

THE APPRECIATION OF HUMOUR: AN EXPERIMENTAL AND THEORETICAL STUDY¹

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I. INTRODUCTION

IN the investigation reported here, an effort was made to deal with three questions in the field of humour by means of the method of factorial analysis. The first of these questions concerns the relative generality (or objectivity) of the appreciation of humour. Some investigators, such as Heim⁽²⁾, report little or no agreement among the subjects taking part in their experiments with regard to the ‘funniness’ of the jokes used as stimuli; others, such as Stump⁽³⁾ and the authors of the Roback, Moss, and Allcock tests of humour, explicitly or implicitly assume a comparatively high degree of agreement. No quantitative answer, stating the actual amount of agreement with reasonable exactitude, would appear to have been given to date.

The second question relates to the different types of appreciation involved in responses to humorous stimuli. While a great number of such types have been suggested by various authors, others have maintained that any attempt to discover such types “would merely involve a listing of individual jokes and individual people” (2), p. 161). Here also, a quantitative answer showing clearly the relative importance and influence of any type factors would appear desirable.

¹ This paper reports part of the work carried out by the writer during his tenure of the John Stuart Mill Research Scholarship at University College, London. Several researches of a similar nature have been, and are being, carried out at University College, and the writer wishes to record his indebtedness to Prof. C. Burt for valuable suggestions and criticisms. Acknowledgement is also due to Dr H. Babington-Smith for her kindness in giving the tests described below to a number of Scottish subjects, and to Prof. C. Landis, who very kindly allowed the writer to use his original material in this investigation, and who answered several queries relating to his own experiment⁽¹⁾.

The third question to be raised concerns the influence of temperamental factors on the appreciation of humour; more particularly, it appeared possible that the 'Personality Factors' isolated by Guilford (15) might to some extent determine the subjects' reactions to the various tests. An investigation of this possibility constitutes the third part of our experimental study.

Lastly, the experimental results gathered in the course of the investigation, and the subjects' comments and introspections, appeared to throw a certain amount of light on the vexed problem of the theory of humour and laughter, and it seemed worth while to record briefly the main conclusions to which the data seemed to point.

II. PLAN OF INVESTIGATION

Three humour tests, containing respectively 100, 52, and 37 items, were given to a group of sixteen subjects, the instructions being in each case to rank the items in each of the tests in order of 'funniness'. Eight of the subjects were University students; the other eight were entirely unconnected with academic life. The distribution of the sexes was equal. Ages ranged from 17 to 35. Introspections of the subjects were in some cases taken down in shorthand, while in other cases the subjects themselves wrote down valuable comments. The number of items in each of the three tests was too large to make straightforward ranking possible, and a group-ranking procedure had to be employed. By this method, marks are given to the various items in accordance with a prearranged system, the same mark being given to a fixed number of items. The distributions used followed as closely as possible the normal probability curve.

The tests were chosen with a view to covering three comparatively distinct varieties of humour, viz. verbal jokes (to be called 'jokes'), humorous drawings with captions (to be called 'pictures'), and the humour resulting from the opposition of two photographs showing certain points of similarity while being entirely different in other respects (to be called 'comparisons'). As an example of this last type of humour, the opposition of a photograph of Laval to one of a toad may be quoted, where there is a notable similarity of attitude and expression. Collectively, the items in the three tests will be called *jokes*.

The verbal jokes used were identical with those used by Landis & Ross in their investigation⁽¹⁾; their selection was carefully made so as to contain roughly equal proportions of good, medium and bad jokes, and to contain representative examples of the seven types of humour

recognized by Landis and Ross in accordance with the theoretical analysis of 'sense of humour' given by Eastman (4).¹ These seven types of humour are defined as follows:

(1) *Humour of Quantity*. Results primarily from obvious exaggeration (over- or under-statement of facts, thoughts, etc.).

(2) *Humour of Incongruity*. Results primarily from the association of two generally accepted incompatibles.

(3) *Humour of Unexpected*. Results primarily from the occurrence of some surprising fact, thought, feeling, etc.

(4) *Humour of Truth*. Results primarily from projection of self into situation, with consequent exposure of unrevealed thoughts.

(5) *Humour of Superiority*. Results primarily from the inability of others to handle adequately situations which to us seem simple.

(6) *Humour of Repression*. Results primarily from the release of tension aroused by thoughts, feelings, etc. of sex, fear, etc.

(7) *Humour of Ridiculous*. Results primarily from obviously non-sensical use of logic, verse, etc.

The 'pictures' were selected by the present writer on the same principles from several thousand drawings which had appeared in *Punch*, *Lilliput*, *Everybody's*, *Illustrated*, *Razzle*, *The Humorist*, *College Humor*, and *Movie Humor*. The 'comparisons' were taken exclusively from the pages of *Lilliput*, and an effort was made to include examples of all the different types of 'comparisons' appearing in that journal.

Two controls, or 'jokers', were introduced into the 'pictures' and the 'comparisons' tests in order to test certain assumptions regarding the influence of the behavioural field. These controls, while similar in form to the other items in the tests, were made up in such a way that they were not funny at all, but quite meaningless: in the 'pictures' test, the captions were cut off two drawings, and replaced by quite unrelated captions, and in the 'comparisons' test two comparisons were made up by putting together entirely unrelated photographs.

III. EXPERIMENTAL RESULTS

In Table 1 are given some of the numerical results of these experiments. Two statistically significant factors were extracted from the correlations between the rankings of the items in each of the three tests;

¹ This analysis is quoted below in some detail because it is typical of many other attempts. The present writer is dubious about its value as a psychological account, but it would appear that in the absence of a better analysis it may be of help in making sure that no important type of humour is overlooked in the selection of jokes.

from the 'pictures' test a third factor was extracted whose significance is doubtful. The numbers of correlations exceeding Fisher's $p=0.05$ and $p=0.01$ levels in each of the tests are shown below as 'significant correlations' and as 'very significant correlations' respectively.

Table 1

	Jokes	Pictures	Comparisons
Average intercorrelation	0.14	0.20	0.15
First factor variance	16.5%	22.1%	19.6%
Second factor variance	6.2%	5.6%	7.0%
Third factor variance	—	5.2%	—
Significant correlations	32	34	30
Very significant correlations	18	17	9
Highest $+r$ in table	0.37	0.55	0.58
Highest $-r$ in table	0.17	0.08	0.45
Percentage of jokes found funny	35	44	51

These results enable us to answer our first query: How much generality or objectivity is there in each of the three tests employed, for the sample of the population tested? The answer is given by the percentage contributed to the variance by the first, positive, general factor: 16.5% in the 'jokes' test, 22.1% in the 'pictures' test, and 19.6% in the 'comparisons' test. As these values are comparatively close together, we can take their average, 19.4%, as representative. This value is very similar to the average of the first factor variances for eighteen tests of aesthetic appreciation reported by the present writer⁽⁵⁾, which reached the value of 19.9%. The average of the intercorrelations in these eighteen aesthetic tests was 0.171, while in the three humour tests it was 0.163. Thus agreement on the relative 'beauty' of the 280 pictures used altogether in the aesthetics investigation was almost identical in degree with the amount of agreement found in this experiment with regard to the relative 'funniness' of 189 jokes.

In the aesthetics experiment just mentioned, it was found that those observers who had high saturations in one test tended to have high saturations in other tests also. The correlations between the subjects' first factor saturations for the three humour tests used in the present investigation were found to be all positive, but not statistically significant. (According to Fisher's test for small samples, a correlation of 0.50 would be significant ($p=0.05$) and a correlation of 0.62 would be very significant ($p=0.01$) when the number of items correlated is 16.) The actual correlations are 0.17 ('jokes' and 'pictures'), 0.26 ('jokes' and 'comparisons'), and 0.05 ('pictures' and 'comparisons'); the average of these correlations is 0.16.

There is a marked tendency for the person who finds a large number

of jokes funny in one test to find a large number of jokes funny in other tests also. The correlations between the tests are 0.66, 0.58, and 0.41, averaging 0.55. While it is probable that these correlations are to some extent due simply to different 'levels of aspiration' in the subjects, the introspections show that there is quite a genuine difference between them as regards the number of jokes found at all amusing. There is a slight but constant positive correlation between liking a large number of jokes and having a high factor saturation for the general factor; the correlations are 0.11 ('jokes'), 0.47 ('pictures'), and 0.08 ('comparisons'), averaging 0.22.

As regards the question of type factors in the appreciation of jokes, the most definite and clear-cut of these factors is found in the 'pictures' test. This bipolar factor, which contributes 5.6% to the variance, divides those observers who show a certain preference for sexual jokes from those who put jokes of this kind comparatively low in their rankings. Neither sex nor age seemed to have any very obvious influence with regard to this factor. No sexual factor occurred in the 'comparisons' test because the material used contained no sexual jokes. In the 'jokes' test, where a few of the items were slightly sexual, a third factor extracted from insignificant residuals seemed to indicate a similar dichotomy between liking for sexual jokes, and dislike for them, but the dichotomy was not marked enough to permit of definite interpretation.

Interesting defence mechanisms appeared in some cases when subjects who did not like sexual jokes offered some far-fetched interpretations of the joke which left out its obvious sexual significance, or just refused to understand it at all. This appears to be in good agreement with Ghosh's finding that "in some cases, factors have been overstressed or even read into jokes, while other factors were neglected or overlooked in order that the jokes might be made to fit into the pattern of the subjects' mental states" (6). While this misunderstanding of jokes did not occur exclusively where sexual jokes were concerned, it seemed to occur most frequently in these cases. Sexual jokes seem to fall largely into Eastman's categories of 'Humour of Truth' and of 'Humour of Repression'.

The third, bipolar factor extracted from the 'pictures' test indicates an opposition between one group of subjects who prefer jokes which are based mainly on the *character* of the persons depicted (personal aspect), while another group prefer jokes which are based mainly on the humour of the *situation* (impersonal aspect). This factor seems to be closely related to the personal-impersonal factor found by Kambouropoulou in her analysis of diary entries, joke tests, etc. (7). One might feel tempted

to relate this factor to the familiar opposition between formal and representative art; the impersonal type of humour is created by the formal aspects of the situation, while the personal type depends on the representative character of the people depicted.

The second, bipolar factor in the 'comparisons' test, which contributed 7.0% to the variance, opposes one group of people who tend to prefer photo-comparisons in which one of the two pictures is amusing by itself, without taking into account the relation with the other picture, to another group who place great stress on this relation, without paying much attention to the amusing nature of the individual pictures. We may in this connexion recall a similar factor found in the preference rankings of colour combinations; some people judge almost entirely by the individual colours in the combination, while others base their judgement largely on the relations between the colours (8, 9). This opposition between the group who preferred the complex, relational 'comparisons' and those who preferred the simpler ones became apparent also in their comments; the 'comparisons' depending for their effectiveness on the relation between the pictures were often called 'clever', while the other comparisons tended to be called 'funny'. Martin, in her pioneer work, noted the same opposition (10, p. 39), and it seems to have played an important part also in the distinction drawn by Hollingworth between 'waxing' and 'waning' jokes (11).

The second, bipolar factor in the 'jokes' test, which contributed 6.2% to the variance, appears to be related in some measure to the factor discussed above. Here also one group of subjects like the simple, straightforward, 'funny' type of joke, while the others prefer the more complex, 'clever' sort of humour, in which a comparatively large number of relations requires to be educed. It is interesting to note that a similar difference has been found to play an important part in aesthetic preference judgements: a complexity-simplicity factor was found in work on preferences for poetry (12) and for polygonal figures (13).

The controls or 'jokers', mixed in with the ordinary 'pictures' and 'comparisons', occupy on the average the last two places in the ranking orders. Several subjects, however, put them relatively high in their rankings, in two cases awarding them next to the maximum number of points. This shows how easy it is to create artificially the desired ego-object relation, and how efficient an artificially created relation of this kind can be in changing the behavioural field of the subjects.

There was no differentiation of the sexes in any of the factors discussed above. This result is in good agreement with Heim's finding, who

discovered "a surprisingly high degree of agreement between men and women" (2), p. 155). She discounted her own finding as "probably untrustworthy", giving no reason beyond saying that "everyone undoubtedly believes that fundamental and universal differences exist" (ibid.). In the absence of proof for the existence of such differences, it would appear safer to rely on the experimental results, instead of on popular conviction.

In view of the fact that the number of subjects taking part in this investigation was relatively small, the question may be raised of just how much reliance can be placed on the results. Some aspects of this problem have been discussed elsewhere (14), and when the formulae quoted there are applied to the results summarized above it is found that the correlation of the average order given by our subjects for the items in the three tests would correlate with the true order of the whole population of which they are a sample to the extent of approximately 0.90. High values of this kind would appear to lend a certain degree of validity to our conclusions.

IV. TEMPERAMENTAL FACTORS

In an attempt to obtain a picture of the subjects' temperamental peculiarities, they were asked to rank in order of 'applicability' twenty-five temperamental traits, typed on separate slips of paper. That is to say, they were instructed to put the trait which they considered most characteristic of themselves at the top, the one they considered least characteristic at the bottom, and the others in between in order of applicability. The traits were taken from Guilford's research into personality factors *S*, *E*, and *M* (15), by choosing the traits with the highest saturations for these three factors.

The rankings of these traits were then correlated, and the table of intercorrelations factor-analysed. Two factors, both of which were significant, were extracted, accounting for 30.0 and 11.1 % of the variance respectively. Both factors were bipolar, and while the first factor seemed to differentiate between the aggressive, masculine type of person, and the emotionally dependent type, the second factor distinguished between the sociable and the unsociable. In other words, factor I opposed Guilford's traits *M* and *E*, while factor II opposed the two aspects of his trait *S*.

Several correlations of these two temperamental factors and the type factors isolated earlier in this study approached or reached statistical significance. The sexual factor correlated to the extent of -0.48 with

the emotionally dependent-aggressive factor, and to the extent of -0.42 with social shyness. This connexion between the liking for sexual jokes and an aggressive, not emotionally dependent, sociable kind of temperament is perhaps not contrary to what one would have expected on a priori grounds, and is of particular interest in view of Ghosh's findings (6). It may also be noted as giving support to certain orectic theories of humour and laughter which will be discussed in the next section.

The complexity factor in the 'jokes' test was found to correlate 0.16 with the emotionally dependent-aggressive factor, and 0.61 with the factor of social shyness. The complexity factor in the 'comparisons' test correlated 0.21 with the emotionally dependent-aggressive factor, and 0.21 with the factor of social shyness. As both social shyness and emotional dependence are generally regarded as introverted characteristics, while sociability and aggressiveness are extraverted characteristics, we are perhaps justified in the conclusion that introverts tend to prefer complex jokes, while extraverts tend to prefer simple jokes. (Similarly, introverts tend to dislike sexual jokes, while extraverts tend to like them.) While the correlations on which these conclusions are based are not always significant, it should be noted that they all point in the same direction.

It may be of interest to note here that the connexion between introversion and liking for more complex stimuli does not seem to be restricted to the field of humour. In an investigation into the factors determining the appreciation of poetry, a similar connexion has been noted (12), and from the references quoted there it will be seen that a similar relation between temperament and aesthetic preferences obtains also in other fields.

The correlations between the personal-impersonal factor, and emotional dependence and social shyness, are too low to be of any significance, being only 0.05 and 0.15 respectively.

While the conclusions stated above are suggestive rather than definitely established, it seems certain that temperamental traits influence the appreciation of jokes, just as they have been shown to influence the appreciation of poems, pictures, etc. It would appear likely that further experimentation involving other personality factors would throw considerable light on the genesis of laughter.

V. THEORIES OF HUMOUR

When the theories of humour advanced by the one hundred or so best-known authors are examined, little agreement is found on any of

even the most fundamental points. This disagreement is due partly to the fact that most authors in the past have attempted to relate their theories of humour to their general philosophical theories, thus introducing into the former many of the questionable assumptions and controversial views of the latter; it is due also to the fact that few philosophers have given much attention to the fundamental question of exactly what are the stimuli which cause laughter.

Again and again, the hat that is blown off by the wind, or the fall in the street, are quoted as typical mirth-provoking instances; thus Bergson begins a famous passage in his book by saying: "A man, running along the street, stumbles and falls; the passers-by burst out laughing" (16). A numerical count by the present writer of seven occasions when four men and three women stumbled and fell, and of five occasions when the wind blew off the hats of two men and three women, did not reveal a single instance of laughter among the total of more than 100 passers-by. Facts such as these must make us suspicious of all theories which might explain after a fashion why laughter should occur, but which fail to explain why actually it does not occur. Similarly, philosophical theorists frequently posit certain feelings of superiority or of expectation which those who laugh are supposed to experience in certain circumstances, but which careful introspection often fails to discover.

When the actual theories which have been suggested to date are surveyed, we find such a variety that it is difficult to discover an underlying basis according to which they might be classified. To a psychologist, the most satisfactory classification is perhaps one which follows the usual division into cognition, conation, and affection, and indeed most theories seem to fall quite naturally at some point in a triangle whose three corners are marked as in Fig. 1.

Most numerous of all are those theories which stress such cognitive elements as incongruity, contrast between ideas, deceived ideational expectation, and the like. The long list of writers who have held such theories contains among others the names of Cicero, Quintilian, Dryden, Locke, Marmontel, Gerard, Campbell, Beattie, Priestley, Kant, Jean Paul, Hazlitt, Brown, Schopenhauer, Everett, and those who, following Spencer, introduced the added requirement that the incongruity should be descending—Lipps, Sidis, Marshall, and Renouvier and Prat. Schiller and Willmann may be quoted as modern champions of some form of cognitive theory, and so may Maier.

Almost equally numerous is another group of writers who stress the conative aspect of laughter, relating it to the satisfaction of the desire

for superiority, or 'self-glory' as Hobbes has it. In this class are, for instance, Plato, Aristotle, Trissino, Hobbes, Hegel, Laménais, Hunt, Bain, Philbert, Michiels, Carus, and Bergson. Chandler⁽¹⁷⁾ and Kimmins⁽¹⁸⁾ have provided a certain amount of experimental proof in favour of this theory, which finds its latest champion in Ludovici⁽¹⁹⁾. Following

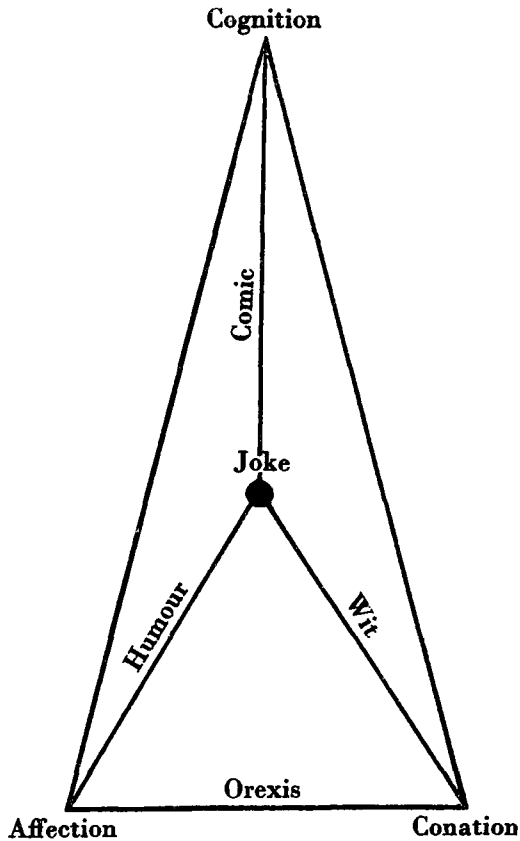


Fig. 1. Diagram representing the structure of the joke, showing the three-fold determination of laughter by cognitive, conative, and affective factors.

Wrench⁽²⁰⁾, he has suggested the term 'superior adaptation' as characterizing all instances of laughter, such laughter in his view being due to the consciousness of superior adaptation on the part of the person laughing.

The affective aspect of laughter is stressed by those who have directed their attention more to the emotional component of laughter. This is usually conceived to be pure joy, or else joy in combination with some

other emotion, such as fear or anger. Alternatively, a contrast of feeling is posited as being essential to laughter. Joubert, Descartes, Hartley, Laprade, Dumont, Höffding, and McDougall may be mentioned here.

Some writers cannot be placed near one corner of our triangle, but must find their place along one side; thus Ribot, Sully, and Santayana have advanced theories which recognize both the cognitive and the conative aspects of humour. Freud may be said to have recognized all three aspects to some extent; his definition of wit as being due to an economy of expenditure in inhibition stresses the conative aspect, his definition of the comic as being due to an economy of thought stresses the cognitive aspect, and his definition of humour as being due to an economy of feeling stresses the affective aspect. His theory is vitiated, as Eastman points out, by his uncritical acceptance of the mechanical Spencer-Lipps theory of 'economy', which is really foreign to the remainder of his views. He may also be criticized for making too rigid a distinction between the three different kinds of laughter, i.e. that of wit, of humour, and of the comic; the mind acts as a whole, and in every case of laughter all three components must play their part, although their relative importance may vary from case to case.

In considering these three divisions, it appears that we can with advantage group together the conative and the affective aspects, under the general name of 'orectic'. The reason for this grouping is of course that these two aspects are related much more closely to each other than either is to the cognitive aspect. If we follow Ludovici in his well-documented account, we may define the orectic component of laughter as being due to the 'joyful consciousness of superior adaptation'. We cannot follow that author, however, in neglecting entirely the cognitive aspect, particularly as it is this component which is most noticeable in the type of material used in the present investigation. Before turning to an analysis of this cognitive component, we may note certain facts regarding the relative influence and importance of the orectic and cognitive factors.

Ludovici's own data seem to show that historically and genetically we have a progress from the laughter of superior adaptation, as shown for instance in the laughter at physical imperfections and at accidents, to the laughter at the intellectual joke, which is almost purely cognitive (19), pp. 88-103). Even in the realm of the joke, however, we find the opposition between the orectic and the cognitive aspects; the contrast between 'funny' and 'clever' jokes, noted in a previous section, appears due to the relative preponderance of orectic or cognitive factors. That

this is a true interpretation is indicated by the correlation between aggressiveness and liking for simple, 'funny' jokes. The correlation between liking for sexual jokes and aggressiveness seems also to be due to the orectic factor. These results seem to indicate that the view often held, viz. that introverts have less sense of humour than extraverts, is false, and that we should say, rather, that introverts have an appreciation of humour in some ways different from that of the extraverts. More particularly, while in extraverted persons the orectic aspect of humour is paramount, in introverted persons the cognitive aspect is supreme.¹

While apart from the correlations just mentioned there is little in the results of this research to help in a discussion of the orectic components of laughter, our material is more extensive with regard to the cognitive aspect. When the experimental material is examined with particular reference to the 'funniness' of the items, as revealed by their average position, and to the introspections and comments of the subjects, certain conclusions emerge which seem to be helpful in an analysis of the cognitive factor. The majority of the points noted are not new, and have indeed recently been discussed by Maier⁽²¹⁾ and Willmann⁽²²⁾ in their interesting theoretical contributions, but in one or two places there are certain amplifications and modifications which appeared to be essential in view of the experimental results.

(1) In the first place, we find that each one of the jokes used contains two or more ideas, attitudes, or sentiments between which there is a certain amount of *contradiction* or *incongruity*.

(2) Secondly, we find that these contradictory ideas, attitudes, or sentiments are fused, united, or *integrated* to a certain extent during the course of the joke, and that laughter results when this point is reached.

(3) Thirdly, this fusion, union, or integration is *sudden*; when it is protracted, the joke arouses no laughter and loses its point.

(4) Fourthly, the process of integration is accompanied by *insight*; as Maier says, there is a change in the meaning of the elements of the humorous experience. The total configuration of ideas, attitudes, or sentiments built up in the first part of the joke is changed, and we gain an insight into the structure of the total field which previously was lacking.

(5) Fifthly, the elements contained in the joke must be experienced

¹ In support of this view, it may be noted that none of the correlations between the temperamental factors and the first, general, positive factor in the humour tests even approached significance. On the customary view, the extraverted traits ought to be correlated positively with this general, positive factor. The complete absence of any such correlation favours the view outlined above.

objectively, not emotionally. (This demand, of course, is the counterpart to the demand for 'psychical distancing' in aesthetics.) This condition does not eliminate the occurrence of an emotion of joy as a result of the joke, but merely prevents any emotional attachment to the elements contained in the joke.

Taking these five points together, we may say that on the cognitive side, *laughter results from the sudden, insightful integration of contradictory or incongruous ideas, attitudes, or sentiments which are experienced objectively*. Other things being equal, the funniness of a joke is a direct function of the degree of contradiction or incongruity between the main ideas, attitudes, or sentiments contained in it, and the quality of the integration of these elements, as measured by the suddenness of, and the degree of insight resulting from, this integration.

While it is permissible for theoretical purposes to isolate the cognitive aspect of humour in this fashion, it should not be forgotten that in each particular case of laughter the orectic aspect too must be considered, even though in experiments of the kind described here the influence of this factor is reduced to a minimum. In general, there will be little difficulty in deciding in each case of laughter where in our triangle its main cause ought to be looked for, and the usefulness of such an eclectic theory as that presented here will not be diminished because it may prove impossible to find many causes of laughter which can be placed exactly at one corner of the triangle; it seems obvious that the great majority will be found somewhere inside the figure, the exact position being determined by the relative importance of the three factors we have distinguished.

VI. SUMMARY AND CONCLUSIONS

Three tests involving the ranking of altogether 189 jokes of various kinds were given to sixteen subjects. The resulting rankings were correlated, and the tables of correlations factor analysed. A test of temperament was also given.

In each of the three analyses, a positive, general factor appeared first, accounting on the average for 19.4% of the variance. Several bipolar factors were also extracted, each of which contributed some 5-7% to the variance. These factors divided the subjects into types according to the following principles of classification: (1) liking for *sexual* as opposed to *non-sexual* jokes; (2) liking for *complex* as opposed to *simple* jokes; and (3) liking for *personal* as opposed to *impersonal* jokes.

Extraverts were found to prefer sexual and simple jokes, while intro-

verts preferred complex and non-sexual jokes. It was suggested that the assertion often made which attributes a better sense of humour to the extraverts than to the introverts is wrong, and that we are dealing rather with differences in the manner of appreciating humour than with differences in the amount of sense of humour possessed by the two types.

Analysis of the jokes used, their relative positions in the average ranking order, the introspections and comments of the subjects and the various correlations between types of appreciation and temperamental factors, led to a theory of humour which stressed the complex nature of the phenomena investigated. On the orectic side, the results supported the view that laughter was due to the joyful consciousness of superior adaptation, while on the cognitive side the conditions responsible for the emergence of laughter could be summarized under five headings which emphasized the sudden, insightful integration of contradictory or incongruous ideas, attitudes, or sentiments which are experienced objectively.

The distinction between the orectic and the cognitive aspects of laughter was declared to be useful in theory, but the warning was added that in practice *both* factors are usually active, in varying proportions, and that therefore the distinction must not be carried too far.

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(Note. No detailed references are given for the classical writers whose names are quoted in this paper. Full references will be found in the works of Eastman(4), Greig(23), and Gregory(24), together with brief but usually adequate summaries of their views.)

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