the position of the woman whom outside pressures have kept or attempted to keep confined to the home:

'The problem lay buried, unspoken, for many years in the minds of American women. It was a strange stirring, a sense of dissatisfaction, a yearning that women suffered in the middle of the twentieth century in the United States. Each suburban wife struggled with it alone. As she made the beds, shopped for groceries, matched slipcover material, ate peanut butter sandwiches with her children, chauffeured Cub Scouts and Brownies, lay beside her husband at night — she was afraid to ask even of herself the silent question — "Is this all?"'

See in particular Chapter 2 for a discussion of women's popular literature as a reflection of the expectations of society.

40. *The Neophiliacs*, Collins, London, 1969, p. 78.
41. See Gail Sheehy, *Passages: predictable crises of adult life*, ed. Dutton & Co. Inc., New York, 1976.
42. 'Up-hill': one is reminded of Plato's image of the steep and rocky ascent faced by those who would leave the firelit world of illusion in the cave and look upon the sun, which signifies the form of the good (*Republic*, Penguin edition, pp. 317ff).
43. The collocation of ideas in the following passage from *Tom Jones* points¹ in the same direction:

"Nay, to be sure sir," answered Partridge, "all the prophecies that I have ever read, speak of a great deal of blood to be spilt in the quarrel, and the miller with three thumbs, who is now alive, is to hold the horses of three kings, up to his knees in blood. Lord have mercy upon us all, and send better times!" "With what stuff and nonsense has thou filled thy head?" answered Jones. "This too, I suppose, comes from the Popish priest. Monsters and prodigies are the proper arguments to support monstrous and absurd doctrines. The cause of King George is the cause of liberty and true religion. In other words it is the cause of common sense, my boy, and I warrant you will succeed, tho' Briareus himself was to rise again with his hundred thumbs, and to turn miller." (Penguin edition, p. 394)
44. The relation between the nature of man and the nature of the universe perhaps goes deeper than this. The cycle of human activity is parallel to the Carnot cycle of a heat engine: on the one hand activity, on the other work, their integrals being respectively information and entropy, which are equivalent quantities. The cosmological implications of human perception have attracted some scientific discussion in recent years: George Gale, 'The Anthropic Principle', *Scientific American*, 245, 6 (Dec. 1981).
45. Needham, op. cit. p. 304.

