

SOME FUNCTIONAL PATTERNS ON THE NON-VERBAL LEVEL

HARRY WEINBERG*

A GREAT MANY words have been written on the subject of 'beauty,' many very beautiful and many very wise. They explain quite clearly why certain things, or classes of things, are considered beautiful, expertly sum up the standards of beauty and depict, most movingly, the feelings that beautiful things arouse in us. Despite all these efforts, neither the basic, functional structure of this 'quality' nor the explanation for its elusiveness and ephemeral character have as yet been clearly presented. And I believe these failures can be shown to be due to elementalistic reasoning involving confusion of orders of abstraction, identification and objectification.

I have referred to beauty as a 'quality' and I wish it understood that I use this term in the modern, non-aristotelian sense. A quality, as Korzybski puts it, is the reaction of an organism to a *stimulus*. It is not a something in the stimulus; it is a cooperative, inseparable affair between the stimulus and the reacting organism, and without the reacting organism there is no 'quality' existent by itself in the stimulus. For example, the light waves from an object strike my eye and produce in me the sensation 'red.' My nervous system then *projects* this sensation so that I see the

object as 'red' and do not recognize this redness as a sensation within myself. In the same manner we feel the pain in a cut finger as being 'in' the finger when it is really 'in' the brain. A vivid example of this projective mechanism is afforded by the case of a person who, having recently suffered the loss of his leg, feels pain in his toes until he re-educates his nervous system to the realization that the leg is gone and that the pain can not be in it.

Color, shape, taste, smell, tone, pitch, smoothness, temperature—all these are 'qualities.' So is 'beauty.' But, somehow, beauty seems to be a different sort of quality. It seems less 'concrete,' it is more elusive and mysterious, and less definable than these others and we cannot agree on our standards of beauty as we can on those of the others. Wherein lies the difference? This is the very crux of the 'beauty problem.' To answer this let us follow the reactions of an organism—a man, to a stimulus—a painting.

His first contact with the picture is through his senses. These sensations he projects back to the painting and he sees them as being 'in' the picture. At the same time these sensations give rise to feelings in him which can be classified as being pleasant or unpleasant to various degrees. The structure and education of his body and his psycho-physiological state of the moment determine which evaluation is obtained. He notes the colors, their hues, the way they are combined. He finds them

* Mr. Weinberg of Philadelphia is a chemist, employed in research on plastics. The present article was written during a thirteen-month voyage in the South Pacific aboard an ammunition ship.

very pleasant. He notes the forms and shapes, the sweep of line, the balance of masses and areas, and these too he finds pleasant. These sensations please him because it is part of the very nature of man to be favorably affected by them. We are living, moving masses of rhythmically pulsating cells and organs. We breathe rhythmically, our hearts beat rhythmically, our intestines contract rhythmically, the very protoplasm in our cells is moving and streaming at speeds regulated by our body temperatures, glandular secretions, etc. Every muscle is a center of balance, pulling and adjusting, contracting and relaxing, measuring weight and tensions. Rhythm, the sweep of lines, the balancing of masses are as natural to us as breathing. They are the stuff of life itself.

Our critic notes the subject matter and finds it unpleasant. He notes the relationship between forms, the perspective, etc., etc., and compares these with other works of art. He is now on a very high level of abstraction. Nevertheless, these are translated back to low-order abstractions, namely, 'feelings.' These feelings are pleasant or unpleasant to various degrees depending, again, on his education, his mood of the moment, the value he puts upon various characteristics, the degree to which some of his wants and desires are satisfied by characteristics of the picture.

From this mass of pleasant and unpleasant feelings our critic abstracts again to form a feeling that can be best described as the feeling of the pleasantness or unpleasantness of the picture as a *whole*. It is at this point that our mystic quality, 'beauty,' comes to life. He reasons, unconsciously, that just as the quality red in the picture gives rise to his feelings of pleasantness about it, so must there be some single 'quality' in the picture that gives rise to his feeling of the pleasant-

ness of the *whole* of the picture. And this quality he calls 'beauty,' or 'prettiness'—depending on the intensity of his feelings. Naturally, this 'quality'—this attempted projection of a feeling instead of a sensation—cannot possibly have the concreteness and definiteness that 'qualities' such as form and color have. For these latter are direct abstractions *from the outside world*, while beauty is an abstraction *from feelings within him*. It is of a higher order of abstraction and from this identification and illegitimate union of two different levels of abstraction has sprung a bastard quality having the 'outside us' feeling of other qualities without their concreteness, and the indefinite formlessness of feelings without their 'inside us' characteristic. Man has searched for ages for this disembodied ghost of things and it is time we laid the ghost to rest.

The question of the difference between 'prettiness' and 'beauty' still remains, and in order to clear this up let us once more examine the abstracting processes involved. Closer examination of this feeling of the pleasantness of the whole of the stimulus will show that it is a sort of mental adding up or comparison of the *intensities* of our individual feelings about individual characteristics of the stimulus. This 'sum' takes the 'sign' of the *one* most intense feeling. If our most intense feeling resulting from the evaluation of one of the characteristics ('qualities') of the stimulus is pleasant—positive—then we will find the whole stimulus pleasant regardless of the number of negative—unpleasant—feelings of lesser intensity that the other characteristics have aroused in us. If a negative feeling about one of the characteristics has been the most intense, then we find the whole stimulus unpleasant and, consequently, unpretty or ugly. The intensity of our feeling about the whole stimulus is directly proportional

to the difference in the relative intensity of the one most intense positive and one most intense negative feeling. It is similar to the algebraic addition of numbers.

It very often happens that we evaluate single characteristics or parts of the stimulus as pretty, as when we say of a woman that she has pretty hair. On first thought

whole, but we still remember the characteristics that we found unpleasant, and they serve to temper our emotion about the whole in proportion to their intensity. Even though it is the difference in relative intensity between the one most intense positive and negative feelings that determines the intensity and sign of our

Relative intensity of most intense positive feeling	Relative intensity of most intense negative feeling	Resultant feeling
+10	-1	=9 Intense pleasantness of whole—very pretty
+10	-9	=1 Low degree of pleasantness of whole—fair, nice
+ 2	-10	= -8 Intense unpleasantness of whole—very unpretty

it might appear that this upsets our definition of prettiness as being the resultant of the feeling of the pleasantness of the *whole* of the stimulus. However, if we examine the case more closely we will find that there is no discrepancy. For in evaluating the hair as pretty, the hair for the moment becomes the whole of the stimulus and the rest of the woman is forgotten.

When the intensity of the pleasantness of the characteristic which determines the sign of our feeling for the whole stimulus is great enough, our feeling of the pleasantness of the whole becomes so great it bursts its bounds, so to speak, and sets off a flood of other powerful feelings. We are thrilled, we laugh, we cry, we are speechless, we are overcome with emotion. When these intense feelings are produced, then we say the stimulus is beautiful and not merely pretty. Most important, semantically, are the evaluative feelings of 'allness' and 'positiveness' which thereby become associated with beauty. When we say something is 'pretty,' we are making a statement about the

feeling about the whole, these other feelings are still remembered (we are conscious of the characteristics left out) and will play an important part in regulating our actions based on our evaluation of the stimulus. With 'beauty,' all these negative characteristics are forgotten or disregarded. The stimulus appears 'all beautiful,' 'without a doubt.' We know 'positively' that it is beautiful, no one can tell us otherwise, and only a very powerful emotional shock can make us change our minds. Beauty is 'all,' 'eternal,' 'everlasting.'

Since beauty results from an evaluation of the structure of the stimulus, a few words about our structural sense will not be amiss. Our sense of structure is a direct result of our ability to abstract to indefinitely high levels, and, as will all senses, its gratification gives us pleasure. Since structure can be described in terms of multi-dimensional order and relations, we should expect to find that an organism capable of high order abstractions, and therefore able to evaluate order and relations, should have an inherent liking

for, and pleasure in, experiencing order from the simplest to the most complex. And such we find is the case with man. A rusty ball by itself is not a very pretty object, but arranging a number of them to form a design, even a straight row of them, causes us to find pleasure in the appearance of the whole. From this low structural level of simple designs, simple tunes, simple stories, we can proceed up the abstracting scale to the appreciation of the structure of our most complex paintings, symphonies, novels, etc. This enjoyment of structure, as such, is one of the reasons for our liking of puzzles, games like chess and, most importantly, the enjoyment and satisfaction the scientist gets from his theories and the mathematician from his equations.

And in the arts, is not all criticism but a discussion of structure and all enjoyment of them but a direct resultant of their structure? As Korzybski said, 'All our knowings are structural knowings.' And, inescapably, all our beauties are feelings about them.

Diagram I is a summary of the abstracting process involved in the evaluation of 'beauty.'

1. A, B, C, D are characteristics of the stimulus, *e.g.*, a woman.

2. A_1, A_2, A_3, A_4 are characteristics of one of the characteristics A and serve to indicate that we can take one of the characteristics of a stimulus and make that one characteristic the whole stimulus, *e.g.*, the hair of a woman as opposed to the whole woman.

3. S_A, S_B, S_C, S_D and $S_{A_1}, S_{A_2}, S_{A_3}, S_{A_4}$ are the sensations these characteristics produce in us, *e.g.*, color, taste, smell.

4. The dotted arrows indicate that we project these sensations back to the stimulus so that we see the color 'in' the stimulus, we hear the sound as coming from the stimulus and not as being in-

side our heads. The projected sensations are the 'qualities' Q_A, Q_B, Q_C, Q_D and $Q_{A_1}, Q_{A_2}, Q_{A_3}, Q_{A_4}$.

5. UP_A, UP_B, P_C, P_D and $P_{A_1}, UP_{A_2}, UP_{A_3}, UP_{A_4}$ represent the pleasant and unpleasant 'feelings' about these sensations. UP stands for unpleasant, P for pleasant.

6. PW and $UP_A W$ represent our summarization of these 'feelings' to form a 'feeling' of the pleasantness and unpleasantness, respectively, of the whole stimulus.

7. QX and QUX_A represent the projected characteristic—the 'quality X'—we assign to the stimulus to account for the 'feelings' PW and $UP_A W$. QX we call 'prettiness' or 'beauty,' QUX_A 'unprettiness' or 'ugliness' depending on the degree of intensity of the feelings PW and $UP_A W$. Note that QX and QUX_A are projections of feelings as compared with the projection of the sensations and how much closer these sensations are to the stimulus than are the feelings, accounting for the 'concreteness' of the projected sensations—'qualities,' and the formlessness of the projected feeling.

8. The broken line — . . — . . — . . — indicates that we feel this 'quality,' 'beauty,' as coming from the stimulus, just as we do with 'qualities' like colors and sounds. To complete the comparisons—'qualities' like colors we feel as 'residing' in the stimulus and give rise to sensations within us. 'Qualities' like 'beauty' we feel as 'residing' in the stimulus and give rise to feelings within us.

I should like to point out that it is not the feeling of pleasantness of the whole PW that is responsible for the quality 'beauty,' but the *projected* feeling PW which becomes, by virtue of this projection, another feeling describable as the 'feeling of beauty,' *i.e.*, the feeling that there is something 'out there' in the stim-

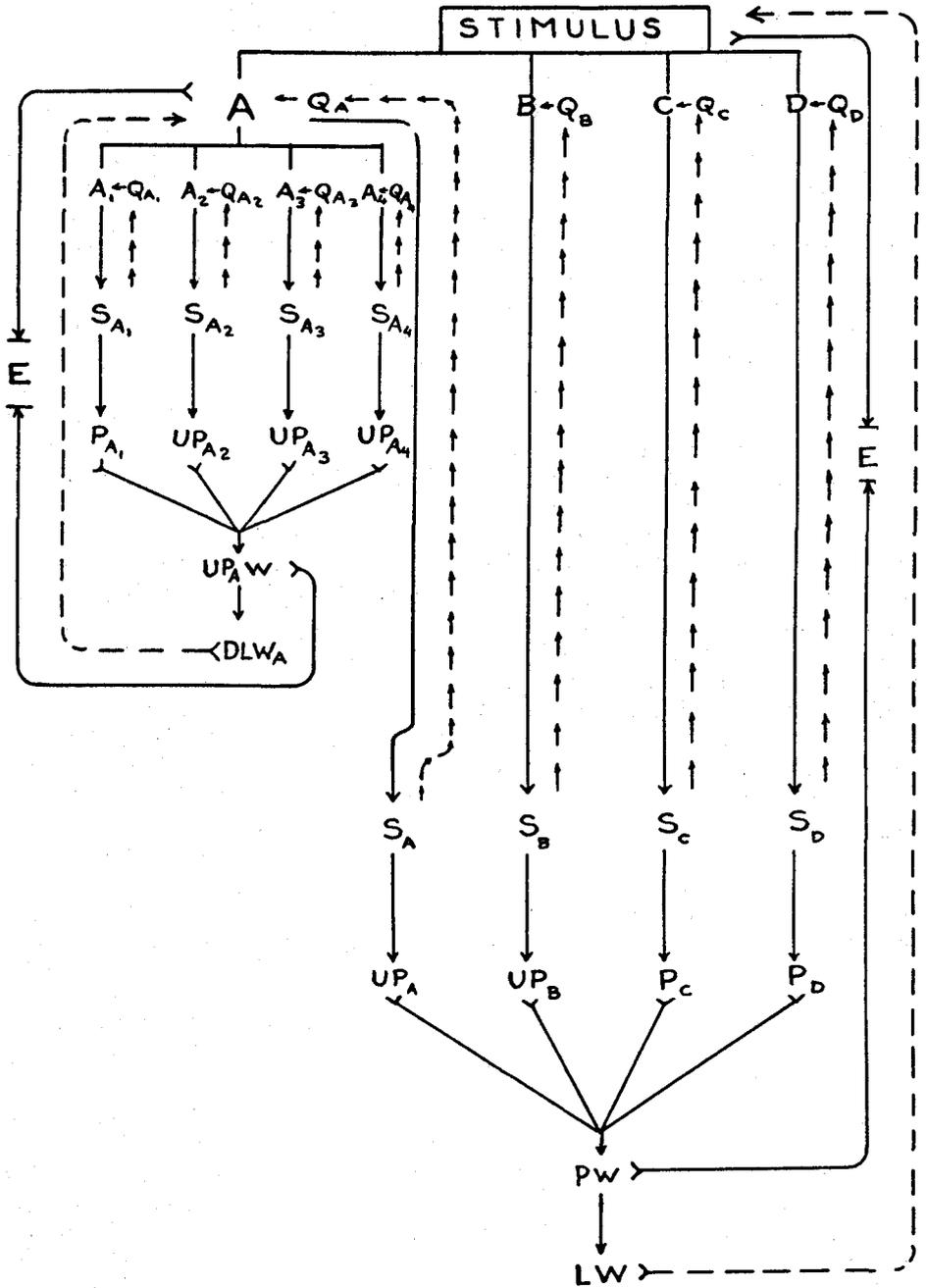


DIAGRAM 1

ulus which causes the feeling of the pleasantness of the whole stimulus.

II

There is another type of evaluation having the feelings of pleasantness and unpleasantness as its immediate stimulus, and that is the evaluation of the relationship between the stimulus and the effect it produces. It is an evaluation of cause and effect, and the feelings resulting from this evaluation we call 'like,' 'dislike,' 'love' and 'hate.' The stimulus induces pleasant or unpleasant feelings in us and *because* it does so we like or dislike, love or hate it. It is a feeling *directed* toward the stimulus and not *projected* as is the case with 'beauty.' A projected sensation or feeling gives the impression of something coming from the stimulus to us, while a directed feeling gives us the impression of something in us going out toward the stimulus.

The relationship between 'love' and 'beauty' is extremely close and in many cases the two feelings are inseparable, for both involve an evaluation of the structure of the stimulus, the one, 'beauty,' being an evaluation of structure as such, and the other, 'love,' an evaluation of the effects of this structure. Consequently, the abstracting processes followed in the formation of the feeling we call love are very similar to those of beauty. The stimulus produces pleasant and unpleasant feelings in us and from this group of feelings we abstract again to form the feeling of the pleasantness or unpleasantness of the whole. Now, instead of this giving rise to a feeling of something being in the stimulus that is causing this pleasant or unpleasant feeling about the whole, it produces a feeling called 'like' or 'dislike,' 'love' or 'hate' of (directed toward) the stimulus *because* it caused these pleasant or unpleasant reactions.

Here again, the value we put upon the different characteristics of the stimulus is a major factor in the determining of the sign and intensity of our feelings. This value, in turn, is determined by the psycho-physiological state of the moment and expressible in terms of wants and desires of various intensities. And the satisfaction of these leads to effects we feel as pleasant to proportionate degrees of intensity and this, in turn, to our feelings of like or love of the stimulus because it either satisfied these wants, which satisfaction gave rise to pleasant feelings, or produced sensations in us which we evaluated as pleasant. When the intensity of our feeling of like becomes intense enough to pass the 'emotional threshold,' then, as with our evaluation of beauty, we are no longer conscious of abstracting, we no longer remember the characteristics left out, *i.e.*, those of opposite sign. We are 'in love' with the stimulus—positively,' 'without a doubt' we love 'all' of it.

This, then, is the general structure of our feelings of love and hate. If this seems like an over-simplification of a very complex and mysterious process, I should like to point out that the complexity lies in the numbers and types of our desires, the degrees to which they are satisfied and the means to which we revert to have them satisfied. The mystery lies, as is the case in all mysteries of this type, in our confusion of orders of abstraction, in objectification and identification. For example, many of our wants and desires are satisfied (and extremely pleasant feelings produced) purely through low-order, non-verbal thalamic communications, such as sight, touch, smell and sound (non-verbal sounds). Since these feelings are produced entirely through non-verbal, low-order abstractions, we can never tell why we like or dislike them, for reasons are on

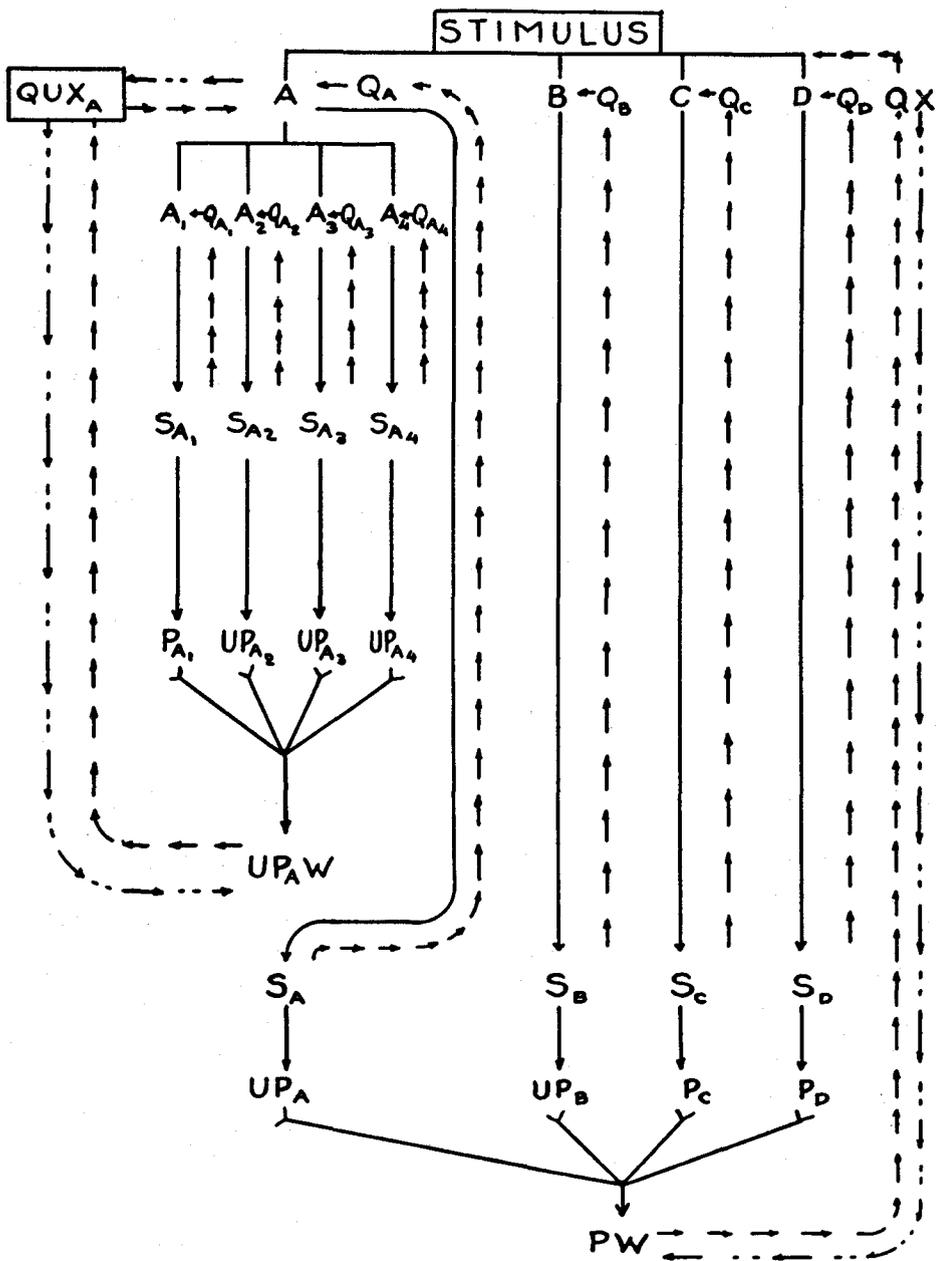


DIAGRAM 2

the verbal level. Being unable, then, to define our reasons, but, being firmly convinced—through confusion of the verbal and the non-verbal levels of abstraction—that they (and everything else) are definable in words, we conclude that our inability to do so is due to the fact that they are caused by some mysterious, supernatural entity or force called love which prevents our finding words to define them.

But the most important reason for the sense of mystery associated with love is the fact that, as with beauty, we identify different levels of feelings. Love is a *feeling about feelings* of pleasantness induced by the stimulus and, therefore, 'feels' different from these lower-order feelings which, being closer to the level of sensations, are simpler, and more easily associated with their stimuli and, consequently, more tangible. We fail to distinguish between these levels and give supernatural characteristics to love to account for the difference in 'feel' between it and other feelings.

I think that a good deal of what I have said about love can be visualized by the following diagrams. The first (Diagram 2) is similar to the one depicting the structure of beauty. The second, the graph (Diagram 3) is by no means intended to portray any exact mathematical formulation, but is, rather, an indication, an aid to visualization of the process.

1. A, B, C, D (Diagram 2) are characteristics of the stimulus, e.g., a woman.

2. A_1, A_2, A_3, A_4 are characteristics of one of the characteristics A and serve to indicate that we can take one of the characteristics of a stimulus and consider that one characteristic the whole stimulus, e.g., the hair of the woman.

3. S_A, S_B, S_C, S_D and $S_{A_1}, S_{A_2}, S_{A_3}, S_{A_4}$ are the sensations these characteristics produce in us, e.g., color, taste, smell.

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project these sensations back to the stimulus so that we see the color 'in' the stimulus. The projected sensations are the 'qualities' Q_A, Q_B, Q_C, Q_D and $Q_{A_1}, Q_{A_2}, Q_{A_3}, Q_{A_4}$.

5. UP_A, UP_B, P_C, P_D and $P_{A_1}, UP_{A_2}, UP_{A_3}, UP_{A_4}$ represent the pleasant and unpleasant feelings about these sensations.

6. PW and $UP_A W$ represent our summarization of these feelings to form a feeling of the pleasantness and unpleasantness, respectively, of the whole stimulus.

7. LW and DLW_A represent the feeling of like and dislike, respectively, *directed* (dotted line) toward the stimulus and resulting from the feelings PW and $UP_A W$. The heavy line shows the 'linking' evaluatively of the stimulus and its effect.

Diagram 3 is a representation of a man's love for a woman. We arrange on the X-axis, in descending order of intensity, his feelings of the pleasantness or unpleasantness of each of the characteristics he abstracts. The Y-axis gives the relative intensity of each feeling. The solid line represents the pleasant, the dotted line the unpleasant feelings.

1. This represents a case of love and not hate, because there is one feeling of pleasantness intense enough to pass over the emotional threshold. It both determines the sign of the evaluation (positive) and changes the like to love because it is over the threshold. If it had been an unpleasant feeling that crossed the threshold, this would have been a case of hate of the stimulus. All other feelings of lesser intensity, no matter how many, cannot affect the sign of the evaluation. For intensities are non-additive. No matter how many low-intensity feelings there are, they cannot add up to an intensity higher than the highest one of the group. This is very similar to the relationship

between heat and temperature. Temperatures are non-additive upwards. Ten liquids, the highest with a temperature of 100°, when mixed, make a mixture with a temperature lower than 100°. But the heat content of the whole mixture will be the sum of the heat contents of each liquid and will be greater than that of any one liquid. Likewise with love and hate. Though the one feeling of highest intensity controls the sign, the greater the number of feelings of like sign, though of lesser intensity, the greater the probability of that love or hatred enduring, *i.e.*, the greater the 'heat content' of that feeling, as opposed to the 'temperature' of its 'hottest' member. I say probably, because so much depends on the nature of the one characteristic whose evaluation determines the feeling of love or hate.

2. This graph is a representation of a love whose durability is probably low. There is a powerful, unpleasant feeling very close to the emotional threshold and, if one of two things happens, can cause a profound change in the feeling about the stimulus.

a. If the one feeling of pleasantness which controls the sign of the evaluation (love) should change, disappear or lose in intensity, the sign of the whole would change, for it would be controlled by the feeling next highest in intensity, which is, in this case, one of unpleasantness. The feeling about the whole would then be one of intense dislike and if the threshold should lower, would be one of hate.

b. If the threshold should rise, due to psycho-physiological changes produced through education, ages, environment, etc., the love would change to like.

3. The number of unpleasant evaluations, and their intensities, is much greater than the pleasant. The area under

each curve, which is a function of the number of feelings and their intensities, represents the probable durability, the 'heat content' as opposed to 'temperature' of one of the members, of the feeling about the whole each curve represents. The 'content' of the love is less than

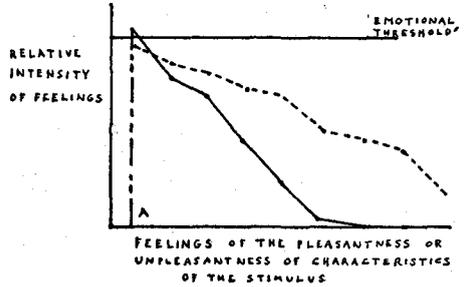


DIAGRAM 3

that of the dislike, and if the threshold should change, or the controlling positive feeling change, a feeling of dislike of great durability would take the place of the love for the stimulus.

4. The line A represents an extreme case of 'infatuation.' No durability (no area under the curve), but one high-intensity feeling—a love based on the evaluation of only one characteristic of the stimulus. All infatuations, of course, are not quite as simple as this since they usually involve identification of the characteristics of the 'dream lover' with those of the actual. The line A can also represent a case of anger, a feeling of hatred with low durability because of the few characteristics evaluated—'high temperature' and low 'heat content.'

We have seen where beauty involves an evaluation of the structure of the stimulus, and love, the causative relationship between the stimulus and its effects. There is possible, then, one more evaluation having the pleasantness or unpleasantness of

the sensations and feelings produced by the stimulus, as its immediate stimulus, and that is an evaluation of the effects, the feelings themselves, that the stimulus produces in us.

Each of us, at any given moment, is a mass of wants, desires and feelings, pleasant and unpleasant. We abstract, summarize, all these feelings to form one feeling of pleasantness or unpleasantness which is our 'state of mind' at the moment, and which we describe as degrees of happiness or unhappiness. Quite similar to the process involved in our evaluation of beauty and love, the most intense single pleasant or unpleasant feeling determines the sign of the whole. If the intensity of this determinant feeling crosses the emotional threshold, our feeling of the whole—our state of mind—can be described as ecstatic. Even though we may be happy, there lurks in the background the memory of our various unpleasant, but less intense, feelings, and these serve to temper our happiness. But when we are ecstatic, then we have passed into the 'allness' state—everything is wonderful, we are happy beyond doubt, 'God's in his Heaven, *all's* right with the world.'

If a stimulus induces pleasant feelings in us, such as those leading to beauty and love, these feelings are 'stacked up' against the other feelings already present in us, and since they (like and love) are intense feelings, are most likely to produce happiness or ecstasy in us, unless we have some more intense unpleasant feelings present at the moment. Consequently, we most generally are happy when loving or when perceiving beauty.

We can represent this trio of emotions deriving from the feeling of the pleasantness or unpleasantness of the whole stimulus in terms of 'cause and effect.' A stimulus, the 'cause,' produces an 'effect,' feelings of pleasantness or unpleasantness,

in us. If we evaluate the 'cause,' it leads to beauty. If we evaluate the 'effect,' it leads to happiness. If we evaluate the causative relationship between the stimulus and its effects, it leads to 'like' and 'love.'

The relationship between love and beauty is a particularly close and interesting one. Both have as immediate stimuli the pleasant feelings produced by the various characteristics of the stimulus. Since love involves an evaluation of the causative relationship between the stimulus and the feelings it provokes in us, we are prone to ascribe to the stimulus characteristics which can account for the intense feelings produced when the 'emotional threshold' is crossed, characteristics other than the ones which have actually been responsible for this feeling of love. And this is in accord with the 'allness' nature of love whereby 'everything' about the stimulus becomes wonderful. Indeed, we even see 'wonderful' things in it that are not there. Now, this ascribing of characteristics to the stimulus to account for a reaction it produces in us is precisely the process involved in our evaluation of the beauty of the stimulus. Therefore, whatever we 'love' appears 'beautiful' to us. No loving mother ever had a homely child, no lover an 'ugly' mate. We see what we want to see, and if we can't we ascribe some intangible characteristic to the stimulus, whereby, it appears beautiful to us.

However, the reverse is not always true. We do not always love what appears beautiful to us. For the beauty of the stimulus is considered as just one of the characteristics of it, and there may be other characteristics which produce intense unpleasant feelings in us which overbalance those caused by beauty. In these cases we really see the stimulus, not as beautiful, but as very pretty, because

the emotional threshold is no longer reached as regards this characteristic of the stimulus.

III

It is necessary at this point to introduce Korzybski's discovery of the multiordinality of some of our most important terms. As he has shown, such terms like 'yes,' 'no,' 'true,' 'false,' 'love,' 'hate,' 'doubt,' 'cause,' 'effect' are such that if they can be applied to a statement, they can be applied to a statement about the first statement, and so, ultimately to all statements, no matter what their order of abstraction. Consequently, such terms have only definite 'meanings' ('values') on a given level and in a given context. Without the level of abstraction being specified a multiordinal term is only ambiguous, and its use generates, not propositions, but propositional functions, which are neither 'true' nor 'false.'

Now I wish to point out that, although a multiordinal term has no definite 'meaning' in general, *i.e.*, its 'meaning' varies with the context and the order of abstraction, nevertheless, all these different 'meanings' will have some elements in common. If this were not so, and a multiordinal term outside of a context were absolutely ambiguous, we would not be able to select a term to use in our statements. Thus, we know that 'love' in general has a different 'meaning' from 'fear' or 'doubt' in general. So, when we are preparing a statement that requires the term 'love' to express it, we select it and not some other term. After we put it in the statement, it acquires a definite order and value, and we can ascertain the truth or falsehood of the statement. This skeleton of the term is invariant under all transformations and maintains the same 'meaning' in all contexts and on all levels of abstraction. However, we cannot gen-

erate propositions using this skeletal 'meaning,' but only propositional functions, because it is only a part of each one of the 'meanings' each particular context gives it, a part that remains constant while the rest of the 'meanings' vary. We can express it mathematically by considering each multiordinal term a product of a constant and a variable, kx . The constant k always remains the same. The x takes on the value that the context of the statement in which it is used bestows upon it.

We have been speaking, up to now, about love, beauty, and happiness—apparently in general. Actually, I have been writing of first-order love. Of the order of beauty and happiness we will say more later.

First-order love is the love of something or somebody. Second-order love is the love of a first-order feeling. We can take as an example of this first-order feeling a first-order love—though it can be any other first-order feeling, as we shall see later. The love of a first-order love is the *love of the love of something or somebody*. Since its immediate stimulus is a first-order love, itself the end product of an abstracting process, it is much less 'emotional' and 'personal' than first-order love. Since it is never the product of low-order abstractions, as first-order love often is (love at first sight, etc.) it is always open to 'reason.' Second-order love involves the evaluation of the effects of first-order love on *ourselves*. These effects satisfy desires in us which produce pleasant feelings and which lead to our love of the first-order love because its effects satisfy these desires.

It is worth noting that the love of the intense feelings involved in first-order love is not a true second-order love, *i.e.*, the saying 'he is in love with love' is not a statement of a second-order love. For, a second-order love (of love) has as its

immediate stimulus a first-order love, while with the above, the immediate stimulus for the love are the feelings associated with a love, which feelings do not represent a first-order love, since they are not directed toward the stimulus that produced them. It is simply a case of first-order love, a love of the 'thrills' accompanying and resulting from a first-order love of something or somebody.

Third-order love is still further removed from thalamic thinking, *i.e.*, it is even less 'emotional' than second-order love. Since it is the *evaluation of the effects of a first-order feeling*, it implies consciousness of the abstracting process.

It is apparent, from the difference between the three orders, that any precise, general definition of love is impossible. At the same time, there is a constant value (k) running through all the levels, and that is the existence, on all levels of abstraction, of the evaluation of the causative relationship between the stimulus and its effect on us, and a directed feeling toward the stimulus as a result of this evaluation. What varies is the nature of the effects of the stimulus, which is determined by its order.

This difference between the orders will become even more apparent when we examine a negative term like 'hate.' First-order hate results when dislike crosses the emotional threshold, and is a feeling involving the desire to destroy the stimulus (as opposed to love which involves a desire to protect and perpetuate the stimulus) because it frustrates the satisfaction of powerful desires or instincts, or produces intensely unpleasant feelings in us. Like love, it involves 'allness' and 'positiveness,' and is directed against the whole stimulus even though stimulated by only one or a few characteristics of the stimulus. Like love, it is open to reason, *i.e.*,

can be influenced by high-order abstractions, to the degree that it is a product of high-order abstractions, and inversely to the degree that it is a product of 'thalamic thinking.'

Second-order hate is the hate of a first-order feeling. It is the hate of the effects on ourselves of a first-order feeling in ourselves. It follows in the same pattern as second-order love with a very important difference. Taking as an example a hate of a first-order hate, we find that it implies a love, or at least a liking, for the original stimulus—a reversal of the first-order feeling. Thus, if I hate my hate of a man, it implies a liking for that man, or a desire to like him, a desire or liking resulting from high-order abstractions. I evaluated the effects of my first-order hate and found them so unpleasant that I hated them, and desired not to hate this man because of the effects of this hatred upon me. In a case of this type, it is most probably that the first-order hate was contracted through 'thalamic thinking,' *i.e.*, race prejudice, and the second-order hate of this hate resulted from high-order abstractions produced by education against prejudice.

As I mentioned above, any feeling about a first-order feeling is a second-order feeling. Thus, the love of a first-order hate is a second-order love, and a hate of a first-order love is a second-order hate. These follow the mathematical rule governing the sign of the product of positive and negative numbers.

The difference in character between first-order and second-order feelings is responsible for our being able to love and hate a stimulus at the same time. There is an old saying to the effect that every man hates the thing he loves. If we fail to differentiate between the orders of these feelings, we are led into a paradoxical situation. But if we analyze the situation

we find, for example, that a man has a first-order love for a woman and a second-order hate for his love of her because he may be married to another or because his love robs him of his independence, etc. This second-order hate of his love brings him to hate or dislike her at times, but since its intensity is less than that of his first-order love, and of a different character (non-thalamic) it does not nullify the first-order love.

We can readily see, now, the danger of making statements about hate in general, for without specifying the order we can not know if it is a wholly negative term like first-order hate, or if it contains positive characteristics which second-order hates may have.

Third-order hate follows the same law of multiplication of signs as does second-order hate, and, like third-order love implies consciousness of the abstracting process.

One other point is worth noting here, and that is, that we cannot have second-order feelings which have as their immediate stimuli the first-order feelings of other people. For we cannot feel or know the feelings of others. We can only infer their existence and assume that they are similar to our own. We can infer the existence of these feelings from a person's actions or words. But this inference is a high-order abstraction, as is our evaluation of his words. If I say I love A's love of B, I am only guessing that A loves B. My love, then, is not of A's love, but of his actions or words, from which I infer that he loves B. Consequently, my love is not the love of a feeling (in A), but of actions or words, and, therefore, is not a second-order love, which is the love of a feeling (first-order). I can illustrate this by a rather bizarre and improbable, but perfectly possible, example. Suppose I like chocolate very much. A

man produces a bar of chocolate and offers it to me, saying that he does not like chocolate and I may have it all. If we say that I like his dislike of chocolate because it meant my getting the whole bar, we run into trouble, because, according to our rule of signs, a positive like of a negative dislike would imply my dislike of chocolate. But, really, I am inferring from his words and his action in giving it to me that he dislikes the chocolate. He may really like chocolate, but gives it to me to appear generous, or it might be poisoned, etc., etc. So, therefore, my like is not a second-order like because it stems, not from a first-order dislike, but from the evaluation of words and actions.

We come, now, to a consideration of second-order beauty. Since first-order beauty is a non-existent characteristic which we assign to the stimulus to account for its effects on us, second-order beauty, considered as the non-existent characteristic assigned to a non-existent characteristic, is meaningless. If we should consider as second-order beauty the evaluation of the effects of first-order beauty on ourselves, we will find that this evaluation is not a purely structural one, *i.e.*, we do not find ourselves assigning to the effects of first-order beauty characteristics of structure to account for the pleasant feelings they produce in us. This evaluation of the effects of first-order beauty is a causative one and leads, not to second-order beauty, but to second-order like or love of the effects of the stimulus on us. Beauty, therefore, is not a multiordinal term, and the terms first-order and second-order are misnomers.

The opposite of beauty, ugliness, is of the same general nature but opposite in sign. However, there is one interesting characteristic connected with it, and with other intense negative feelings such as hate and sorrow. These feelings, since

they are over the emotional threshold, acquire some of the 'thrill' characteristics associated with all powerful feelings (both positive and negative) which have crossed this threshold. These 'negative thrills' have a certain pleasantness about them, and this accounts for the morbid delight people have in going to funerals or seeing sad motion pictures in order to 'get a good cry.' It also accounts for the pleasure we experience in the extremely ugly, so that we have a peculiar duality of emotion.

'Happiness' and 'ecstasy' are, likewise, not multiordinal terms. For a second-order happiness resulting from a first-order feeling of happiness in ourselves leads to a redundancy. It is equivalent to saying, 'I am made happy by my feeling of happiness.' I can imagine the rather artificial case in which one might say, 'This feeling of first-order happiness is beneficial to my health and the thought of this effect makes me happy—a second-order happiness.' However, the moment we stop to think about our feeling of happiness we are no longer happy. For happiness is a summation of *all* our feelings at the moment, and any feeling about this summation is outside the summation and destroys it. All of which accounts for the elusiveness and fragility of this feeling, as so aptly expressed in the poem by Blake:

He who binds to himself a joy
Does the winged life destroy;
But he who kisses the joy as it flies
Lives in eternity's sun rise.

IV

When we come to the examination of other feelings such as anger, fear, and worry and variations and combinations of these feelings with other feelings, we will find that like and love, dislike and hate hold a very important and distinctive

place among them. They are the only feelings—together with other feelings which are combinations of these feelings with other feelings—which have a negative or positive sign, in the mathematical sense. We can account for this on the basis of the 'directional' character of these feelings. Since they are causative evaluations, they involve both the 'cause' and the 'effect.' Consequently, there are two 'points' involved. Two points determine a line (on a plane), and, vectorially speaking, every line has a direction, positive or negative. On the other hand, beauty and happiness, involving only single points, have no direction as well as no multiordinality. This directional characteristic is also found in such feelings as doubt, which results, essentially, from the comparison of two or more evaluations.

Fear, in its general, ambiguous sense, is a feeling involving the desire to flee from a stimulus.

First-order fear is a feeling involving an inferential evaluation of the effects of a stimulus upon ourselves or others. It is an inferential evaluation because the stimulus has not affected us at the moment of evaluation; its effects are impending. Since they are impending we infer (basing our inference on instinct, past experience or higher-order abstractions) that these effects will be harmful or very unpleasant to us. Once the stimulus 'hits' us we no longer fear it. I may fear a mad dog, but once it starts biting me I am too busy fighting it to fear it, except in the psychopathological case where I am paralyzed with fright. I may fear cancer, but once I know I have it I no longer fear it, though I may still fear the death it promises.

Fear differs from feelings like love and hate in two important respects. First, it is what may be called a primary feeling, because it is not a feeling about a feeling,

as is love, which is an evaluation of the pleasant feelings provoked by the stimulus and can therefore be considered a secondary feeling, but results directly from the inferential evaluation of the effects of the stimulus.

Secondly, it is not a feeling about the whole stimulus, as are like and love, but a feeling resulting from the evaluation of those characteristics of the stimulus which can harm us, and always includes the space-time characteristics of these characteristics. Our fear diminishes in direct proportion to the increase in 'distance' and 'time' between us and our contact with the harmful characteristics of the stimulus. Because it is a space-time evaluation, and because it is only a partial evaluation of the stimulus, fear does not have the directional character that love and hate have.¹ It is true that we tend to flee—a negatively directed feeling—from that which we fear, but this tendency is always subject to the influence of our evaluation of those characteristics of the stimulus which do not incite fear in us, and also, to the proximity of those which

¹ I should like to make clear that I am using the term 'directional' in a special sense here, *i.e.*, it is not given direction or 'lined-up' between the two 'points'—stimulus and the effects of the stimulus—through an evaluation of their relationship, as is the case with love and hate. Therefore, the fear of a fear does not reverse and become positive in character as does the hate of a hate.

As Korzybski very kindly pointed out in a review of the paper, "We may consider "first-order fear" as directed or vectorial. However, "second-order fear" or "fear of fear" loses its directional character and becomes a "space-filling curve" of Peano. . . . In this context, a "third-order fear" would gain direction again of "second-order fear.""

As can be seen, Korzybski is using the term 'directional' in the sense of allocating 'fears' to their cause or causes and differs from the very limited and special sense in which I used it here.

do. Thus, I fear a tiger when I am in its den and it is hungry. But when it is behind bars I do not fear it, and, in fact, actually like it because of its beauty and grace. A man may fear the law, and even after he has broken it, may still like it because he feels that he has his punishment 'coming to him.' This mixture of fear and like we may find in a soldier's feelings toward his general and in a worshipper's toward his god. The fear-provoking characteristics of the stimulus are evaluated in conjunction with others and if these others are more intense, in a positive direction, then we will like or love the stimulus in spite of our fear.

Second-order fear is the fear of the effects upon us of a first-order feeling. The fear of a first-order fear is of most interest at this point. Like first-order fear it is an inferential evaluation. We fear the effects that we infer will occur when we experience the first-order fear. At the moment of experiencing the first-order fear, we are too busy with it to experience a second-order fear. And it is to the fact that it is an inferential evaluation that second-order fear owes its morbid character. First-order fear is a mechanism necessary for the survival of the organism. When the stimulus which we fear is removed, we cease to fear it. But with second-order fear, the stimulus is within us and we cannot flee it; nor is it ever removed except when we forget it or conquer it through semantic re-evaluation. Note that it is not the actual effects of the first-order fear as it occurs that we fear, but the effects that we infer will occur when we experience the first-order fear. Since it is a fear of what will happen in the future, it is relatively permanent, *i.e.*, until either the first-order fear occurs, and after which we no longer experience the first-order fear, or until we conquer either the first- or second-order

fear through psycho-physiological readjustment.

This relative permanence of second-order fear is extremely devitalizing to the organism. The presence of fear of any order causes a great increase in metabolic activity, and if this is sustained over a great period of time, as with second-order fear, will impair the functioning of the whole system. In turn, this impaired functioning decreases both the ability to combat the stimulus that caused the first-order fear and the ability to control the second-order fear. This, in turn, tends to increase both fears, thus further decreasing our control over these fears. This vicious circle, if not broken, will eventually lead to the nervous disorganization of the system.

The essential point about the morbidity of second-order fear is that it is due, primarily, to our misevaluation of the space-time characteristics of the stimulus which caused the first-order fear. We 'picture' the first-order fear as being 'here' and 'now' whereas it is not 'here' and has not yet occurred.

Second-order fear, like first-order, is a partial evaluation, and therefore does not have the directional attributes of hate and love.

Third-order fear is the fear of a second-order fear or other second-order feeling. It implies awareness of the fact that there exists a second-order fear (or other feeling of second-order) and this indicates consciousness of abstraction. A third-order fear of a second-order fear is of the same morbid nature as the fear of fear and contributes to the general nervous disintegration. Indeed, if, after knowing the structure of this process, one is still powerless to control it, a nervous breakdown is ominously close.

Very closely related, in character and effect, to fear is 'worry.' Its general, am-

biguous meaning is that of a feeling of mixed fear and uncertainty.

First-order worry, like fear, is an inferential evaluation of the effects of a stimulus. Unlike first-order fear, and very similar to second-order fear, it involves a misevaluation of the space-time characteristics of the stimulus. First-order fear is a necessity for the survival of the organism and under normal circumstances does no harm to it. Second-order fear, involving the space-time misevaluation, becomes psycho-pathological, and first-order worry, also involving it, likewise must be considered in this light. For example, a man fears the loss of his fortune. Business is bad and his position precarious, and there is nothing he can do about it. If he adopts that very attitude—"there is nothing I can do about it, so I will just wait and see what happens"—it remains a first-order fear. But if, instead, he keeps 'picturing' to himself the effects of his losing his business, and at the same time wondering *if* he will lose it, then his fear has changed to worry.

There are two highly destructive elements associated with this feeling. First, the space-time misevaluation: he pictures the failure as having already taken place and reacts to it in essentially the same manner that he will when it does happen. This reaction involves intense psycho-physiological disturbances, but is not too harmful, unless repeated often. But it is repeated often—every time he thinks of the failure occurring. These repeated shocks inevitably lead to very serious results—stomach ulcers, indigestion, 'nervous breakdown,' etc. Secondly, if the man knew that failure was inevitable, he might become reconciled to it, after a fashion, and though he would still fear failure he would be prepared for it, and the shock to his system would be much less, both when it does occur and when he 'pictures'

it as occurring. However, he does not know for certain that he will fail. This uncertainty prevents him from becoming reconciled to his fate and so he receives the full force of these shocks.

Second-order worry about a first-order worry follows the same vicious circle that typifies the second-order fear of a first-order fear, with the added 'toxicity' of uncertainty. This analogy holds for third-order worry and third-order fear.

First-order anger is a secondary feeling akin to dislike and hate. It is a feeling about the unpleasantness of sensations and feelings the stimulus provokes in us. These feelings are most often in the nature of frustrations of desires, though we do get angry at other types of feelings. This feeling about these feelings we call anger and involves the 'blind,' unthinking desire to destroy or hurt the stimulus because it produced these unpleasant feelings. It is, therefore, a causative evaluation of stimulus and effect, and like hate is directional in nature and of negative sign. It differs from hate in the relative briefness of its existence, usually dying out when the stimulus is removed. Hate very often is the resultant of high-order abstractions, involving evaluation (or mis-evaluation) of the characteristics, structure and action of the stimulus as, for example, the hate of fascism based on the evaluation of its effects on people, na-

tions, etc. Anger is never the result of high-order abstractions, but the result of 'thalamic thinking.' We may get angry at certain actions of certain fascists at certain times, but it takes an evaluation of the whole to make us hate fascism. It is true that hate is often the result of prejudice, which, apparently, is a case of low-order, 'thalamic thinking.' But actually this is not true. Prejudice is a resultant of high-order abstractions, but these are confused in order and involve objectifications and identifications. With anger there is no reasoning. We act almost entirely on the thalamic level, which is why we find it so difficult to control, *i.e.*, to influence it by high-order abstractions. We might call anger 'thalamic hate.' We have represented it on our chart as a single vertical line sometimes crossing the emotional threshold to give a violent feeling similar to hate in its desire to destroy the stimulus. Since it results from the evaluation of only one characteristic of the stimulus, it is represented by a single line and the lack of area under this line indicates the absence of durability.

Second-order anger reverses signs as does second-order hate and lacks the spontaneity and intensity of first-order anger.

Third-order anger is similar to other negative secondary third-order feelings in sign and character.

Good sense is, of all things among men, the most equally distributed; for everyone thinks himself so abundantly provided with it that those even who are the most difficult to satisfy in everything else do not usually desire a larger measure of this quality than they already possess.—DESCARTES.