

Psychological Monographs: General and Applied

Studies of Independence and Conformity:
I. A Minority of One Against a Unanimous Majority¹

Solomon E. Asch
Swarthmore College

I. INTRODUCTION

THE investigations described in this series are concerned with the conditions of independence and lack of independence in the face of group pressure.²

Of the many diverse forms of social independence and submission, we have selected one in particular for study. By

means of a procedure shortly to be described we generated a disagreement between a single person and a group concerning a simple and clear matter of fact in the immediate environment. Further, the group that disagreed with the individual judged the facts in question *wrongly*, while the individual could not but judge

many experiments in this series and for the statistical analysis of the data. In the latter work he was also ably assisted by Mr. Robert H. Peters.

Mrs. Doris M. Joseph provided the arduous secretarial assistance. In time she also became responsible for the innumerable practical problems accompanying an extensive undertaking. These tasks required, in addition to skill, a considerable expenditure of good spirits. For her help in keeping our work on an even keel I am very grateful.

The studies were conducted in three institutions of higher learning. It seems proper not to identify them by name. This decision deprives me of the opportunity to acknowledge specifically the friendly cooperation of the authorities in these institutions, but I hope they will understand that their contribution has not been forgotten.

It remains only to mention the many young persons who served as subjects in these experiments and who must also remain anonymous. If any of them should happen to read these pages they will, I hope, realize what we tried to have them understand at the time, namely, that the work in which they took part was not only with and about them, but also for them.

To prevent a possible misunderstanding in unwary readers I might also mention that among the subjects of the present series of studies there were no Swarthmore College students.

¹ The present study grew out of earlier experiments that have been reported in the writer's *Social Psychology*, Chapter 16 (1). A preliminary abstract of the present studies has appeared in Asch (2).

¹ This is the first of a series of reports describing an extensive investigation of group pressures and their effects on judgment. The scope of the studies required support and the help of many persons.

I am glad to record my gratitude for financial assistance from the Office of Naval Research, which supported these investigations as part of its policy of encouraging basic research in the psychological disciplines. In particular I wish to extend my thanks and appreciation to Dr. J. V. Macmillan and Dr. Howard E. Page of the Office of Naval Research for their helpfulness and for their devotion to the interests of science.

In the conduct of the investigations I was particularly fortunate to have the assistance of a number of psychologists whose cooperation and enthusiasm made the work possible. The reader of these pages will soon discover that we were engaged in exacting experiments which can be justified on the ground of their potential scientific value provided the investigator treats the subject with respect, and succeeds in conveying to him that he is making a contribution. In such matters one can only rely on the sensitiveness and human feeling of the experimenter. I am proud to say that those who were associated with me in this work fully justified this confidence. It is with pleasure and thankfulness that I mention the help in the conduct of the experiments of Dr. David A. Emery, Miss Esta Soloway, Mrs. Enid Hobart Campbell, Dr. Dorothy Dinnerstein, Dr. Irwin M. Rosenstock, Mr. Jack Hahn, Mrs. Lillian Z. Berg and Mr. Irwin Feinberg. To Dr. Henry Gleitman I am indebted for expert help in the designing of

the facts correctly. Finally, the judgments were stated *publicly*; the single individual was always called upon to announce his judgment just after a group of equals had stated a wrong judgment. In short, we are concerned with public independence and lack of independence in the face of arbitrary group opposition. The aim was to observe the impact of these conditions when the question at issue was that of resisting or bowing to a prevailing group direction. More generally, the object of the present investigation and of those to follow is to give an account of the facts observed and to state some of the conditions responsible for independence and failure of independence.

This is therefore a study of a particular problem in the wide region of social influences. While the fact of social influence is beyond doubt, we are only on the threshold of understanding the responsible processes. The task of inquiry in this region is to explore the ways in which group actions become forces in the psychological field of persons, and to describe the forces within persons that cooperate with or resist those induced by the group environment. In the early stages of investigation the solution to these questions appeared obvious. The far-reaching compliance of persons with group demands was referred to a psychological tendency to "uncritical acceptance" of group ideas and evaluations. General observation and controlled studies seemed to support the conclusion that the fundamental social-psychological process was that of conformity. But the notion of conformity is essentially a restatement, in the guise of an explanation, of the observable events and adds little to our understanding of them. A more analytical reward-punishment psychology stood ready at hand to convert the operation of group forces into the familiar terms of current learning theory and to refer action in line

with group demands to prospects of reward and fear of punishment. The latter formulation, while it possesses a rough plausibility, again does little more than restate what is known in terms of operations that have not been directly studied. These are substantially the directions that thinking has taken. They have guided the steps of investigation from the choice of problems to the interpretation of findings.³

The apparent plausibility of these interpretations should not hide the fact that they are abstract and not based on careful observation. Granting the great power of groups, may we simply conclude that they can induce persons to shift their decisions and convictions in almost any desired direction, that they can prompt us to call true what we yesterday deemed false, that they can make us invest the identical action with the aura of rightness or with the stigma of grotesqueness and malice?

The abstract temper of present-day theory and investigation in this region rests to a considerable degree on a neglect of the cognitive and emotional experiences that are part of the individual's psychological field. This accounts for a certain one-sidedness of emphasis and a failure to note distinctions that are obvious enough to common sense. The prevailing accounts have taken as the prototype of social influence an arbitrary and slavish submission to group pressure, committing themselves hastily to a subjectivistic conception that comes near to equating group effects with the production of error and illusion (1, Chap. 14). But we ought to treat with reserve the widespread assumption that there is a single form of social influence which is a prototype for all others. More likely there are diverse forms; like the terms "digestion" and

³ For a discussion of some interpretations of social influence the reader is referred to Asch (1, Chs. 14-16).

"reproduction," "social influence" doubtless refers to a considerable range of processes. In particular, it is not justifiable to assume in advance that a theory of social influence should be a theory of submission to social pressure. One need not doubt the great power of social forces to realize that conformity is not the sole effect they produce. The striving for independence and resistance to encroachment are as much facts about people as is conformity. It is consequently unduly narrowing to emphasize submission, to the neglect of the not inconsiderable powers persons demonstrate on occasion for acting according to conviction and rising above group passion. The understanding of social influences will require the study of a wide range of conditions and of the interrelated operations of different psychological functions.

II. PLAN OF THE INVESTIGATION: EXPERIMENT I

A. General Description

A group of seven to nine individuals was gathered in a classroom to take part in what appeared to be a simple experiment in visual discrimination. They were instructed to match the length of a given line—the standard—with one of three other lines. One of the three comparison lines was equal to the standard; the other two lengths differed from the standard (and from each other) by considerable amounts. The entire task consisted of 18 such comparisons. Figure 2 shows the main comparisons. The individuals were instructed to announce their judgments publicly in the order in which they were seated. The comparison lines were numbered 1, 2, and 3 from left to right and permitted the subjects to state their judgments by calling out the appropriate number. Table 1 contains the lengths of the standard and comparison lines.

The following condition was the vital

feature of the experimental situation. All but one of the group had met previously with the experimenter and were instructed to respond on certain trials with wrong and unanimous judgments. Into this group we introduced a single individual who was not aware of this prearrangement. This individual heard the majority respond unanimously from time to time with estimates that clearly contradicted his own observation, and that departed from the true value by amounts ranging from $3/4$ to $1\frac{3}{4}$ inches. For example, on the first comparison reproduced in Figure 2, the majority matched the standard which was 3 inches with a $3\frac{3}{4}$ -inch line, or with a line $4\frac{1}{4}$ inches long. That the differences were clearly distinguishable is shown by the fact that under control conditions, namely, with subjects judging individually, the estimates showed an accuracy of over 99 per cent.

This, then, was the essential structure of the experimental situation. By means of an artificial procedure we introduced a sharp disagreement between one person and an entire group when the task was that of judging a clear perceptual relation. We placed a single individual, whom we will call the critical subject, in the position of a *minority of one* against a *wrong and unanimous* majority. Perhaps for the first time this person found a massed majority contradicting the clear evidence of his senses.

B. Details of Procedure

The Instructed Majority

The instructed majority consisted of male college students who had volunteered for the purpose. During a training session the general purport of the experiment and their role in it was explained. The majority was instructed to announce the judgments clearly and firmly, but not to take issue with the critical subject. They were also advised not to look directly at him

and to refrain from feigning surprise at his answers.⁴ The majority was therefore far from militant or aggressive; rather it tended to the side of impersonality.

It might be added that the situation did not call for histrionic talents or any elaborateness of action. One brief explanatory discussion followed by a single rehearsal with one person acting as the minority subject sufficed to initiate the group to the task. It was found advisable, however, to have occasional discussions with the group subsequently for the purpose of correcting certain errors, such as responding too quickly or in too low a voice.

A word need be said about the critical subjects and their introduction to the experiment. They, too, were male college students, drawn from the same population as the majority. A critical subject was always recruited by a member of the majority, the explanation being that a psychological experiment in visual discrimination was about to start for which an additional person was needed. When he arrived he found the group in the room or in the corridor, obviously waiting for the experiment to start. Upon the appearance of the experimenter they took their seats. The critical subject was nearly always seated before the last member of the majority. Unknown to him the majority left the designated seat vacant. This procedure ensured that he would not occupy a conspicuous position and that he would hear the estimates of all but one before it was his turn to speak. (When occasionally the critical subject took another seat, it was not too difficult to suggest a rearrange-

ment that followed the predetermined plan.)

The experimenter opened the proceedings by placing in front of the room the first set of cards and then reading the following instructions:

This is a task involving the discrimination of lengths of lines. Before you is a pair of cards. On the left is a card with one line; the card at the right has three lines differing in length; they are numbered 1, 2, and 3, in order. One of the three lines at the right is equal to the standard line at the left—you will decide in each case which is the equal line. You will state your judgment in terms of the number of the line. There will be 18 such comparisons in all.

As the number of comparisons is few and the group small, I will call upon each of you in turn to announce your judgments, which I shall record here on a prepared form. Please be as accurate as possible. Suppose you give me your estimates in order, starting at the right in the first row, proceeding to the left, and then going to the second row.⁵

By reading the instructions to the assembled group the experimenter conveyed the impression that all were equally new to the situation. To strengthen this impression some members of the majority asked questions intended to "clarify" the instructions. They inquired whether there would always be a comparison line equal to the standard and asked for a repetition of the way in which the responses were to be announced. When these questions were answered, the experimenter proceeded to call for the judgments on the first trial. The first member of the majority was provided with the answers on a small card which he could consult inconspicuously; the others followed his lead on each trial. The experimental session lasted about 20 minutes.

Members of the majority served for considerable periods of time with successive critical subjects. At times those who

⁴ In the experiments preceding this investigation (1, pp. 455-456) the majority played a somewhat more active part. The present modification in the direction of greater passivity did not, as far as we could judge, alter the results, although it lightened the burden of the critical subjects.

⁵ These instructions were adopted following a number of minor revisions with earlier subjects. The modifications of wording had no observable effect upon the results.

had been critical subjects were invited to become members of the majority in future experiments.

As mentioned earlier, the majority consisted of seven to nine persons. It was felt that this number was neither too large nor too small to produce a credible and serious sense of group contradiction. In a few instances the majority had only five or six members; this difference, we will show subsequently, did not affect the outcome. The members were not selected with any criteria in mind other than general reliability and absence of unusual features (such as visibly poor eyesight). While the composition of the group was fairly constant, some did drop out and had to be replaced, a circumstance that seemed to have no discernible effect on the results.

Both the majority and the critical subjects were asked to hold the experiment in confidence. This was a necessary condition for continued work in the same institution, and one that was achieved with a signal degree of success.

The Critical Subjects

The subjects were all male, white college students, ranging in age from 17 to 25; the mean age was 20. For certain purposes a large number of critical subjects was required for the present experiment. The present report is based on a total of 123 subjects.

The experiments were conducted in three institutions which differed in a number of respects. The first group (Group I) was drawn from a small private college of high educational standing. Its student population came largely from upper middle-class homes, from families long resident in the United States. Their parents were generally college educated, with fields of work mainly in business, technical areas, and the professions. The previous education of these students was, by current standards, superior. They had attended excellent high schools; in many cases they had received part of their education in Europe. In intelligence they were considerably above the average of the college norm. Perhaps even more pertinent to us is the social orientation of these

students. Much of their previous and current discipline had the purpose of instilling in them a spirit of independence. They had been taught and had adopted the values of self-reliance, of developing personal convictions and standing up for them. The second group (Group II) came from a large metropolitan college. The population was more heterogeneous but predominantly lower middle class. A considerable proportion of the students were second-generation immigrants who had lived nearly always in an urban environment. They represented a more diversified array of professional and intellectual interests than either of the other groups. The third group (Group III) comprised students from a state teachers college, mainly from lower middle-class homes, whose educational and intellectual development was poorer than that of the other groups.

The critical subjects and their majority were always drawn from the same population. In short, we investigated the effect of a group of peers upon a minority of one. However, the degree of acquaintance with the majority was uncontrolled; it varied markedly from institution to institution, and also from person to person. In the first group the members of the majority were often acquaintances, and at times, friends of the critical subjects. This was far less frequently the case in the other groups.

The critical subjects were chosen at random from the respective populations.

The Materials

As stated earlier, the task consisted of the comparison of a standard line with three other lines, one of which was equal in length to the standard. The lengths to be compared appeared as black vertical lines on white cards that were placed on the ledge of the blackboard in front of the room. As the instructions indicated, the comparison lines were numbered 1, 2, and 3 from left to right, and the members stated their judgments by calling out one of the numbers.

The cards remained in position until all had announced their estimates; they were then removed and replaced by a new pair

of cards carrying a new set of standard and comparison lines.

The lines were vertical black strips, $3/8$ inches wide, pasted on white cardboards which were $17 \frac{1}{2}$ by 6 inches. On one card appeared the standard line; the other card carried the three comparison lines. All lines started at the same level, their lower ends being $2 \frac{1}{2}$ inches from the lower edge of the cards. The standard line appeared in the center of the card, while the comparison lines were separated by a distance of $1 \frac{3}{4}$ inches. The comparison lines were numbered 1, 2, and 3 from left to right with black gummed figures $3/4$ inches long. They were placed directly underneath the lines and $1/2$ inch from their lower end. The standard and its matched comparison line were always separated by 40 inches.

The Seating Arrangement

The group distributed itself in two rows of an ordinary classroom, in which they occupied adjacent seats. As mentioned earlier, the critical subject was in the next to the last seat in the second row. The cards were placed so that the critical subject was directly between them. In Fig. 1 we present a schematic outline of the position of the group with respect to the stimulus materials.

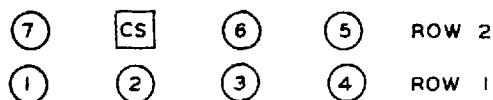


FIG. 1. Seating arrangement of majority and critical subject. The circled numbers designate the members of the majority and the order in which they announced their estimates. CS designates the critical subject.

Structure of the Task

The standard and comparison lengths, the order in which they appeared, and the responses of the majority, are included in Table 1. There was a total of 18 comparisons. The errors of the majority, which varied from $3/4$ inches to $1 \frac{3}{4}$ inches, were smallest on the early trials, generally increasing as the experiment progressed. We will now describe the task in detail.

Repetition of the series. We note first that the series consisted of nine comparisons which were shown twice without a pause.

TABLE 1
MAJORITY RESPONSES TO STANDARD AND COMPARISON LINES ON SUCCESSIVE TRIALS

Trial	Length of standard (in inches)	Length of comparison lines (in inches)			Majority error (in inches)	Type of error
a*	10	8 $3/4$	10	8	0	
b*	2	2	1	1 $1/2$	0	
1	3	3 $3/4$	4 $1/4$	3	$+3/4$	Moderate
2	5	5	4	6 $1/2$	-1	Moderate
c*	4	3	5	4	0	
3	3	3 $3/4$	4 $1/4$	3	$+1 \frac{1}{4}$	Extreme
4	8	6 $1/4$	8	6 $3/4$	$-1 \frac{1}{4}$	Moderate
5	5	5	4	6 $1/2$	$+1 \frac{1}{2}$	Extreme
6	8	6 $1/4$	8	6 $3/4$	$-1 \frac{3}{4}$	Extreme
d*	10	8 $3/4$	10	8	0	
e*	2	2	1	1 $1/2$	0	
7	3	3 $3/4$	4 $1/4$	3	$+3/4$	Moderate
8	5	5	4	6 $1/2$	-1	Moderate
f*	4	3	5	4	0	
9	3	3 $3/4$	4 $1/4$	3	$+1 \frac{1}{4}$	Extreme
10	8	6 $1/4$	8	6 $3/4$	$-1 \frac{1}{4}$	Moderate
11	5	5	4	6 $1/2$	$+1 \frac{1}{2}$	Extreme
12	8	6 $1/4$	8	6 $3/4$	$-1 \frac{3}{4}$	Extreme

* Letters of the first column designate "neutral" trials, or trials to which the majority responded correctly. The numbered trials were "critical," i.e., the majority responded incorrectly.

Bold face figures designate the incorrect majority responses.

Trials d to 12 are identical with trials a to 6; they followed each other without pause.

We may therefore speak of a first and second half of the series, the latter following the first without a break. This duplication will permit us to follow the development of the experimental effect in the course of time. The critical subjects were not aware that the series was being repeated, although occasionally some remarked about the similarity of one or another trial.

Neutral trials. It seemed advisable to include a number of trials to which the majority responded correctly; these we will call the neutral trials. We hoped that their inclusion would lend a quality of trustworthiness to the majority. For this reason we also decided to make the two opening trials neutral. The third neutral trial was interspersed in the fifth position. The same neutral trials reappeared in the second half of the series, in positions d, e, and f (see Table 1).

Critical trials. The critical trials were those to which the majority responded incorrectly. There were twelve such trials, six in each half of the series. Actually the critical trials consisted of a repetition of three basic comparisons reproduced below in Fig. 2.

Moderate and extreme critical trials. For a reason that will soon become clear we introduced a systematic and constant difference on each trial between the two unequal comparison lines. In each case one of the comparison lines deviated from the standard more than the other, and this difference was in all cases $\frac{1}{2}$ inch.

Each of the three basic comparisons was shown twice within each half of the series, but the majority responded differently to them on the two occasions. On its first appearance the majority matched the standard with the comparison line that deviated least from it; when the same lines reappeared, the majority matched the standard with the comparison line that deviated most from it. For example, Com-

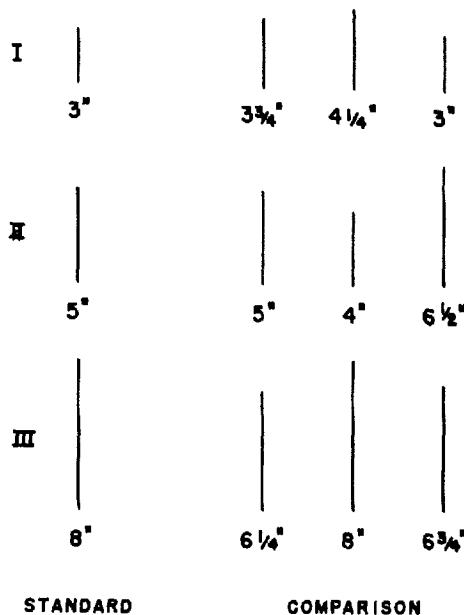


FIG. 2. Critical comparisons.

parison I which appeared on Trials 1 and 3 called for the matching of a 3-inch standard with one of the following comparison lines: $3\frac{3}{4}$ inches, $4\frac{1}{4}$ inches, 3 inches. On Trial 1 the majority chose $3\frac{3}{4}$ inches as equivalent to the standard, but on Trial 3 they chose the $4\frac{1}{4}$ inches line. We will call the former a moderate and the latter an extreme error; and we will refer to the corresponding trials as moderate and extreme. This property of the stimulus relations will permit us to follow the effects of moderate and extreme majority errors on otherwise identical comparisons.

Table 2 exhibits the ways in which the three basic comparisons were employed in the series. It shows that each of the critical comparisons was shown four times, twice with the majority moderate and twice with the majority extreme.

The lengths of the standards varied considerably, being 3 inches, 5 inches, and 8 inches, respectively. The errors of the majority contained both over- and underestimations. The pair of unequal compari-

TABLE 2
STRUCTURE OF COMPARISONS

Standard	Comparisons	Moderate trials			Extreme trials		
		Trials		Discrepancy	Trials		Discrepancy
		1st half	2nd half		1st half	2nd half	
I	3"	3, 3/4"	4, 1/4"	3"	1	7	+3/4"
II	5"	5"	4"	6, 1/2"	2	8	-1"
III	8"	6, 1/4"	8"	6, 3/4"	4	10	-1, 1/4"

The three basic comparison trials appear at the left. Each was shown 4 times in the course of the experiment, twice with the majority erring moderately and twice with the majority erring extremely. The numbers of the trials in each row indicate the four positions in which a given comparison appeared. The columns labelled Discrepancy give the magnitude of the majority error.

son lines varied in their relation to the standard: both were longer, both were shorter, and one was longer and the other shorter than the standard. On successive trials the correct comparison line appeared in each of the three positions.

To summarize: The experiment opened with two neutral trials to which the majority responded correctly. On the third trial, the majority deviated from the correct value by $3/4$ inches; on the fourth trial, the error increased to 1 inch. Another neutral trial occurred in the fifth position. The next four trials were critical, the majority error increasing progressively to $1 \frac{3}{4}$ inches. As described above, the majority responded with moderate and extreme errors. The entire set of the first nine trials was repeated without a break.

Role of the Experimenter

The experimenter acted throughout as an "impartial chairman." He conducted the proceedings in a matter-of-fact way, reading the instructions, presenting the stimulus materials, and recording the announced estimates. When dissident judgments were given, he listened and recorded them without a show of surprise. By his behavior he indicated that he was aware of the presence of disagreement; he occasionally looked, for example, in the direction of the critical subject. But he re-

frained from exerting silent pressure, withholding expressions of displeasure or pleasure. His presence and example discouraged discussion and other interruptions that might have occurred in a more informal setting.

To state how the experimenter conducted himself is not, of course, to describe the effects he might have exerted. Actually he was a third force. Although he was above the clash of battle, he lent weight to the conflict. We know that subjects at times scrutinized him in order to obtain an inkling of his reactions. It is justifiable to say that the experimenter set the tone for the formal character of the session.⁶ The fact that he was interested in obtaining accurate results might be considered a stimulus to independence; in addition, it may have occurred to the subject that the experimenter could well judge the accuracy of the estimates. He was also an authoritative witness, however, in front of whom the subject might find it difficult to appear a dissenter. Probably the experimenter exerted both of these effects. Although we cannot speak with assurance about his contribution, it is perhaps

⁶ It would be of interest to follow the course of events under more informal conditions, with the experimenter himself chosen from a group of peers or, as is also possible, without a designated experimenter.

sufficient for the purpose of the investigation that his conduct was a constant factor.⁷

The Postexperimental Interview

An individual interview with the subject followed immediately upon the conclusion of the experiment; the results will be described in Section IV. The interview was designed to provide information concerning the reactions to the experimental condition and to clarify the reasons for independence and its failures. In the course of the interview the purport of the experiment was explained in full. We did not consider it advisable or justified to allow subjects to leave without receiving an explanation of the procedure and of the reasons for the investigation. They were also given to understand that their performance and the interview would be held in confidence. The disclosure rarely failed to heighten interest and willingness to explore further the quality of one's reactions. The subsequent comments were as a rule more freely given, and indeed formed a valuable part of the interview.

III. THE MAJORITY EFFECT: QUANTITATIVE FINDINGS

A. *Magnitude of the Majority Effect*

The procedure just described permits a simple quantitative determination of the majority effect. An estimate of a minority subject on a critical trial may be correct and therefore independent of the majority, or it could be an error either identical with that of the majority or in its direction. (It will be made clear shortly that all errors were a function of the majority condition. See below, this page). We may therefore

⁷ The experimental sessions were conducted by a number of experimenters differing in age, sex, and other personal characteristics. We failed to find any significant differences between the performances of their subjects.

take the number of errors as an index of the effect the majority exerted upon a given minority of one. Since there was a total of twelve critical trials, the errors (and the independent responses) can vary from zero to twelve, inclusive. To be sure, the errors were not of the same magnitude from trial to trial; as we have seen, the trials differed in a number of respects. For the present we may postpone these distinctions and ask how often the subjects erred in relation to the erroneous judgments of the majority. The relevant results appear below in Table 3, which contains the frequency distribution of errors on critical trials of the three experimental groups.

In order to evaluate the performance of the critical subjects, we need to know how a comparable group judges when the majority condition is excluded. Accordingly the lines were judged individually by two groups, totalling 37, selected from another and comparable college population. Each subject wrote down his judgments on a prepared form, without knowledge of the estimates of his neighbors. The results of the control groups also appear in Table 3.

A reference to Table 3 reveals the following:

1. The estimates of the control group were virtually free of error. Thirty-five of 37 subjects made errorless estimates; of the remaining two subjects one showed one error, the other two errors. The proportion of errors was less than 1 per cent of the total number of critical estimates.

2. In contrast, the critical subjects showed a marked movement toward the majority. Errors increased strikingly, their frequency among individual subjects ranging from 0 to 12, or up to the maximum the conditions permitted. Only one-fourth of the subjects in the three experimental groups showed errorless performances, while in the control group 95 per cent

TABLE 3
DISTRIBUTION OF ERRORS IN EXPERIMENTAL AND CONTROL GROUPS

Number of errors	Control group (N = 37)	Experimental groups			
		Group I (N = 70)	Group II (N = 25)	Group III (N = 28)	All experimental groups (N = 123)
0	35	17	5	7	29
1	1	4	2	2	8
2	1	7	1	2	10
3		12	1	4	17
4		3	1	2	6
5		5	2	0	7
6		2	4	1	7
7		3	0	1	4
8		7	4	2	13
9		3	2	1	6
10		4	1	1	6
11		2	0	2	4
12		1	2	3	6
Mean	0.08	4.01	5.16	4.71	4.41
Median	0.00	3.00	5.50	3.00	3.00
Mean per cent	0.7	33.4	43.0	39.3	36.8

were free of error. The mean number of errors in the three experimental groups varied from 4.0 to 5.2, as against a mean error of .08 in the control group. The action of the majority distorted one-third of the reported estimates, in contrast with errors of less than 1 per cent under control conditions. Inspection of the data suffices to show that the differences between each of the three experimental groups and the control group are highly significant. We also compared the frequency of subjects with and without errors (0 errors vs. 1 to 12 errors) in the combined experimental groups and the control group. The χ^2 value was 58.4, which for one degree of freedom yields a $p < .001$. (For the justification of combining the data of the three experimental groups, see p. 12.)

3. While the majority effect was considerable, it was by no means complete, or even the strongest force at work. The pre-

ponderance of estimates was, in each of the experimental groups, correct or independent of the majority, evidence that the given stimulus conditions—the facts that were being judged—were, under the circumstances, the most decisive.

These results receive a clear illustration in Fig. 3, which plots the *correct* estimates of the control and the combined experimental groups on successive critical trials. For purposes of comparison the number of correct estimates on each trial was divided by the number of subjects. (The critical trials are numbered according to their position in Table 1.)

In the control group the estimates deviate only occasionally, and then very slightly, from the level of 100 per cent accuracy, while the experimental groups show a significantly lower level of accuracy on each trial. At the same time the experimental group is much nearer to the level of the control group than to the point of

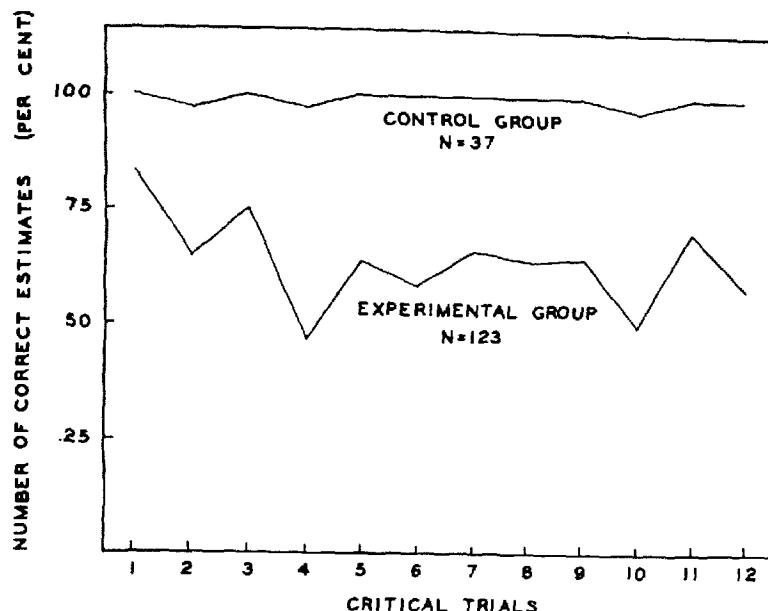


FIG. 3. Correct estimates on successive critical trials: experimental and control groups.

zero accuracy, which would represent complete domination by the majority. It is helpful to consider that the area included between the two curves represents the majority effect, while the area below the experimental curve represents the resistance to the majority.

We may also call attention to the contrast between the placid course of the control curve and the large fluctuations of the experimental curve. Under the experimental stress the critical trials display marked individual differences which they fail to show under the control conditions. Subsequently we will consider the reasons for the turbulence produced by the intervention of the majority.

4. The data of Table 3 reveal the presence of extreme individual differences in response to the experimental condition. There were completely independent subjects, and there were others who went over to the majority without exception; the distribution was continuous between these

extremes. One-fourth of the experimental groups (24 per cent) gave errorless estimates, while an approximately equal number (27 per cent) gave majority-determined estimates from eight to twelve times. Between these extremes is to be found one-half of the critical group, with errors ranging from one to seven. That the majority elicited widely different reactions is one significant aspect of the present findings.

The distribution of errors departs from the normal curve often obtained in psychological measurement, being more akin to a J curve. But it differs in a fundamental respect from the J curves of conformity reported by F. H. Allport and his students. Unlike the latter, the mode occurs not at a point determined by convention or by the pressure of a group, but rather at the truth value, that is to say, at the opposite extreme from the majority position. The obtained distribution is clearly a resultant of the two major forces acting upon the

subjects: the stimulus situation and the stand of the majority.

The particular form of the distribution in Table 3 is of course a function of the magnitude of contradiction that the majority introduced. In the present situation the discrepancies were within what may be called a "middle range." In later reports we will examine the effects of decreasing and increasing the size of the contradiction. (See also pp. 60-62.)

5. As a further demonstration of the majority effect we may cite the results on the neutral trials—those to which the majority responded correctly. On these trials the subjects found that their observations were confirmed unanimously by the majority. We should therefore find that the neutral trials differ significantly from the critical trials. On the other hand, we should anticipate no marked differences between these trials in the control group. The results substantiate these simple inferences. On neutral trials there were, in the experimental groups, only three errors (out of 738 judgments); the control group gave six errors (out of 222 judgments) on the same trials.

From the preceding analysis we draw the following conclusions:

1. The unanimously wrong majority produced a marked and significant distortion in the reported estimates. This is attested by the high and consistent differences between the experimental and control groups.

2. Despite the effect of the majority the preponderance of estimates was, under the present conditions, independent of the majority.

3. Individuals responded in fundamentally different ways to the opposition of the majority, ranging from complete independence to complete yielding.

B. *Differences Between the Experimental Groups*

The experimental groups differed to some extent in the level and distribution of errors (see Table 3). Group I had the lowest mean of errors and Group II the highest. To decide whether the differences are significant or whether the three groups may be treated jointly in statistical analysis, as we did earlier, we compared their means and tested their significance. None of the differences between the groups was significant; all the obtained *t*'s gave values of $p > .05$. In the analyses to follow we have calculated the results separately for each group and compared them. The differences did not achieve significance; we will therefore treat the three groups from this point on as a single population.

The absence of clear differences between the groups, despite the social and intellectual contrasts between them, has been a source of puzzle to the writer. One might conjecture that the experiment placed the members of Group I in the most difficult position. They were most often with majorities who were their friends and acquaintances, whom they knew they would have to face subsequently; in contrast, the subjects of the other populations could disappear at the conclusion of the experiment and have no further contact with their group. And, indeed, our observation convinced us that the members of Group I reacted most deeply and were in the strongest conflict (a result that may also be related to the high standards of independence that prevailed among them). Yet we have no knowledge of the effect of intimacy on the present situation. Observations with still other and different college groups again yielded similar results. The uniformity of the obtained level of errors may reflect a widespread cultural condition that overrides the differences we have described.⁸

⁸ There remains the possibility that the respective groups did differ in independence but that the differences were obscured by a feature of the present procedure. In each case we observed independence in the midst of a group of peers drawn from the same population as the critical subject. Conceivably the members of Group I might have found it harder to resist *their* majority than they

C. Role of the Stimulus Conditions

It is the presupposition of the present experiment that the stimulus conditions exert a fundamental effect on the character and course of the majority influence. This was the reason for choosing as the object of judgment facts or relations that possessed an independent status. In general, it does not make much sense to divorce the consideration of social effects from the conditions to which they refer. Group action necessarily derives its significance for the individual from the reference it has to facts, real or alleged. The crux of the present experimental situation rested precisely on the contradiction by the majority of an obvious state of affairs. It is therefore of importance to examine the dependence of the results obtained on the facts in question.

The Majority Effect as a Function of the Critical Trials

Since the critical trials differed from each other appreciably, we may now inquire whether they responded differently to the majority condition. Table 4 gives the incidence of errors on successive critical trials in each of the experimental groups. The same information appears graphically in Fig. 4; here the values are stated as percentages, to permit a direct comparison between the groups.

The frequency of errors varied considerably from trial to trial. (This we already had occasion to see in Fig. 3 which plotted the frequency of independent estimates.)

would those of the other groups; and the subjects from the other populations might have been less independent in the face of majorities drawn from Group I. Had our aim been to establish a generally valid index of individual independence it would have been necessary to observe subjects in settings that deliberately varied the relation between them and the opposing majorities.

TABLE 4
FREQUENCY OF ERRORS ON SUCCESSIVE CRITICAL TRIALS IN THREE EXPERIMENTAL GROUPS

Trial	Group I (N = 70)	Group II (N = 25)	Group III (N = 28)	All groups (N = 123)
1	8	6	7	21
2	25	9	10	44
3	14	6	10	30
4	37	16	14	67
5	22	11	12	45
6	27	13	13	53
7	22	9	12	43
8	24	9	12	45
9	23	11	10	44
10	34	15	14	63
11	17	10	9	36
12	28	14	9	51

The errors varied from 17.1 per cent on the first critical trial to 54.5 per cent on the fourth trial.

Before considering the possible reasons for these fluctuations, we may note their high consistency in the three experimental

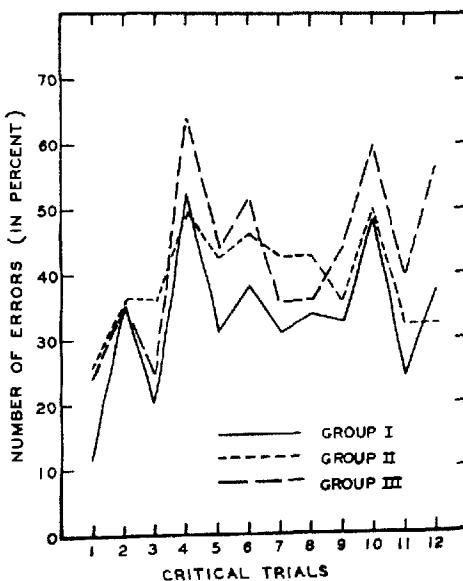


FIG. 4. Frequency of errors on successive critical trials in 3 experimental groups.

groups. Trials that produced high errors in one group tended to do so in the other groups, and similarly for trials that most resisted the force of the majority. Although we have not as yet specified the basis of these regularities, we can assert that the majority effect is a lawful function of certain stimulus properties.⁹ At the same time, the data offer further substantiation of the similarity between the experimental groups.

The following analysis provides further support for the conclusion that the regularity of the data is a function of the stimulus conditions. It will be recalled that the critical trials were shown twice without a break in the course of the experiment, a fact that enables us to compare the results for identical trials early and late in the series. Figure 5 provides this comparison; it plots the frequency of errors on identical trials in the first and second half of the series. For this purpose we have combined the data of the experimental groups, a procedure that seems justified in the light of the close correspondence between them.

The results leave no room for doubt about the constancy of the effect produced by identical trials. Four of the six comparisons show negligible differences; the remaining two comparisons, which differed substantially, will be considered below.

Temporal Growth of the Majority Effect

Since the pressure of the majority extended over time, it is pertinent to ask

⁹ Inspection suffices in this case to show that the three groups agree on the differences between the trials. When data of this form are less decisive one may apply a test of the concordance between them, recently described by Mosteller and Bush (3, pp. 319-321). For purposes of illustration we have done so for the present data, assigning ranks to each of the trials according to the number of errors; these ranks were assigned for each experimental group separately. We computed an approximation to chi square for the ranked data, which is equal to 64.1, which with 11 degrees of freedom is significant beyond the .01 per cent level of confidence.

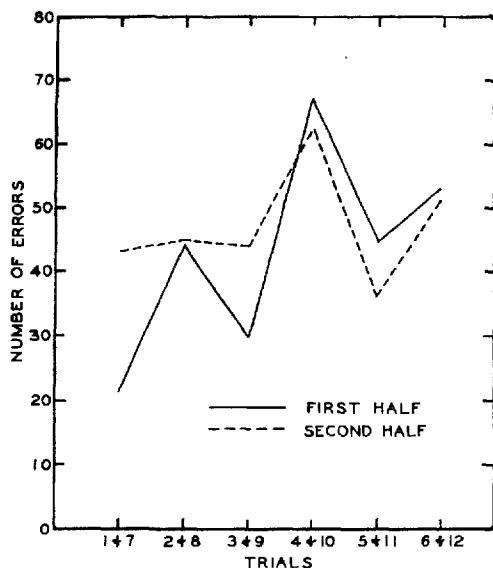


FIG. 5. Comparison of errors on identical trials.

whether the effects obtained were a function of the temporal conditions. We will now inquire whether the experimental groups came increasingly under the influence of the majority with continued exposure to it.

The relevant data have already been presented in Table 4 and in Fig. 5. They might suggest that the majority effect increased during the first four trials and reached a level from which it did not further depart. This conclusion must be regarded with reserve in view of the other differences between the trials; for example, the early rise might have disappeared if the order of the trials had been different. A somewhat clearer basis of comparison is that between the two halves of the series which were identical in all respects save temporal position (see Fig. 5). The incidence of errors is somewhat higher in the second half, the mean being 2.29 in comparison with a mean of 2.11 in the first half of the series, but the difference is slight and falls considerably short of significance ($t=1.63$, which for 10 degrees of freedom gives a $p>.05$). In confirmation we find

that the distribution of differences between the two halves of the series does not depart significantly from zero ($t=1.77$, which for 122 degrees of freedom gives a $p>.05$).

The slight preponderance of errors in the first half of the series is traceable to a few particular trials. Figure 5 shows that the identical trials in the early and late halves of the series behaved in remarkably similar fashion, except for two pairs—Trials 1 and 7, and 3 and 9, respectively. The differences between these pairs are considerable and significant, and in each case the errors are larger in the second half of the series. These differences may be due to special conditions. Trial 1 was the first critical trial in the series. The subjects were completely unprepared for it. At this point they may have looked upon the disagreement as an aberration that was not likely to reappear, or as the result of a temporary misunderstanding. When the same trial reappeared, the subjects were in an altered condition; they had now been exposed to the experimental stress and had adopted a more or less consistent policy towards the majority. It is somewhat more difficult to account for the difference between Trials 3 and 9. The following is a possible explanation, although we cannot support it with independent evidence. Trial 3 was the first extreme trial encountered by the subject, and possibly the shock promoted independence that weakened with the further progress of the experiment.

The evidence fails to reveal a consistent growth of the majority effect with time. At most, it points to a limited rise during the first few trials, and this conclusion must remain indecisive in the absence of information about results with longer series and with trials more similar in construction than those here employed (see pp. 58-60).

Moreover, a definite conclusion requires an examination of the performances of individual subjects, since mass temporal effects, if present, might mask differences in the rate with which different individuals began to succumb to the majority. This question will also be discussed later. (See pp. 20-21.)

Moderate and Extreme Errors

We will now describe an effect of considerable regularity that was a joint function of the stimulus conditions and of the action of the majority.

It will be recalled that the majority responded with moderate and extreme errors to identical stimulus relations. This procedure permits us to trace the dependence of moderate and extreme errors by the critical subjects upon those of the majority. The relevant data concerning the incidence of extreme and moderate errors as a function of the same errors in the majority appear in Table 5.

The data of Table 5 establish that when the majority committed a moderate error, all errors of the critical subjects were also moderate. This result is understandable and fits with earlier findings. We have seen that under control conditions there was a virtual absence of errors; these were almost completely a consequence of the majority pressure. This being the case, it would be unusual for a critical subject to

TABLE 5
ERRORS AS A FUNCTION OF MODERATE AND EXTREME MAJORITY RESPONSES

Experimental group	N	Majority moderate		Majority extreme		
		Extreme errors	Moderate errors	Extreme errors	Moderate errors	Total
I	70	0	150	98	33	131
II	25	0	64	58	7	65
III	28	0	69	53	10	63
All Groups	123	0	283	209	50	259
Per cent		0	100	80.7	19.3	100

commit an extreme error when the majority was moderate.¹⁰

How do erring subjects cope with the majority when it is extremist? Under this condition we find that (*a*) most errors are extreme or in accord with the majority, and that (*b*) a significant proportion of the errors is moderate. Four-fifths of the errors were identical with the majority, while one-fifth were errors intermediate in size between the majority position and the true value.¹¹

The frequency of errors was very much the same on moderate and extreme trials. One may not conclude, however, that the magnitude of the contradiction is of no consequence. Under the present conditions the differences between moderate and extreme errors were small. For the identical stimulus relations the errors differed by a constant amount, namely, one-half inch. Over the entire range of comparisons the two sets of errors differed by a small amount and, indeed, overlapped. (Moderate errors had the values of $3/4$ inch, 1 inch, and $1 \frac{1}{4}$ inches, respectively; while the extreme errors were $1 \frac{1}{4}$ inches, $1 \frac{1}{2}$ inches, and $1 \frac{3}{4}$ inches, respectively, as Table 2 shows.) In the present context moderate and extreme errors refer mainly to a relational

property of the erroneous alternatives and not exclusively to their absolute size; a given discrepancy can be a moderate error in one constellation and an extreme error in another constellation. It is also likely that the absence of marked differences in the incidence of the two types of errors was due to the fact that they were part of the same situation. It will become clear shortly that the critical subject adopted a course of action toward the entire experimental situation which decided his over-all responses. He arrived at what is analogous to a decision to oppose or to follow the majority, which imposed a single direction upon his judgments, thus obscuring some distinctions that might otherwise emerge. It remains for further investigation to establish by means of systematic variations the effect of magnitude of discrepancy. (See pp. 60-62.)

Compromise Reactions

On the basis of the preceding evidence we propose that some errors—viz., moderate errors when the majority was extreme—had the character of compromise reactions. Being in the midst of forces proceeding from the insistent demands of reality and from the majority, the critical subjects at times chose a middle course. The following analysis supports the conclusion that moderate errors occurring when the majority was extreme did have the character of compromise reactions.

For this purpose we need to call attention to a further difference between the critical comparisons. Figure 2 and Table 2 show two kinds of relation between the unequal comparison lines and the standard. (*a*) On trials of the Form I and III both unequal comparison lines deviated from the standard in the same direction. Thus, on the I trials *both* comparison lines were *longer* than the standard; while on the III trials *both* were *shorter* than the stand-

¹⁰ Under certain conditions a person might of course attempt to anticipate and exceed the direction of a group. This was not possible in the present situation, since the majority was not consistent in the direction of its errors from one trial to the next. One could study the operation of such a tendency by having the majority consistently under- or overestimate, sometimes moderately and sometimes extremely. In that case it would also be necessary to have the critical subject be the first to respond on each trial. This experiment was not done.

¹¹ Group I showed a higher proportion of moderate errors on extreme trials than either Groups II or III. The percentage of such errors was, in the three groups, 25.2, 10.8, and 10.6, respectively. This was the only occasion on which we found a marked difference among the three experimental groups.

ard: in each case, the comparison lines were in the same direction relative to the standard. (b) On trials of Form II the comparison lines were in opposed directions from the standard, one being shorter, the other longer than the standard.—Comparisons of the first type will be termed *relation-A* comparisons; and of the second type, *relation-B*.

The following difference between the two types of trials is of concern to us. On relation-A trials the moderate error lies *between* the other alternatives on the length continuum. But moderate errors of relation-B trials are so only in terms of their absolute deviation from the standard; they do not lie in the interval between the correct match and the extreme deviation. This difference becomes significant when the majority becomes extreme. If we assume, as we should, that the critical subject is acted upon by two forces, the perceived relation and the position of the majority, he is facing different problems under the two conditions. On relation-A comparisons the majority is at the extreme end of the continuum and the moderate response is in the region between the majority and the correct value. If he feels compelled to accede to both forces, he might choose the moderate error since it deviates least from both. In contrast, the

moderate error of relation B lies outside the region of the two major forces; if he chooses the moderate error, the subject is removing himself as far as possible from the majority. If these considerations are valid, we should find that relation A will produce moderate errors more frequently than relation B.

The results fully support this inference, as Table 6 shows. Here we grouped the errors on majority-extreme trials according to their membership in the relation-A or relation-B category. With only a single exception moderate errors are not found on relation-B trials; they come solely from relation A. The reader will note that the present data are a breakdown of the errors appearing in the "majority extreme" columns of Table 5 above. There we found that 19 per cent of the errors under that condition were moderate. We have now traced the source of these errors to comparisons of the A form.

We conclude that a moderate error on an extreme trial should be considered a compromise response—an attempt to mediate between two opposing forces. When an alternative exists which is nearer to the truth than the majority position, but does not fulfill the condition of being also intermediate between them, it is not chosen. This result is all the more interesting when

TABLE 6
FREQUENCY OF MODERATE AND EXTREME ERRORS ON TWO TYPES OF EXTREME TRIALS

Experimental group	N	Relation A*		Relation B†		Total
		Extreme errors	Moderate errors	Extreme errors	Moderate errors	
I	70	59	33	39	0	131
II	25	38	6	20	1	65
III	28	32	10	21	0	63
All groups	123	129	49	80	1	259
Per cent		72.5	27.5	98.8	1.2	

* Trials 3, 6, 9, and 12.

† Trials 5 and 11.

we consider that subjects were as a rule not aware of the difference we have here described between A and B relations, and that we often had difficulty in explaining the distinction to them in the course of the subsequent interview. (Their difficulty is understandable when we consider that the comparison lines were not shown in the order of their lengths.)

Compromise Reactions and Total Performance

We have now identified several kinds of errors obtained under the present conditions. There were moderate errors obtained when the majority was moderate, extreme errors when the majority was extreme, and there were moderate errors with the majority extreme. The latter (which occurred almost exclusively on relation-A trials) constitute the set of compromise reactions. We will now inquire into the relations between the compromise reactions and the quality of total performance. In particular, it occurred to us to ask whether those with compromise reactions were also prone to be intermediate in their total performance, or to fluctuate between independence and submission. If a relation were present between these measures, we would be substantiating further the compromise quality of each; at the same time we would be taking a step toward establishing a quality of personal consistency in the performances.

A word of explanation is needed about the calculation. It would not be advisable to compare a person's compromise errors with his total errors, since the latter figure includes the former. Nor is it entirely adequate to compare the frequency of compromise errors with that of all other errors, since the occurrence of the former limits the occurrence of the latter. For example, a subject with three compromise errors cannot show more than nine other errors. We therefore compared compromise errors with the ratio of other errors to the maximum available to the subject. For example, if a subject showed two compromise errors and six other errors, the latter would be expressed by the ratio 6:10, or 60 per cent.

TABLE 7
RELATION OF COMPROMISE ERRORS TO
OTHER ERRORS

Number of compromise errors	Number of majority responses on remaining trials (<i>in percentages</i>)		
	0%	5-75%	76-100%
No compromise errors	29	31	27
One or more com- promise errors	5	27	3

Note.—Compromise errors are moderate errors occurring on those majority-extreme trials in which the moderate alternative lies on the continuum between the true value and the position of the majority. The values above are therefore based on Trials 3, 6, 9, and 12 (see Table 6).

The relevant data appear in Table 7. We divided the distribution of all errors other than compromise errors into three parts. The first and last subgroups contained approximately 25 per cent of the cases each, and the middle class approximately 50 per cent of the cases. The results definitely support the suspected relation. Of the 34 subjects without errors on the remaining trials, only five (or 15 per cent) gave one or more moderate or compromise errors. Similarly, only three of 30 subjects who followed the majority predominantly gave moderate or compromise errors. The association between the two measures is highly significant, the χ^2 value being 18, which for 2 degrees of freedom gives a $p \leq .01$.

However, the subjects who were intermediate in independence were not preponderantly those who gave moderate errors. That the converse of the main conclusion does not hold is partly due to the fact that the number of subjects with compromise errors was relatively small, totaling 35.

Role of Individual Trials

The individual trials differed from one another markedly and consistently in their susceptibility to the majority effect (see pp. 13-14.) What properties

TABLE 8
ERRORS ON DIFFERENT TYPES OF CRITICAL
TRIALS

Trial	Number of errors	Absolute discrepancy (in inches)	Moderate or extreme	Size of standard (in inches)
1	21	3/4	M	3
3	30	1 1/4	E	3
11	36	1 1/2	E	5
7	43	3/4	M	3
2	44	1	M	5
9	44	1 1/4	E	3
8	45	1	M	5
5	45	1 1/2	E	5
12	51	1 3/4	E	8
6	53	1 3/4	E	8
10	63	1 1/4	M	8
4	67	1 1/4	M	8

of the stimuli were responsible for these differences? In Table 8 we have ordered the trials according to *increasing number of errors*, and have included, for each trial, the size of the majority discrepancy, the type of majority error (moderate or extreme), and the size of standard.

(a) We find no correspondence between the size of the majority error and incidence of errors. In general, the most error-producing trials are also those involving large discrepancies, but trials with low discrepancies are not freest of error. (b) Nor is there any discernible relation between relative discrepancy and frequency of errors (defining relative discrepancy as the ratio of the majority error to the size of standard.) (c) Also, moderate and extreme trials do not differentiate themselves (as we have already noted earlier; see p. 16). (d) And, as has been pointed out, there is no relation between errors and temporal position. (e) Evidence for a positive relation does emerge when we take the size of the standard as the basis. Save for two reversals there is a consistent positive relation between size of standard and frequency of errors. In Table 9 we divided the critical trials into three groups according to length of standard and computed the errors in each group. (The stimulus comparisons in each group were identi-

cal, as reference to Table 2 will show.) There is a progressive increase of errors with length of standard. For a subsequent confirmation of this finding see p. 61.

The negative findings reported in this section need to be viewed with reserve. The present procedure, because it simultaneously varied many of the relevant factors, was not designed to exhibit systematically the role of stimulus-relations. It would therefore be unwarranted to conclude that a factor such as magnitude of majority error plays no role. (See pp. 60-62.)

D. Personal Consistency

Under the identical experimental conditions the performance of different individuals ranged from complete independence to complete yielding (See Table 3). It follows that of the various conditions that determine the reactions to the majority none are more decisive than those that reside in the person himself. To reach an adequate understanding of the majority effect, we must therefore take into account the personal factor. Here we will consider one, relatively limited, phase of this problem.

We ask whether individuals were consistent in performance. In the following we shall rely on an internal analysis of the consistency of subjects within the same experimental setting.

Internal Consistency of Individual Performance

As one main source of evidence we shall employ the performances of the same individuals in the two halves of the series which consisted of identical sets of trials. This analysis is simplified by the fact, established earlier, that the two halves did not differ significantly for the population as a whole (see Table 4 and Fig. 4.) We now compared the performances of individuals with the aim of deciding whether those who were most independent in the early part of the experiment continued to be independent, and conversely.

There is a striking relation between the

TABLE 9
RELATION OF ERRORS TO SIZE OF STANDARD

Trials	Size of standard		
	3"	5"	8"
1, 3, 7, 9	2, 5, 8, 11	4, 6, 10, 12	
Number of errors	138	170	234

TABLE 10
ERRORS ON FIRST AND SECOND HALVES
OF EXPERIMENT

		Second half	
		0-2 errors	3-6 errors
First half	0-2 errors	63	12
	3-6 errors	10	38

performances in the two parts; those who were independent early in the experimental session continued independent, and similarly for those who yielded.¹² In Table 10 we dichotomized the scores into 0 to 2 and 3 to 6 errors, respectively. The association is significant, the χ^2 value being 48.4, which for one degree of freedom gives a $p < .01$. With the data dichotomized as shown in Table 10 we also obtained a Sheppard "U" coefficient of +.84 which is significant by a chi-square test beyond a level of confidence of .01.

We also divided the subjects according to the number of errors (ranging from 0 to 6, respectively) in the first half of the experiment, and for each group of subjects computed the average number of errors in the second half of the experiment. These were: 0.33, 1.2, 2.6, 2.8, 4.0, 4.2, and 5.7, respectively.

The foregoing analysis establishes conclusively that the performances of individual subjects were highly consistent. An individual who sided with

¹² Contributing to the correlation is the behavior of the extreme subjects at both ends of the distribution (see Table 3). In particular, there is the large group of 29 individuals who were independent in each half. A question might be raised about the justification for their inclusion in the present analysis. It might be contended that these subjects have a special position, and that to include them bolsters the relation artificially. The argument is fallacious, since it assumes without warrant a knowledge of the total performance of a subject before he is included in a correlation chart. It is by no means obvious that a person who is completely independent in the early part of the experiment will continue to be so; this is precisely the relation we wish to clarify.

the majority in the early trials can be predicted with a great deal of accuracy to persist in yielding; one who started as independent was highly likely to continue independent.

The interpretation of this finding however, is not simple. Consistency under the given conditions could be the result of two distinct psychological causes. (a) It could be the expression of a characteristic of the person—of a capacity to remain independent in action and to retain confidence in one's experience against the opposition of others. It was not within the scope of the present investigation to establish whether such a genuinely personal property was responsible for resistance to the majority effect. For this purpose it would be necessary to observe and compare the performances of the same individual in several situations each of which requires a choice between independence and submission. (b) In the absence of such evidence, another interpretation must also be considered as a definite possibility, namely, that the consistency observed is specific to the situation studied and may not extend beyond it. A person entering the situation may, for quite contingent reasons, grasp it in a particular way which leads him to yield or to resist (or to be intermediate) in the early trials. Whatever the reasons for his early direction, he might persist in it because it is a direction and because his first actions have committed him to a course. (Evidence from subsequent experiments shows that a factor of commitment can exert a decisive effect on future action.) The results fail to decide between these alternatives.

Latency of the Majority Effect

The majority exerted pressure during a succession of trials extending in time. It is therefore pertinent to ask how early or how late individuals gave evidence of the pressure of the majority.

Certain facts relevant to this question have been presented earlier. We know that there were completely independent and completely yielding individuals, or that some went with the majority on the first possible occasion and others not at all. Most subjects did not belong to either of these extremes; we will now inquire concerning the span of their resistance to the majority.

We ask whether the point of occurrence of *first* errors has a describable regularity. Since the completely independent individuals are for this purpose a special group,

TABLE II
POINT OF FIRST YIELDING AND RELATION TO FREQUENCY OF SUBSEQUENT ERRORS

Position of first error on trial	Number of errors following first error											<i>N</i>	Mean number of errors subsequent to first error	Adjusted mean number of errors subsequent to first error	
	0	1	2	3	4	5	6	7	8	9	10				
1		1	2			1	1	5	3	1	1	6	21	7.6	7.6
2		1	3	3	4	3	2	6	3	5	3		33	6.1	6.7
3	1		1	1		1	1	2					7	4.3	5.2
4	2	2	8	2	3	1							18	2.3	3.6
5		2	2			1							5	2.2	3.4
6	2	1											3	.3	.6
7	1	1											2	.5	1.1
8	1	1											2	1.5	4.1
9		1											1	1.0	3.6
10															
11															
12	2												2	.00	

the analysis will be based on those subjects (94 in all) who went with the majority at least once.

Table II contains the detailed data concerning the locus of first errors. By far the greatest number of these errors is to be found in the very early trials, the mode being at the second critical trial. Following a drop at the third trial, the rate of first errors again rises on the fourth. Of those who erred at all, over 50 per cent did so by the second critical trial. Only 7 per cent erred for the first time in the second half of the series. The regularity with which first errors fall off is impressive when one considers that the successive trials differed in many regards.

A cumulative percentage curve of first errors (with Trials 1 to 12 listed on the X axis) gives a steeply rising ogive which bends, after Trial 4, to approach gradually the maximum of 76 per cent. (The calculation of percentage of error was based on an *N* of 123; it will be recalled (see Table 3) that 24 per cent of the experimental group was completely independent.)

Those who followed the majority did so predominantly in the early trials. Very few who withheld the majority at the

outset weakened subsequently, an outstanding instance being the group of 29 completely independent subjects. This result could not have been readily anticipated; it would have been equally reasonable to infer that with increasing exposure more and more individuals would come under the sway of the majority. We conclude that generally the subject responds quickly to the experimental stress by adopting a consistent course of action, which is not altered substantially by the further pressure of the majority. (For the effect of a more prolonged exercise of pressure by the majority, see Section V, Experiment 5, pp. 58-60.)

The Relation of Latency and Independence

Although first errors were concentrated at the early trials, there were still considerable individual differences, some turning to the majority earlier than others. This fact permits us to explore a further question bearing on the problem of personal consistency. Is there a relation between the locus of the first error and the total majority effect for a given subject?

The answer requires a comparison of the locus of first errors with the number of

errors on subsequent trials. In Table 11 we have included the relevant data, calculating for each subgroup the mean number of errors after the first error. We see that the frequency of errors is a nicely decreasing function of the locus of first errors. Those who erred on the earliest critical trial (Trial 1) show a mean error score of 7.6 on the following eleven critical trials; when first yielding occurred on the second critical trial, the mean score drops to 6.1; if on the third critical trial, the score drops still further to 4.3, and so on.

Before we draw the indicated conclusion it is necessary to take into account and correct for an obvious source of error. Clearly the mean number of errors must become progressively less as the first error occurs later and later in the series. A person who errs on the first critical trial can err (or not) on eleven subsequent trials, whereas one who first yields on Trial 9 cannot err subsequently more than three times. The needed adjustment is found by multiplying the values in the second row of Table 11 by the ratio $11/k$, where k is the number of critical trials subsequent to the first error. By this means we are in effect stating the number of errors which each subject would have shown if eleven critical trials had followed his point of first yielding. The adjusted means are given in the terminal column of Table 11.

The adjusted values parallel the uncorrected values quite closely. There is an impressive drop in the number of errors as the first error appears later in the series. The decelerating trend is compelling for the first half of the series, but it is followed by an abrupt rise on the last three trials. This reversal is rather less important than its appearance would suggest. It is based on a negligibly small number of cases, there being only five subjects following Trial 6.

A further calculation, which avoids the

difficulties encountered above, fully substantiates the conclusion just reached. We have categorized the subjects according to the locus of first errors in the first half of the series and computed the errors of each subgroup in the second half of the series. Since all subjects have the same alternatives available to them in the second half of the series regardless of their performance in the first half of the series, the comparison does not require adjustment. The results, which appear in Table 11-a, again show a strong relation between the rate of first errors and the magnitude of later errors.¹³

We have shown that the span of a person's endurance against the majority was significantly related to his subsequent independence. This result confirms and throws further light upon the regularities reported earlier. Consider, for example, the case of intermediate subjects. Of them we can now say that they alternated between independence and yielding, that they chose compromise reactions more often than others (see Table 7), and that they were also intermediate in rate of yielding (see Table 11). In short, intermediacy, too, was a consistent form of action. More generally, the present result clarifies the previous findings concerning the substantial similarity between the early

¹³ When considering the question of individual consistency it is necessary to bear in mind that the difficulty posed by the majority arose unexpectedly and continued virtually without interruption until the conclusion of the session. It might be contended that the subjects were caught off guard, that the absence of a "breathing spell" prevented them from reconsidering what they were doing and from recovering their balance. This consideration suggests the advisability of an experimental variation in which a "pause" is introduced in the middle of the session. The pause might be devoted to a peripheral and simple task, one that would provide time for reflection upon the preceding episode; or it might actually call upon the subject to answer certain questions concerning the immediately preceding events.

TABLE II-a

POINT OF FIRST YIELDING IN FIRST HALF OF SERIES AND RELATION TO FREQUENCY OF ERRORS
IN SECOND HALF OF SERIES

Measure	Trial						
	1	2	3	4	5	6	6+*
Number of subjects who first erred on a given trial in first half of series	21	33	7	18	5	3	36
Mean number of errors in second half of series	4.24	3.61	2.57	1.83	2.00	0.33	0.33

* This column refers to the subgroup of 36 subjects who were completely independent in the first half of the experimental session.

and late halves of the series (see Table 10) and concerning the lack of a consistent temporal cumulation of the majority effect (see pp. 14-15). Basically these findings grow out of the fact that early independence conferred immunity from group pressure, and early yielding perpetuated itself.¹⁴

The Problem of Cumulative Majority Pressure

The finding that some subjects followed the majority much earlier than others requires us to reconsider an earlier conclusion that the effect of the majority was not cumulative (see p. 14). It would now appear that some were able to retain independence for a number of trials but weakened with further exposure to the majority, a change that might be accounted for in terms of mounting pressure. This interpretation would have been quite convincing had we also found that more and more (previously independent) subjects began to err as the experiment continued. That this was *not* the rule, that relatively few surrendered independence on the later trials, argues against this interpretation. But the argument is not decisive. We will have occasion to show in subsequent re-

ports that under the present conditions subjects tend to adhere to a course of action once adopted because they feel committed to maintain their consistency. It may therefore be that the failure to observe a stronger temporal effect is due to the formation of a specific counter force, that of public commitment. A somewhat more serious objection derives from the finding just reported that those who began to err relatively late subsequently erred less. Even this finding does not constitute a decisive objection. We might conjecture that those who once tasted independence had greater possibilities for coping with the mounting pressure.

In the light of these considerations we must reserve a final conclusion. The force of the majority may have been strong enough at the very outset to obscure, in the case of most subjects, a cumulative effect; and the presence of contrary forces may have further served to disguise its presence. To arrive at a more definite conclusion it may be necessary to observe the continuous operation of a *weaker* majority challenge (which might be produced by reducing substantially the magnitude of contradiction), and by attempts to eliminate the factor of public commitment.

E. Summary of Quantitative Findings

1. The procedure of creating a public disagreement between a unanimous and

¹⁴ There remains the possibility that those who were entirely or preponderantly independent would have joined the majority if the experimental series were prolonged. For a further study of this question see pp. 58-60.

wrong majority and a minority of one about a concrete and simple fact produced a distortion of considerable magnitude. (a) Whereas individuals normally judged the relations in question with almost complete accuracy, the majority succeeded in deflecting one-third of the minority estimates in its direction. (b) Despite this large effect, the preponderance of judgments was independent, evidence that under the present conditions the force of the perceived data far exceeded that of the majority.

2. There were great individual differences in response to the conflict between the individual's judgment and the united contradiction of the majority. Individuals ranged from complete independence of the majority to complete submission to it.

3. The detailed findings demonstrated a *far-reaching lawfulness* of the majority effect. It was shown that the reactions to the experimental episode were a function of (a) the stimulus conditions that were the object of judgment, (b) the judgments of the majority, and (c) of the subject himself.

4. Several lines of evidence converge to show that the majority effect was a function of the stimulus conditions. (a) The size of the majority effect was similar in three experimental groups, and the more detailed reactions were also substantially alike. (b) Identical stimulus comparisons produced consistently similar effects. (c) Certain kinds of errors, such as compromise reactions, were unambiguously related to particular stimulus constellations. (d) The frequency of errors increased with the size of the standard.

5. The results also varied directly with the action of the majority. A moderately erroneous majority produced only moderate errors. When the majority was extremist, a significant proportion of the errors were compromise reactions.

6. The performances of individuals

showed a high internal consistency. (a) Individuals showed a strong tendency to be consistently independent, yielding, or intermediate throughout the experimental episode. There was a high association between the individual's performance during the early and late halves of the experimental situation. (b) Compromise errors were found most frequently among individuals who were also intermediate in independence. (c) There was a close relation between the latency of reaction to the majority and the level of independence. Those who sided with the majority earliest also did so most frequently.

IV. THE MAJORITY EFFECT: QUALITATIVE OBSERVATIONS

The foregoing account of the quantitative findings omitted much—indeed most—of what took place in the experimental setting. It deliberately abstracted from the circumstances that invested the situation of the minority person with significance, from his doubts and sufferings, his strengths and weaknesses. In this section we will undertake to describe the reactions to the experimental problem and the different ways in which the subjects coped with it. For evidence we will rely mainly on their reports in the postexperimental interview, and also on our observations.

This account will be limited by the shortcomings inherent in qualitative observations of complex happenings. Although we observed persons in a brief and specific setting, their reactions were too many-sided, and our means of observation too blunt, to provide more than a partial picture. Much of relevance doubtless escaped our notice or was concealed by the subjects. Further, in the absence of exact conceptual categories, we have no choice but to proceed in a descriptive way that necessarily lacks the sharpness of quantitative statements. Yet there can be little

question of the need for a characterization of the emotions and ideas which the experimental setting provoked.

The account falls into three parts. We first reproduce the main parts of the interview, the replies to which form the data to be examined in this section. Second, we will describe the main phases of the reactions to the experimental episode. In this part we will stress those features that were shared by most, dealing secondarily with the individual differences. In the third part we will attempt to describe the major individual modes of reaction to the entire experimental setting.

A. The Postexperimental Interview

The interview followed directly upon the conclusion of the experimental session. During the greater part of the interview the subject was still under the stress that the experimental conditions had created. As it neared the end, the object of the experiment was fully explained and the reactions to the disclosure were obtained.

Below we reproduce the major portion of the interview, upon which the subsequent discussion depends. (The writer will be glad to supply copies of the complete interview to interested readers.)

1. Would you describe in your own words your experiences during this experiment?
- 2a. When you gave an estimate that disagreed with the others, did you feel that if the lines were measured with a ruler you would turn out to be right or wrong? (Right____, Wrong____)
- b. Then did you feel that if the lines were measured, the others would turn out to be wrong? (Right____, Wrong____)
3. Would you say that you were concerned about the disagreements? (Yes____, No____, ?____)
- 4a. Still thinking back to the time that you were giving your judgments, would you say that the others made you doubtful about your accuracy? (Yes____, No____, ?____)
- b. (If answer to [a] is yes): What was the nature of the doubt? Try to describe it.
- c. Did you have a great deal of doubt? (Yes____, No____)

[If no]: Then, would you say that your doubt was moderate or slight? (Moderate____, Slight____)

- 5a. Would you say that you were tempted at times to answer as the others did? (Yes____, No____, ?____)
- b. Would you say this temptation was strong, considerable, moderate, or slight? (Strong____, Considerable____, Moderate____, Slight____)
- c. [If yes]: Try to describe the reasons as carefully as you can.

The questions that followed were designed to cast light on the subject's awareness of his errors and on his reactions to the majority.

- 6a. Did you ever answer as the others did, against your own first choice? (Yes____, No____, ?____)
- b. (If answer to [a] is yes): How often do you remember doing so?
- c. (If answer to [a] is yes): On these occasions, as you continued to look at a pair of cards, did the answers of the others continue to look wrong, or did they begin to look more right? (Right____, Wrong____, ?____)
- 7a. What did you think about the other people in the group when they all gave an answer that looked wrong to you?
- b. Did you wonder what everybody might be thinking of you when you disagreed? (Yes____, No____, ?____)
8. While you were comparing the lines, what did you think our purpose was in this experiment?

The preceding questions were put to the subject before he received any explanation of the procedure or of the soundness of his estimates. At this point we disclosed the purpose of the experiment. This was done in two steps. The first step, which was couched in hypothetical form, was worded as follows:

Suppose I told you that your judgments were always right when you disagreed with the group, what would you think?¹⁵

Having obtained the answer to the hypothetical question, we proceeded to the full disclosure as follows:

I now want to explain to you fully the character of this experiment. But before doing so, I would

¹⁵ Obviously this question was not asked of subjects who went with the majority throughout.

like you to promise me to keep what I am about to tell you in the strictest confidence. When you have heard about the experiment, you will understand why. In return, you have our promise to keep in confidence anything you tell us during this interview. This was not primarily an experiment in optical discrimination. The aim was to throw light on the effect of groups on individuals in their midst. The group had been instructed in advance to give from time to time answers that were wrong. You were the only person who was not aware of this fact. The object of this investigation is to understand more clearly how people react to such conditions.

You now understand the purpose of this experiment. Because you have been through it, any further information you can give us as to what you have experienced will be of great value to us. You are now no longer a subject, but a person who possesses some valuable information about the experiment. Have you any further comments?

At this point we introduced the following question concerning any possible suspicion the subject may have felt.

- a. Did you suspect that the group intended to affect your judgment? (Yes____, No____, ?____)
- b. When did you first begin to feel suspicious?
- c. Did you retain this suspicion?

Subjects who definitely suspected the purport of the experiment were eliminated. In most cases their behavior prior to these questions indicated clearly whether they had definite suspicion. We speak of "definite" suspicion in contrast to suspicion which a number of subjects entertained as a temporary hypothesis at some point during the experimental session; the latter subjects were not eliminated.¹⁶ (For a further discussion of suspicion see p. 29.)

The final step consisted of a confronta-

tion of subjects who had erred six times or more with several of the comparisons on which they had yielded to the majority. We asked the subject to match the lines again, informed him of his previous estimate and invited him to explain his reasons for it. The questions were as follows:

Let us look at these lines again.

- a. What is the answer here?
- b. Do you remember what your answer was previously?
- c. Do you remember what the group answer was?
- d. The answer you gave previously was ____; this was also the answer of the group. Could you help us to understand why you followed the group in this case?
- e. Did you think this answer was correct at the time you gave it? (Yes____, No____, ?____)
- f. Did you ever give an answer which you knew to be wrong? (Yes____, No____, ?____)
- g. Did the differences between the lines appear less at that time than they do now?
- h. (If answer to [f] was yes): How did you feel when you saw the lines one way and answered in another way?
- i. (If [h] was asked): When you gave such an answer, did you at times forget about the question of accuracy, and consider rather that it might make you appear different from the others? (Yes____, No____, ?____)

How many people in this group do you know?____

How many do you know well?____

The interview contained some questions to which there were standard answers and others that called for free replies. Answers to the more objective questions were analyzed quantitatively. In addition we will draw upon the verbatim statements of the subjects for concrete illustrations of their reactions; these were taken down by the interviewer as the subject was speaking.

Before proceeding, certain limitations of the interview data should be mentioned:

1. In the course of experimentation the interview form was modified repeatedly as new data revealed further avenues of investigation. This was considered advisable since our object was to understand more fully the behavior of the subjects. But this procedure also reduced the size

¹⁶ One might wonder whether these subjects did not feel justified in erring once they began to doubt the majority. Some of the protocols say just this (see p. 32). Our observations and their other comments convince us that this was not the case. We are rather inclined to hold that the conjunction of suspicion and yielding is added evidence of the power of the majority, and that the mere hypothesis of suspicion was too weak to liberate the individual. The attempt of some to explain their action in this manner is one instance in which it seems justified to speak of rationalization.

of the population for purposes of formal analysis of particular questions. Further, in order to keep the formality of the interview at the minimum, the experimenter omitted questions when they did not seem meaningful at the time to the subject, thus further reducing the number of cases.

2. The subjects differed in understanding and articulateness. Often they were unable to answer the questions or did so only perfunctorily.

3. Since the greater part of the interview was conducted before the subjects had received an explanation of the procedure, the answers were often guarded and not particularly frank. Those who had erred frequently had particular difficulty in answering many of the questions, and this was also, although in lesser measure, true of independent subjects who were wondering why they had been selected for questioning. Further, the subjects were often confused; they had not had the opportunity to sort out their thoughts and to consider quietly what had happened. It is therefore not surprising to find evidences of inconsistency in some of their statements and of outright contradiction in others. For example, it was by no means unusual for subjects to minimize at the outset their doubts and temptations, only to acknowledge them openly after they had received an explanation of the purport of the procedure. It is safe to say that the responses as a whole minimized the effect of the majority.

B. Reactions to the Experimental Conditions

First Reactions to the Contradiction

All subjects noted the disagreement as soon as it occurred. They were also aware that the majority was unanimous and that they were in a minority of one. Their first reaction was one of puzzlement. The subjects felt that there was something wrong,

but could not locate the source of the difficulty. Numerous statements testify to this. At this early point they still believed that the disagreement was temporary.

As the disagreement persisted, the subjects tried to form some explanatory hypotheses. These were of many different kinds. Some wondered whether they misunderstood the instructions. "I thought they were measuring width after a while" [5].¹⁷ Others spoke more or less vaguely in terms of optical illusions. "Thought there was some trick to it—optical illusion" [8]. "I knew I was being fooled by the lines being together and tried to allow for the illusion" [3]. Still others asked themselves whether their position or the tilt of their head might be responsible. One of the most interesting proposals, which usually came later in time, was that the group followed the first person who, for some reason, was estimating wrongly. The hypotheses had the obvious function of resolving the paradox and of mitigating the growth of concern. But they were adopted halfheartedly and were readily relinquished as the disagreement recurred.

Contributing to the difficulty of reaching a settled interpretation and enhancing the sense of uncertainty was the unpredictability of the majority from trial to trial. Without apparent cause the majority estimated correctly (on the neutral trials), awakening in some the hope that the painful disagreement would soon come to an end, and deepening the confusion of others. Nor did the majority follow any system in its misjudgments. Now it unanimously overestimated, only to underestimate the next moment; at one point it erred moderately, at another extremely. It was our impression that the fluctuations of the majority further unsettled the sub-

¹⁷ The numbers appearing in brackets following the quoted statements of a subject refer to the number of his errors in the experimental situation.

jects and subtracted from their belief in the hypotheses they formed.¹⁸

The Growth of Concern, Doubt, and Temptation

The further continuation of the cleavage heightened tension and aroused the more serious suspicion that either the subject or the majority was judging wrongly. The earliest hypotheses, such as those mentioned in the preceding paragraph, started from the presupposition that all were estimating efficiently and assigned the cause of disagreement mainly to objective factors external to the judgment process proper—position with respect to the stimuli, the property of the stimuli being judged, and so on. These were now abandoned and replaced by the question: Who is right, and who is wrong? This question received radically different answers, but most subjects, including the staunchest independents, at some time felt doubt about their accuracy, while the most pliable subjects at times felt the majority to be wrong.

Some of the reasons for the growing self-doubts had an apparently objective cast: "I was beginning to think that '140 million Frenchmen can't be wrong,' which is hypocritical, of course" [3]; "There's a greater probability of eight being right" [2]; "They must have been objectively correct if eight out of nine disagreed" [4]; "After all, the majority rules, so I guess I was wrong" [10]. In time, however, the subjects became more explicitly concerned about themselves, wondering whether their eyesight or judgment was misleading them. (As far as we could tell, no subjects felt concern about the group even when convinced that the latter were misjudging.) "I thought that maybe because I wore glasses there was some de-

¹⁸ It would be of definite interest to vary systematically the predictability of the erring opposition. If, for example, the majority uniformly over- or underestimated (or if the majority employed a transparent system, such as always selecting the comparison line in the middle), there would be new alternatives open to the critical subjects as they encompassed the situation in a general formulation. At the other extreme it would be feasible to arrange for the majority to be visibly inconsistent (e.g., by judging clearly identifiable stimuli in contradictory ways on successive occasions).

fect" [10]. "At first I thought I had the wrong instructions, then that something was wrong with my eyes and my head" [3]. "Maybe my eyes were going bad" [6]. "My whole mental processes were working abnormally" [6]. "Maybe something's the matter with me, either mentally or physically" [12].

The subjects were unable, however, to maintain their doubt as the clarity of the facts continued to loom before them. This lent their doubt a quality of fluctuation. "First I thought something was the matter with me or most of them" [o]. "I was sure they were wrong, but not sure I was right" [3]—a statement that nicely illustrates the hold that group opinion can have. Going in the same direction was the following statement of a subject who, after exclaiming, "Everybody here's crazy but me," added: "Seeing they had the power of numbers, I thought they must be right somehow, but it wasn't what I saw, and I think I was right" [o]. "Either these guys were crazy or I was—I hadn't made up my mind which. . . . I was wondering if my judgments really were as poor as they seemed to be, but at the same time I had the feeling that I was seeing them right. It was a conflicting situation" [8].

There were considerable differences between independent and yielding subjects in the inferences they drew from their doubt. There were at the one extreme such abject statements as: "I know the group can't be wrong" [8]; "I felt they must be right and I must be wrong" [5]. Some yielding subjects supposed that the majority were subject to an illusion, and felt their own failure to have the illusion to be a sign of defect: "Perhaps it was an optical illusion which the others had grasped and I hadn't. . . . at that point it seemed defective not to have the illusion they had" [9]. At the other extreme we find comments such as the following: "I'd swear I was right—the only way to prove it to me is to measure them" [1]. "I absolutely feel I was right; I think they were absolutely wrong" [o]. "I felt sincerely I was right; I would stick by my decision until I was proven wrong" [o]. "I wouldn't have said what I did if I didn't think I was right" [1]. It seemed to the writer that one characteristic of many independent subjects was not so much their immunity from doubt as their ability to free themselves of it, of which the following statements are an example: "It could have been my error, but when it happened again and again I knew they were wrong" [1]. "At first I felt there was something wrong with me, that there was something about my make-up that caused me to be different, then I gained more confidence and thought I might be as right as they" [o]. "Yes, they did arouse doubt, but after I thought about it I still felt I was right" [o].

Only rarely did we find an independent subject completely free of doubt. Comments such as the following were quite unusual: "Gee, I feel like

Columbus—I feel the others were wrong. I wondered how they could possibly see something different from what I saw" [o]. But even this subject was not free of a kind of doubt, as became apparent in his reaction to the disclosure. In response to the first step of disclosure (see p. 25), he stated: "I would almost expect that, to be honest with you,—but if you tell me they weren't correct, by God, I wouldn't know what to think. Then I would have to believe that what is right is wrong." Then, following upon the full disclosure, he stated: "I thought so, but wondered if I had paranoid tendencies. I felt a bit flushed, but I answered as I saw them. Perhaps if there were a hundred people in there I might have gone along."

Many independent subjects were reluctant to question the accuracy of the majority even when they were confident of their own judgments. (Would you say that the group judged wrongly? "It's difficult to put it that way; let's say I saw them that way.") Viewed externally, it may appear that they were inconsistent or confused, but this conclusion is at variance with our observations. Their attempt to skirt the question was due mainly to the absence of proof and to the advantage the majority had in terms of sheer probability.

In order to escape the dilemma some independent subjects retreated to a phenomenalist position, restricting themselves to the assertion that they were reporting what they saw. On this point at least their position brooked no contradiction.¹⁹ "Hesitate to say that I was right. All I know is what I saw, and I think I may be right" [1]. "That's the way it looked to me" [2].

The reader may wonder how it was possible to maintain the credibility of the majority without arousing suspicion. Actually instances of suspicion were rather infrequent, a finding that has an uncomplicated basis. In the first place the subjects assumed that the majority was as sober and concerned as they were; the setting of a formal experiment powerfully contributed to this presumption. Never-

theless, one would expect distrust to grow as the majority continued to err. It seems to us that the subject's quick-growing concern about himself forestalled this development. Before his suspicions had the opportunity to take root, he had unwittingly come to doubt himself and to seek for explanations, as we have seen, in other directions. As a result, when subsequently he did entertain suspicion, the thought lacked decisive force, and appeared to be a case of special pleading.

Indeed, it crossed the minds of many subjects in the course of the experiment that the majority might be deliberately misleading, or that the group was following the first member who, for some unknown reason, was in error. However, this belief had the form of a fleeting hypothesis which, like many others, came and went without altering the course of action. The best evidence for this is that such expressions did not prevent subjects from yielding heavily. Actually we had no difficulty in distinguishing between full and hypothetical suspicion. In the former case, the demeanor of the subject altered completely. He might loudly inform the majority of his conclusion, be highly amused, and cease to treat their estimates seriously. In the latter case the subject remained under the stress of the forces produced by the conditions.

We shall now report some of the quantitative findings in response to the standardized questions. The responses were studied as a function of the performances of the subjects. For purposes of comparison we dichotomized the population into those with 0 to 2 errors (which was the range of errors found under control conditions) and with 3 to 12 errors, respectively. In the present discussion we refer to the former group as independent and to the latter as yielding.

¹⁹ The reports of subjects that they at times went with the majority because they did not wish to appear in error suggested to Dr. Dorothy Dinnerstein a procedure that deserves investigation. The task could be altered to require the subject to report, not an objective judgment of relative length, but the way the lengths appear to him. The subject's task would then become strictly that of reporting a phenomenal datum. Provided they could understand and adhere to the instructions, the procedure would furnish an index of willingness to report a phenomenal datum at variance with that of others.

Ninety-four subjects answered the following question: "When you gave an estimate that disagreed with the others, did you feel that if the lines were measured with a ruler you would turn out to be right or wrong?"²⁰ Of these, 67 subjects (or 71 per cent) asserted confidence in their accuracy. It is likely that the question provoked an affirmative response, since it would have been difficult to acknowledge that one felt in the wrong at the moment of disagreeing. More revealing is the finding that confidence in one's accuracy increases with independence. Eighty-seven per cent of completely independent subjects asserted their confidence, in contrast with 41 per cent with 8 to 11 errors. This decrease is statistically significant ($\chi^2 = 7.7$, $p < .01$). There is equally a significant difference between those with 0 to 2 and those with 3 to 11 errors.

It is not surprising that those who were independent should be more confident in their rightness than those who went with the majority. But we also find independents who were by no means assured; the mere fact of independence did not make them immune to doubt. Correspondingly, a substantial proportion of the strongly yielding felt the group to be wrong on the few trials in which they were independent. Often they were more vehement in the interview about their independent responses than far more independent subjects. One may ask: If convinced of the wrongness of the majority, why did they follow it? This is of course one of the central problems growing out of this investigation.

The following question concerned the presence of doubt during the entire course of the experiment: "Still thinking back to the time when you were giving your judgments, would you say that the others made you doubtful about your accuracy?" Fifty-four subjects answered the question in this form. Seventy per cent acknowledged doubt. Once more we find that subjects became more doubtful with decreasing independence. ($p < .10$). Independence, however, did not guarantee protection from doubt.

In agreement with the preceding results were the replies to the following question: "Would you say that you were tempted at times to answer as the others did?" The replies of 107 subjects show that the admission of temptation rose steeply with yielding; 45 per cent of the independent (0 to 2 errors) and 85 per cent of the yielding (3 to 12 errors) subjects responding affirmatively, a difference that is highly significant. Again there were independent subjects who admitted to temptation and, more anomalous, yielding subjects who denied it. Lack of candor is the only explanation we can offer for the latter response.

One question in this series revealed no difference between the contrasted groups: "Would you say

that you were concerned about the disagreements?" This question was put in an early version of the interview to 44 subjects. Eighty-two per cent acknowledged concern, and there was no relation between the replies and quantitative performance. We conclude that the fact of disagreement per se produces concern, and that concern is not a sufficient condition of yielding.

A rather interesting result was obtained in response to the question: "Did you find the judgments difficult?" Yielding subjects responded in the affirmative more frequently (significant at the 5 per cent level). One might suppose that they pleaded difficulty as an excuse for their indecisiveness. It is equally probable that the pressures under which they worked confused them to the point of actually heightening the difficulty of the task. A point worth mentioning, although it lacks statistical reliability, is that the intermediate subjects, with 3 to 7 errors, tended to find the judgments most difficult. This would be in accordance with the view that the extremely yielding subjects had made up their mind to yield and that the difficulty of judgments played a subordinate role.

Of 47 subjects who were asked "Did you doubt your own vision?", 40 per cent answered affirmatively. The same general tendency reported above was present here, too; doubts of vision increased with errors, but the differences did not reach statistical significance.

To summarize: (a) Most subjects felt concern over the disagreement. Concern bore no relation to performance. What differentiated between the subjects was not the presence of concern but the ways in which they dealt with it. (b) Conviction of rightness, freedom from doubt, and absence of temptation were all a function of independence in the experimental situation. Those with substantial errors were on the whole less confident of their rightness, more doubtful, and more tempted than the independents. However, many independents were not free of these difficulties, again suggesting that it was not the experience of conflict but the manner of coping with it that was decisive. (c) Yielding subjects tended to find the psychophysical judgments more difficult than independent subjects. Intermediate subjects showed a tendency to report the most difficulty. (d) Most subjects did not suspect that the majority judgments were not genuine. Suspicion at times occurred only as an

²⁰ For obvious reasons this question was not put to those who erred without exception.

hypothesis which, like many others, was rejected without altering the individual's direction.

The Growth of Self-Reference

One important consequence of the contradiction, further aggravated by the requirement to respond publicly, was to center the subjects upon themselves, arousing a fear that they were suffering from a defect. Many concluded that their vision or judgment was misleading them, and in addition feared disclosure of their defect. Numerous statements testify to this reaction: "I felt like a silly fool" [3]; "A question of being a misfit. They agreed—the idea that they'd think I was queer" [8]. "It made me seem weak-eyed or weak-headed, like a black sheep" [3]. Some began to wonder whether the situation was not likely to turn up some unsuspected defect in them. "I felt conspicuous, going out on a limb, and subjecting myself to criticism that my perceptions, faculties were not as acute as they might be" [3]. One feared, not disapproval, "but that they would feel sorry for me" [1]. Some referred primarily to the discomfort of being the center of attention. "You have the idea that the attention of the group is focused on you" [6]. "They'd all begin to say the same thing. I'd be tempted to avoid attention and curiosity that would be aroused by consistent disagreement" [1]. I felt I wanted to go along with the crowd. I didn't want to seem different; at the same time I felt the need to give the right answer" [12]. In some cases the desire to avoid attention became compulsive. One subject described how he wanted to be independent, but "the closer it got to me the greater the compulsion [not to differ]" [3].

Some, including the most independent, feared that the group would disapprove of them for standing out or would suspect them of exhibitionism or wilful stubborn-

ness. "I felt like Malik or Molotov" [6]. It may be of some interest that our independent subjects did not claim that they felt like Thoreau or Emerson. "The stigma of being a nonconformist—being stubborn" [6]. "Felt I was a radical—different from others" [2]. One completely independent person opened the interview with: "I hope you didn't think I was different—I was just calling them as I saw them." "I felt they'd think I was a wet blanket, or sore thumb" [3]. "I felt that I wanted to be honest and also that I must have been wrong. I like to be one of the boys, so to speak. I don't want to seem an imbecile—but then I also didn't want to seem absolutely dishonest. Was trying to see their lines as correct but succeeded only slightly, because there was always my line" [4]. "They might feel I was just trying to be out of the ordinary, objectionable, by continually being different from them. They might think it was stubborn of me" [5]. "They thought perhaps that I was responding out of spite, or that my perceptual process was not good" [4]. "Thought there was something wrong with me and wouldn't want to show it. Later I felt the group was wrong, but because I was not certain of being right I went along" [6]. "They probably think I'm crazy or something" [3].

In this connection many stressed the sense of loneliness at being separated from others. This feeling merged with an oppressive sense of the contrast between the apparently supreme security of the majority and their own bewilderment: "So many against me—so many sure of one thing. For a while it made me feel funny; it seemed as though I was a fool but I answered the way they looked" [7].²¹ "They thought perhaps I couldn't see well. They probably didn't think they were

²¹ Shortly we will consider the frequent occurrence of such statements in which yielding subjects speak as if they had been completely independent.

wrong because they were in the majority" [7]. "It seemed simple for everybody else, complex for me" [3]. The reactions described in this section came most frequently and with a stronger charge of feeling from subjects who had erred.

The contradiction from the majority, which first produced a series of cognitive reactions, such as perplexity and doubt about the situation at large, eventually aroused a number of emotional reactions centering around the self. As the disagreement persisted many began to wonder whether it signified a defect in themselves. They found it painful to be (as they imagined) the focus of attention, in addition to which they feared exposure of their weakness which they suspected the group would disapprove. These circumstances fostered an oppressive sense of loneliness which increased in prominence as subjects contrasted their situation with the apparent assurance and solidity of the majority.

Stated Reasons for Independence and Yielding

The changes described in the preceding section are closely connected with the reasons subjects advance for their actions. The statements of those who were independent take a rather simple form. They either assert that they felt they were right or, in cases where they were filled with doubt, that they felt under obligation to report what they saw. In contrast, the statements of yielding subjects are more varied.

Probably the most compelling reason for yielding was the intolerableness of appearing different from the group when to do so had the meaning of exposing oneself to suspicion of defect and disapproval. "I felt the need to conform. . . . Mob psychology builds up on you. It was more pleasant to agree than to disagree" [10]. "I agreed less because they were right than because I wanted to agree with them. It takes a lot of nerve to go in opposition to them" [10]. "It is hard to be in the minority" [7].

At times errors were justified on the ground that the group was itself following the first person.

"The more conformity among the group, the more it made me conform" [10]. "I think there is too much following the leader in a group like that . . . they were going along" [12]. "A lot of them just copied what the other one said. . . . I felt they weren't sure themselves and were just copying" [5]. "If people had been alone, there wouldn't be so much agreement. Some people followed" [10]. Some yielding subjects started with this assumption, later abandoning it in favor of the view that the majority was serious: "At first I thought they felt the way I did—they didn't want to be individualists. Then later it came to me they answered the way they thought was right" [12]. Independent subjects mentioned the suspicion that the group was simply following its first member somewhat less frequently, but it had a wholly different meaning for them, strengthening them in their resolve not to be weakened: "I felt some of those guys must have seen it as I did and they were being pretty spineless not to say what they saw" [0].

Occasionally one finds conventional statements about conformity that sound like faithful reproductions of "principles" of social psychology: "We all want to be with the bandwagon." "When in Rome you do as the Romans" [10]. "You always like to go along and be like everybody else" [9]. These statements, as well as the one following, indicate clearly that some subjects had lost sight of the need to report their own observations: "Some of the time I figured, 'What's the sense of my giving another answer? If they are wrong, then I'll be wrong too, and if they're right, I'll be wrong'" [8]. Finally, there were not infrequent instances of subjects who could not or would not state the effect of the majority upon them.

As the preceding discussion suggests, errors were frequently strictly conforming responses, going contrary to what the subjects clearly saw. There were, in addition, errors of a somewhat different source. Those who became convinced that their vision or judgment was awry made efforts to see the relations as the majority presumably did. Characteristic are the following comments: "I tried to make them look right [i.e., like the majority!], but they still looked wrong" [10]. "I tried to shrink the line mentally" [8]. Most subjects did not succeed, in view of the rigidity of the task, in the effort to restructure. Others, however, did apparently become confused and less well able to judge; instead of conforming contrary to their observation, these individuals became doubtful and gave the benefit of the doubt to the majority.

For this assertion we have only indirect evidence, although it seems quite convincing. As mentioned in the account of the procedure, we confronted subjects in the course of the interview (following the disclosure) with some of the comparisons they had judged wrongly. At this point judgments were uniformly correct. But at times

subjects expressed strong, and to all appearances, genuine astonishment when informed of the estimates they had given fifteen to twenty minutes earlier during the experiment. One subject, looking at the stimuli of Trial 1, stated: "It doesn't look at all like 1—I don't see how I possibly could have said 1" [10]. Another, in response to the same comparison, stated: "Can't believe I changed on that" [3]. In response to the stimuli of Trial 2, another subject remarked with surprise: "The difference is very clear now" and although he had erred three times, he continued to insist that "I went with the crowd once—only once in the middle." Still more impressive were the reactions of a very few subjects who stoutly, and with great seriousness, maintained to the end that all the estimates they reported had seemed to them clearly accurate at the time. One subject with six errors stated: "I always picked the line I thought was equal. Some seemed questionable, but the one I chose seemed to be the closest one to it [the standard]. I always thought I was right, but I wasn't sure." In the same vein, a subject with three errors stated: "Toward the end I began to doubt myself but even then I stuck to my guns." Knowledge of their past estimates did not alter the opinions of these subjects. It was the writer's impression that they were reporting what they believed to be a fact. We are in the dark as to how the field of these individuals might have become blurred to this point. (See also pp. 42-43 for further discussion.)

Awareness of Independence and Yielding

In general, the independent subjects were more frank and realistic. They frequently showed a clear awareness of what they had been doing. This was especially evident in the cognizance they took of their occasional errors, which they acknowledged and discussed in a forthright way, in contrast to yielding subjects who so often minimized them and attributed them to circumstances outside themselves.

For example, one subject remarked concerning his only error: "I had not decided [upon the answer] before they started. Immediately after [responding] I thought that I had been wrong—but it was too late."²² The following was a reaction at times encountered in younger subjects with intermediate errors: "After I did it [yielded] I was sorry; it seemed to be a stupid thing to do. If you see it one way you might as well say it" [3]. "A couple of times I knew that I was weakening, and was peeved at myself" [3]. Another subject remarked that he noticed his errors and "demanded of myself to have the courage of my con-

victions. I pulled myself together and said: 'Regardless of what the others say I'll report what my eyes tell me.' I had to build up a certain amount of defiance to give a different answer" [5]. Similarly, at the point of disclosure, the more independent subjects were not above giving way to their pleasure and shocked surprise. "You have doubts when you finish a thing like that," remarked one subject gratefully. "I am elated and surprised" [3]. Even when they were on guard, their reactions had a quality of candor, as did the following statement by a subject who apparently feared to expose his feelings to further shock: "I'd want more proof, definite proof that what you were telling me was right" [1].

The reactions of yielding subjects were more often evasive and shallow, and some revealed until the end a lack of appreciation of the situation and of the possible significance of their action.

When asked to describe his experiences at the outset of the interview, one subject with twelve errors inquired: "Exactly what do you mean by experiences?" Another remarked: "I didn't have any experiences—I felt normal" [8]. All that another could find to say at this point was: "It was frustrating—I still think I was right" [10].

²² The present conditions permitted the subject to inspect the lines and match them before the majority started to announce its estimates. As the experiment progressed, and as they became aware of the potential power of the majority, many subjects took advantage of this opportunity. It was, for example, quite usual for them to mention that they were determined to reach a judgment before the group and to adhere to it. "I was confident at first, then became doubtful. Then I made my decision before I heard anyone else and stuck to it to remove the danger of following the leader." "I judged before the first man and stuck to it." It is our impression that this opportunity for independent prior judgment had a considerable effect in heightening independence. Unfortunately we have no means of telling whether or how subjects differed in readiness to take advantage of this possibility. Relatively simple experimental variations could clarify this question. The procedure could be modified in such a way that each critical subject would hear the majority opinion before reaching his own conclusion; also one could lengthen the interval between exposure of the cards and the time when the majority begins to respond so as to insure that each subject compared the stimuli before hearing the discordant judgments. It might furthermore be of value to vary systematically the length of time during which the subject remains alone with his own judgment.

Confronted with his earlier estimates, a completely yielding subject remarked: "If I knew we were supposed to disagree, I would have. I thought something was wrong with their eyes." The only explanation for the disagreement that another ventured in the course of the interview was: "People perceive things differently" [10], and still another, "How do we know who is right" [10].

Yielding subjects frequently denied that the majority had exerted any effect upon them. "Because everybody else was answering in a certain way, I wasn't going to answer the same way. I felt I was right and that's all there was to it" [12]. This subject was referring to his "independence" on the neutral trials, slurring over his conduct on the critical trials. "I said what I saw; didn't want to invalidate the experiment" [9]. One subject, with nine errors, summed up his reaction at this point thus: "I feel rather pleased; I'm interested in psychology." We often observed a similar lack of openness to the situation in the reactions to the disclosure. "I always thought my judgment was right—I felt peculiar, but I knew I was right" [6]. To the first step of the disclosure (see p. 25) another subject who erred 11 times remarked: "I'd be proud of myself." Only with the final disclosure did he say: "Well, I'll be quite frank with you. Naturally I didn't know what the story was—and I did follow the leader too much. I could have been more honest with myself, but there were six ahead of me. I guess there were a few in which I could have answered the other way." Another subject was still troubled, after the disclosure, with the thought that "perhaps I was doing something wrong by not going along with the crowd" [6].

Only with the final disclosure did yielding subjects speak more openly. Most remarkable were the comments of gratification with which some greeted the information. They were prone to seize upon the few instances of resistance as a demonstration of their steadfastness and to banish the others from awareness. One subject, with seven errors, remarked: "I would be happy" [Why?] "It's not very often you find one right and eight wrong. It's good to find out you're right—especially when so many disagree with you." "So I wasn't seeing double!" [6]. I'm gratified to a certain extent that my decisions weren't incorrect all the time" [8]. Understandably some could only feel relief at finding that their private judgments had been correct. There were also comments such as the following, which revealed an effort to draw a moral: "I was affected both by doubt as to what was the right answer and by group pressure. This will teach me a lesson to stand up for what I think is right. You can guess now yourself that it was mostly group pressure that influenced me—I'm a little ashamed of myself" [12].

Yielding subjects underestimated their errors to a remarkable degree. It was not unusual for them to report that they erred once or twice when they

had responded with the majority ten or twelve times. "I think I followed a couple of times . . . on a couple of occasions I decided to be a conformist" [10]. "Two times, to be precise" [10]. "I was doubtful . . . I went with the group about twice; I hadn't made up my mind—it was a toss of a coin" [10].

Concerning this reaction we also have some quantitative data. Fifty-eight of the subjects answered the following question: "Did you ever answer as the others did against your own first choice?" If the answer was in the affirmative, it was followed with the question: "How often do you remember doing so?" Table 12 is a scattergram plotting the estimated against the actual number of errors. Correct estimates should cluster around the diagonal line. What we find is that, except for the independents who were almost completely accurate, only two other subjects gave a correct estimate. All others underestimated, and the underestimation increased with the actual number of errors. The mean discrepancy between actual and estimated errors was 4.0 ($t=7.14$, $p < .001$).

What might be the reason for this extreme underestimation? We can rule out forgetting in the usual sense; if it were a question of retention, we should also have found overestimations. To make doubly sure whether a general function of memory was involved, we compared the preceding results with those obtained in response to the following question that was put to another portion of the population, 49 in number: "How many times did you disagree with the group?" The results appear in the scattergram of Table 13. Here we find again a trend to underestimation, but far weaker than in the preceding case, the mean discrepancy between actual, and estimated disagreements being .92. More of the estimates were now correct, and there were a few overestimations. The discrepancy between actual and estimated disagreements is also significant ($t=3.40$, $p < .001$). But the tendency to underestimate yielding reactions was significantly higher than the underestimation of disagreements ($t=4.41$, $p < .001$).

The data, while establishing the fact of underestimation, do not enlighten us about its source. On the basis of general observation we are inclined to believe that the bulk of underestimation resulted from the subjects' unwillingness to admit this unpleasant fact. Had we repeated this question following the disclosure, it is likely that the underestimation would have been lowered. It seems to us that this also accounts for the trend to underestimation of disagreements. Some subjects might have tried to avoid the appearance that they had been too much at odds with the majority. This was not, however, the sole factor at work. Undoubtedly some individuals were confused to the point where they became far less certain than they normally were.

TABLE 12
SUBJECTIVE ESTIMATES OF ERRORS*
(N=58)

Estimated number of errors	0	1	2	3	4	5	6	7	8	9	10	11	12
Actual number of errors	17	1	5	2	1	1	1	1	2	1	1	1	1
12													
11													
10													
9													
8													
7													
6													
5													
4													
3													
2													
1													
0													

* For the purpose of this analysis compromise responses were categorized as disagreements.

What can be said concerning the reality value of the situation? For most it was a situation of appreciable tension, although there were important differences in responsiveness to the majority. Some felt the conflict more keenly than others; divergences in this respect may have been significantly connected with independence and yielding.

The evidence cited above indicates that generally the subjects acted as if something of consequence were at stake and that neither independence nor compliance were trifling matters. Concern, doubt and temptation were the prevailing reactions and were expressed in terms of fairly strong emotion. The fact seems to be that the circumstances quickly gained an im-

TABLE 13
SUBJECTIVE ESTIMATES OF DISAGREEMENTS*
(N=49)

Estimated number of disagreements	0	1	2	3	4	5	6	7	8	9	10	11	12
Actual number of disagreements	1	2	3	1	2	1	2	1	1	1	2	1	2
17													
16													
15													
14													
13													
12													
11													
10													
9													
8													
7													
6													
5													
4													
3													
2													
1													
0													

* For the purpose of this analysis compromise responses were categorized as disagreements.

port that went beyond the immediate task. The subjects had undertaken to report correctly on simple facts, a requirement not easily confused with observing the social amenities. In confirmation we may observe that our subjects almost universally evaluated independence positively, regardless of their performance. None sang the praises of conformity, and even when they did not live up to their precepts, they did not question that there are criteria of right independent of, or contrary to, group standards. Consequently, those who were independent expressed relief and joy when informed of the circumstances, while those who were caught by the majority were rueful but never proud. In fact, the situation possessed personal relevance because it provoked a conflict of values and revealed to some a double system of values at work—one value which prompted them to conform, coupled with another that asserted the importance of thinking for oneself and being an individual.

Less responsive subjects spoke as follows: "I didn't go along because I had nothing to lose by sticking to my own perception" [1]; "It was a psychological experiment, not like a life-or-death situation. I thought there was some importance attached to it—and that I'd take a scientific attitude toward it" [6]. A few yielding subjects spoke in the same vein: "I'd see one, then they'd answer, and I'd figure it wasn't important enough to stand out; I thought, 'Oh, what the heck, I'll just agree with them'" [10]. Or, "This seemed of no importance, and I'd stand out. It had no real bearing and didn't make any difference" [9]. These comments were not representative, and in some cases they did not describe adequately the situation of the subjects from whom they came. For example, the subject responsible for the last statement was affected to the point of stuttering during the interview.

C. Forms of Independence and Yielding

The great differences in independence among persons require us to take the individual as the unit of observation and to describe the major forms of reaction to

the experimental conditions, in contrast to the procedure, followed above, of attempting a general sketch that would apply to most subjects. Accordingly, we will now describe a number of distinguishable modes of reaction illustrated by a few selected subjects. For this purpose we have chosen subjects from the extremes of independence and yielding; as far as we could observe, intermediate subjects did not reveal notable characteristics absent in the extremes.

It might appear on first thought that the grounds of independence would be substantially similar, as would the grounds of yielding, and that subgroups selected from the extremes would be internally homogeneous and show uniform contrasts when compared. As the experiment progressed, however, it became evident that the grounds of independence, as of yielding, were diverse, and that individuals with similar or identical performances (in terms of errors) often differed strikingly in their psychological reactions. At the same time the modes of reaction did not vary indefinitely; certain of them repeated themselves. We have accordingly singled out for description a number of outstanding types of reaction in independent and yielding subjects. The basis of our categorization is provisional and must be taken as a first approximation.

Forms of Independence

The independence of strength. The outstanding characteristic of subjects in this group is their capacity to retain faith in their experience in the face of massed opposition. At the extreme end we find that the sense of confidence forestalls the growth of conflict and places the majority in a dubious light. So much is this the case with a few that they even appear to enjoy their situation somewhat. This is by no means, however, the usual reaction

of independent subjects. Most frequently they are responsive to the majority and feel keenly their strange position. This is evident in their frank acknowledgment of doubt and temptation and in the outspoken gladness with which they greet the explanation of the experiment. What is most characteristic of the present group is their capacity to withstand without substantial difficulty the doubts and the loneliness of their situation.

Subject 39 was completely independent. He believed the majority to be wrong, possibly subject to an illusion of which he was free, or victim to the suggestion of the first member. He was unusual in finding the situation somewhat pleasant, deriving some amusement from maintaining an independent position. But his enjoyment was clouded by occasional concern that he might be the one subject to illusion. This doubt did not disturb him much, however, since he felt that the probabilities were strongly in his favor. He was therefore prone to look upon the majority as "spineless" followers who contradicted their convictions. It was our impression that this subject's assurance freed him to reject the group pressure and forestalled the growth of conflict. The following is an excerpt from his interview.

Did the fact that other people were present and attending to the same task affect you in any way? *No.*

How many times did you disagree with the group? *Fifteen times.* (Unlike most, he overestimated the frequency of disagreement.)

When you gave an estimate that disagreed with the others, did you feel that your perception was objectively correct? *Objectively correct.*

Did you feel that the perceptions of the others were objectively correct? *They were wrong. Or, if I was wrong, I'd rather try to find out why I was wrong!*

How did you feel when you continued to give answers different from the others? *Mixed emotions—would be amusing if I turned out to be right, but if wrong, sort of lonely feeling.*

What did you think when you first heard the others give an answer different from the one you

were going to give? *My first impulse was that maybe they didn't see that one well.*

Did you examine the lines more closely? *Yes.*

Did you feel any differently about the later disagreements? *Yeah, I figured the lines contained some sort of illusion which I was not subject to and they were.* (This statement carried the implication that his judgments were superior.)

Did the others arouse doubt concerning the correctness of your judgments at the time you were giving your estimates? *Yes.* (Adds that the doubt was moderate.)

What was the nature of the doubt? *Maybe I was subject to illusion.*

Did you have doubts that your eyes might be deceiving you? *Two only—a couple of times, then I was sure I was right.*

Were you concerned about the disagreements? *No, the whole thing was not too important. I'm used to being different at times.*

How did you feel when the others and you agreed—when they gave the same answer that you had in mind? *That's what made me think it was some kind of an illusion. They seemed to get the short ones right.*

Did you feel that the answers of the others were arousing a tendency in you to agree with them? *No.*

As you continued to look at a pair of cards, did the answers of the others continue to appear wrong or did they seem to become more plausible? *I actually thought the others were subject to the suggestion of the first one.*

As you continued to hear the answers of the others, did the discrepancy between their answer and the one you were going to choose remain the same, or did it change? *No, I was getting almost a sadistic pleasure out of being different.*

What did you think about the third line, the one no one matched with the standard? *Nothing.*

Did you think the group would disapprove of you, or think you were peculiar if you gave a different answer? *Not disapprove, but they have a habit of laughing at you if you're wrong in class, but in this case I didn't care. It would be different if it were a question of ethics, but I wouldn't agree!*

What did you think our purpose was in this experiment? *Just vision.*

At the beginning, after the first three or four judgments, were you aware that you were in disagreement with all the students? *Yes.*

Were you aware that all the students were in agreement with each other? *Yes.*

Did the disagreements produce in you the feeling that you were separated from the group, or in opposition to the group, or excluded from the group? *Psychologically, yes.*

Did it require an effort to answer differently from the others? *No.*

When you answered differently from the others did you feel that you were resisting them? *Slightly, only.*

Did you expect, as the experiment progressed, that they would continue to be in agreement with each other? Yeah, after two-thirds through. Also thought they might break up.

Did you feel an increasing sense of opposition as your turn approached to give a judgment? No.

Suppose I told you that your judgments were always right when you disagreed with the group, what would you think? Not too much surprised. I'm used to having what I see be correct.

The subject's reaction to the full disclosure was mild, although he was happy and interested. Subsequently he reported no suspicion of the majority. We now cite a few of the comments following the disclosure.

Were you self-conscious at the beginning of the experiment? No, more towards the end. I figured somebody else would be disagreeing soon.

Did the disagreement of the group produce in you a feeling of irritation? Yes, slightly. I felt some of those guys must have seen it as I did and they were being pretty spineless not to say what they saw.

What in your character and experience would you say was responsible for the way you acted in this experiment? Long years of practice in being different from other children. I've never had any feeling that there was any virtue in being like others. I'm used to being different. I often came out well by being different. I don't like easy group opinions.

In the following completely independent subject we have a person equally independent but decidedly more affected by the majority. While he was strongly task-oriented he also entertained some doubt corresponding to the actual uncertainties of the situation. The doubt provoked a genuine emotional reaction which, however, did not deter him from independence.

Did the fact that other people were present and attending to the same task affect you in any way? I thought there must be something wrong—and I thought for a second of going with the group.

Would it have made any difference if you had been here alone? No; except for a few seconds.

How many times did you disagree with the group? About 60 per cent (of the trials).

When you gave an estimate that disagreed with the others, did you feel that your perception was objectively correct or incorrect? Yes—completely obvious.

Did you feel that the perceptions of the others were objectively correct? Well, let's see—it would

naturally follow. But I didn't feel that their perceptions were incorrect, rather that there was something wrong.

How did you feel when you continued to give answers different from the others? Something was wrong with either my perception or with all the others.

What did you think when you first heard the others give an answer different from the one you were going to give? That they were wrong, that the lines were throwing off their perception.

Did you examine the lines more closely? I first made my judgment; then I studied the lines.

Did you feel any differently about the later disagreements? The thought struck me that they were all wrong and I was the only one right—but that was a momentary thought.

Were you concerned about the disagreements? No, except to wonder why there was a disagreement.

Did you feel that the answers of the others were arousing a tendency in you to agree with them? No.

Were you tempted at times to answer as the others did? Only once.

Did the fact that the others agreed with each other make them appear as a group? Yes—only insofar as their perception of length was the same.

Did they as a result appear closer to each other than to you? Yes—there was some of that feeling—sort of being on the edge.

Did they seem to become more united as the experiment progressed? Yes.

Did the disagreements produce in you the feeling that you were: (a) separated from the group? Yes. (b) in opposition to the group? Yes—insofar as the judgments were concerned. (c) excluded from the group? No.

Did it require an effort to answer differently from the others? No.

When you answered differently from the others did you feel that you were resisting them? No—I was reporting what I saw.

Suppose I told you that your judgments were always right when you disagreed with the group, what would you think? I'd want more proof, definite proof that what you were telling me was right.

Did you suspect that the group intended to affect your judgments? Yes—once only about one fellow—not about the group.

Did you retain this suspicion? No.

Did you notice whether any of the comparisons were repeated? No.

What in your character and experience would you say was responsible for the way you acted in this experiment? It reminded me of a time when, as a child, my mother threw a cupful of water at me because I couldn't stop crying. My sister was there, and everyone seemed against me; I was separated. . . . I always disagreed on religion—couldn't quite swallow what was taught. . . . Have a tendency to stick to my point.

In the reactions of the next subject, who with one exception was independent, we

observe a more pronounced effect of doubt, pressure, and temptation created by the majority.

When you gave an estimate that disagreed with the others, did you feel that your perception was objectively correct or incorrect? *Yes.*

Did you feel that the perceptions of the others were objectively correct? *Yes* [with some hesitation].

How did you feel when you continued to give answers different from the others? *I'd bet on their side, because my own judgment has no better chance of being correct than theirs.*

What did you think when you first heard the others give an answer different from the one you were going to give? *I was very surprised; naturally I wanted to answer as they, but I wanted to answer accurately.*

Did the others arouse doubt concerning the correctness of your judgments at the time you were giving your estimates? *After several trials. [He describes the doubt as moderate.] I began to question whether my own perception was as acute as it seemed to be.*

Would you say that you were concerned? *Yes [moderately] because I could see how such inaccuracy could affect various fields of activity, such as driving.*

How did you feel when the others and you agreed—when they gave the same answer that you had in mind? *It bolstered my judgment—it meant that I was not completely off the track.*

Did you feel that the answers of the others were arousing a tendency in you to agree with them? *Yes, but I completely resisted it.*

Would you say that this tendency acted as a pressure on you? *I have the natural tendency not to want to be the one wrong out of the entire group.*

Were you tempted at times to answer as the others did? *Yes, but I didn't. Frankly, I considered momentarily the policy of agreeing with them and reserving my judgment—to satisfy my natural tendency not to seem different, to agree—but I decided against it.*

Did you think the group would disapprove of you, or think you were peculiar if you gave a different answer? *The test went too fast for me to develop such clear feeling—perhaps only rudimentary. Being the only one was what mattered.*

Did it require an effort to answer differently from the others? *Yes—but once my turn came, no real effort was needed.*

When you answered differently from the others did you feel that you were resisting them? *It gave me a certain sense of pride to answer differently.*

Suppose I told you that your judgments were always right when you disagreed with the group, what would you think? *I would be happy—but I would doubt you very much. The evidence is in favor of the others. The full disclosure took him completely by surprise. When he had recovered he commented: I am very, very glad. It relieves me of*

any worry, and it makes me very glad also that I gave the answers I did. Then, after a pause: If it was an issue more emotionally charged or more important, involving a more emotional result, I'd be much less likely to accept their judgments. In response to the final question about the probable relation of his conduct to his character, he stated: A certain pride I have always taken in my judgment when I was reasonably sure of it. I've always been glad to defend my opinion, enthusiastically, even when in a minority.

The following subject, who went with the majority once, entered the experimental room in a boisterous mood, but soon became much sobered. He felt little pressure to conform, but was mildly concerned over what his judgments might do to the experimenter's results. At the opening of the interview he remarked that he felt as if in a snake pit. Quite noteworthy is the fact that he felt strong guilt over his one dereliction to which he constantly returned (in contrast to others who took continuous yielding far more lightly) with obvious feelings of self-devaluation. The entire situation seemed to be a revelation to him of the unsuspected susceptibility he harbored to group compliance. A portion of the interview follows:

Did the fact that other people were present and attending to the same task affect you in any way? *Only on one decision, which I changed, and which I shouldn't have changed.*

Would it have made any difference if you had been here alone? *Only in that one instance.*

Did you feel that the perceptions of the others were objectively correct? *It ran through the back of my mind—maybe it was lack of vision, then thought maybe I was just wrong.*

What did you think when you first heard the others give an answer different from the one you were going to give? *That perhaps other different answers would come up. He added that he suspected, vaguely, that perhaps others were trying to influence his judgment—the whole thing might be rigged.*

Did you feel any differently about the later disagreements? *No—not much feeling, I was just surprised and a little worried.*

Did you feel that the answers of the others were arousing a tendency in you to agree with them? *No. If it had been a more serious matter, and if the group had appeared to resent my opinion, I might have been more affected.*

Were you tempted at times to answer as the others did? *I did so, once, and was surprised that I had*

done so. I knew I was changing from what looked correct.

Try to describe the reasons as carefully as you can. It was the only time I considered the one they picked. Thought it might fit (for a moment), and mainly wanted to conform with the group.

As you continued to hear the answers of the others, did the discrepancy between their answer and the one you were going to choose remain the same, or did it change? *It was still clearly different, except the one case.*

Why did you follow the group in that case? Try to describe exactly. *I wanted to conform. Was picturing in my mind the graph of results with a big dip in it—I wanted to make your results better.*

How did you feel when you saw the lines one way and answered in another way? *I was disgusted with myself for changing and almost asked for another chance at it.*

Did you think the group would disapprove of you, or would think you were peculiar if you gave a different answer? *I looked to see how the group reacted, and they didn't react strongly, didn't affect me much.*

Now we want to ask you about the time you answered as the majority did, against your first choice. As you continued to look at the pair of cards, did the answers of the others continue to appear wrong, or did they seem to become more plausible? *I made my own judgment, then considered the group's judgment, gave it, and regretted it. I never felt I was right and the group wrong, just knew what I saw.*

When you gave such an answer, did you at times forget about the question of accuracy, and consider rather that it might make you appear different from the others? *It was a question of conformity—the group didn't make me feel bad, I just wanted to agree.*

What did you think our purpose was in this experiment? *I only knew what I'd been told. I was trying to give you honest answers.*

Did this situation acquire any personal importance for you? *In what way? No, but I was afraid it might in terms of my future relationships with other students—if I were found to see poorly.*

Did it require an effort to answer differently from the others? *My answers did become less positive in tone.*

Did you feel an increasing sense of opposition as your turn approached to give a judgment? *I began to hope, towards the end, that someone would pick the one I had in mind.*

Suppose I told you that your judgments were always right when you disagreed with the group, what would you think? *I guess my answers tried to minimize my disagreement with them.*

Following the full disclosure he stated: *If I only hadn't chickened out, it would have been an even dozen.* His final comment was: *If I hadn't been required to answer, I wouldn't have done it [yielded] after hearing the group. It is not pleasant to be the only one different.*

He then continued: *I think my father would be very sore at me for that one I missed. He would expect me to always do what I know or think is right because it is right. My mother too. Don't know why I fooled myself into thinking there might be some doubt about it.*

Independence without confidence. The subjects in this group were assailed by doubt, were convinced that their judgments were inaccurate and those of the majority right—and yet they remained independent. In terms of their feelings and ways of seeing the situation, they resembled a group of yielding subjects to be described below (see pp. 43-45). But it did not occur to them to compromise with the majority because they did not lose sight of the obligation to respond in accordance with their experience. The reason for their independence, according to their statements, was simple and uniform. They felt that they were required to respond accurately, that "if I were to be honest I'd have to say what I saw." Because they did not lose sight of their obligation it hardly occurred to them to compromise; when this alternative presented itself, they were able to dismiss it without much difficulty. Some spoke explicitly of the necessity to act independently of pressure.

This subject, aged 18, was independent on all trials but one. He was strongly affected by doubt, believing the judgments of the group to be accurate. Although he was concerned and tempted to join the majority, he yielded only once. There was only one reason he could assign for his independence—that "the experiment required an accurate answer."

Can you explain the disagreement? *I can't—unless it's a fault in my eyesight or judgment.*

How confident are you of your judgments? *In the light of the opinions of the others I'd say I was wrong, but I answered as I saw.*

When you gave an estimate that disagreed with the others, did you feel that your perception was objectively correct or incorrect? *I don't know.*

Did you feel that the perceptions of the others

were objectively correct? *Probably the others were right.*

What did you think when you first heard the others give an answer different from the one you were going to give? *I first doubted, wondered. However, I felt that rather than go along I'd make the answers that appeared right to me.*

Did the others arouse doubt concerning the correctness of your judgments at the time you were giving your estimates? *Yes, sir [considerable doubt]. There was such an overwhelming weight of opposition against me that I wondered whether my eyesight or judgment were at fault—or an optical illusion which either they or I did not perceive.*

How did you feel when the others and you agreed—when they gave the same answer that you had in mind? *I felt that was very nice. I don't believe it was wishing to be with the herd, but I was glad there was agreement.*

Did you feel that the answers of the others were arousing a tendency in you to agree with them? *Yes.*

Would you say that this tendency acted as a pressure on you? *Yes. I had a tendency to feel that perhaps I was wrong and might just as well agree with them. As disagreement continued it looked as if I was differing either to show off, to be an individual, or trying to stand out. I did not like that.*

Were you tempted at times to answer as the others did? *Yes. But the experiment required an accurate answer.*

Suppose I told you that your judgments were always right when you disagreed with the group, what would you think? *I'd think that you were telling me that to test my psychological reaction. I felt I was right in some cases, but I'd be very suspicious if you would tell me I was right in every case.*

The following subject, age 21, yielded once; he presents a picture very similar to the one described above.

What did you think when you first heard the others give an answer different from the one you were going to give? *First I thought the others were wrong, but if I were to be honest I'd have to say what I saw.*

Did the others arouse doubt concerning the correctness of your judgments at the time you were giving your estimates? *Yes [great doubt].*

Did you have doubts that your eyes might be deceiving you? *Yes, [or the angle].*

Did this doubt change as the experiment progressed? *I became more doubtful.*

Where you concerned about the disagreements? *Oh, yes [moderately].*

Were you tempted at times to answer as the others did? *Yes.*

Suppose I told you that your judgments were always right when you disagreed with the group,

what would you think? *I'd believe it. Why? Were the other guys suggested by the first?*

All he could say following the full disclosure was: *"I was supposed to give the right answer."*

Forms of Yielding

The grounds of yielding to the majority were also diverse. Many subjects could not be said to belong clearly to one group or another, mainly because numerous, at times contradictory, reasons and motives played a part in their reactions. Before describing some of the predominant reactions, we present below the case of one subject who illustrates the varied phases of the problem.

This subject went with the majority without exception. He was deeply affected but tried to describe his reactions to the best of his ability. Because he went completely with the majority, some of the prepared questions were not suitable; we therefore questioned him in a more individual manner.

He spoke at first with difficulty, opening the interview with the statement: *If I'd been the first [to respond] I probably would have answered differently.* This was his way of stating that he had knowingly adopted the majority estimates. But he underestimated the frequency of his errors. "How often did you answer as the others did, against your own first choice?" *Possibly as many as one-fourth or one-third. Mostly I wasn't sure, I was undecided. If so many people say one thing it is bound to influence you.* He claimed, as many others who erred, that some of the comparisons were difficult. Asked why he answered as the group, he replied: *Pure habit—sheer force of habit. On the doubtful cases I would go along. I felt they were probably wrong, but I wasn't ever absolutely sure. I didn't think they were right—it was mostly pretty much of a toss-up. I didn't have time to think it over, and they answered so fast; if they had been doubtful, I probably would have changed, but they seemed to be absolutely sure, and you tend to follow.* In further explanation of the acquiescent response he added: *Some kind of pressure builds up in you. On the first one I almost started to say something different but afterward I more or less fell in with them—you know, "hesitate and all is lost."*

Following the disclosure he volunteered: *I suspected about the middle—but tried to push it out of my mind.* The information interested him and he became eager to help with his observations, adding

spontaneously: If I had known more about it, if I had a personal interest in it, maybe it would have made a difference—I didn't know what it was for.

Did you think the task was not important? I didn't consider the importance, not terribly important . . . I just sort of slipped along.

Did you consider that we wanted your own judgment? [embarrassed]: I didn't think of that; if it entered my mind I more or less pushed it out. Did you suppose that they would disapprove if you disagreed? I don't think so. It might have been subconscious, but I didn't consciously think they'd think I was queer; it might be . . . but I wouldn't be afraid to. In a thing like this they would be more likely to be right; it's cut and dried. I wasn't giving a terrific amount of thought to it—I don't think the majority is always right.

He was now confronted with some of the stimulus lines and informed of his earlier estimates. In response to Trial 1 he stated: *I tried to make myself see it as equal, and succeeded to a more or less degree. I thought maybe the numbers [beneath the lines] or the arrangements of the lines had something to do with it. At first I also thought maybe it was an illusion, but abandoned that idea. I thought they might have been seeing an optical illusion that I didn't. Then I thought that the ones ahead of me were following the ones ahead of them . . . just like I was. There was no time to draw a conclusion. It wasn't that I actually saw it this way—I just fell in. On the doubtful cards the fact that they saw it before made it doubtful. If they hadn't been there, if I had been here by myself I would have been pretty positive.* He concluded with the following remarks: *I didn't see how they could have answered so quickly when I was so doubtful, though I probably would have agreed anyway. If it had been a political question, I don't think I would have agreed if I had a different feeling. I probably wanted my own ideas, but it was easiest to string along. Even though I knew that pressure was there, it's funny that I would give in just like anybody else.*

This protocol is of interest for a number of reasons. It illustrates the many-sided considerations that played a part in the reaction to the episode. In one respect it is not typical; this subject did not report much concern about the group's opinion of him. Further, the reasons for his action do not become fully clear. The impression one gets is that he was caught off guard, was overwhelmed by the apparent assurance of the majority, and allowed himself to become uncertain about many of the judgments. Particularly noteworthy is that he continued with the majority although he was not convinced it was right, thinking that it might be subject to an illusion of which he was free, and suspecting the

group of following out of expediency. At the same time one gets a strong sense of the presence in this subject of forces contrary to conformity.

Yielding at the "perceptual" level. Among the rarest, but not the less significant, of the reactions were those in which yielding occurred apparently without awareness. Previously we have described the case of one such subject who yielded on all trials but one, but who asserted with every appearance of genuineness that he never reported an answer he believed to be wrong (1, p. 469). The most noteworthy feature was the placidity of the subject; it appeared that his lack of awareness enabled him to maintain an attitude of complacency and frankness, only mildly troubled by the suspicion that something unknown to him had occurred.

The writer has not himself observed other cases as extreme as this, although a few were reported by his associates. In these instances there appeared to be a genuine lack of awareness of the degree of yielding, evidenced by an insistent rejection of its possibility. This reaction was present, however, together with others, such as a deep desire to join the group and a sense of personal inadequacy. For lack of a direct test we cannot conclusively establish the fact of unawareness, although the subjects did convince us that they were trying to report truthfully. Also, in the nature of the case, we cannot establish, assuming the absence of awareness, the level of distortion. In the absence of evidence it would be too far-fetched to suppose, mainly because we have no means of comprehending, that there was an actual distortion in the perceived relation of lengths. It is more likely that the distortion occurred principally at the level of judgment, without the subject's knowledge of his contribution. To put the matter somewhat differently, these subjects granted to the majority the power to see correctly,

attempted to see the relations as the majority did, allowed themselves to become confused, and at the critical point adopted the majority judgments without permitting themselves to know of their activity.

In a more moderate degree there was cognitive confusion in a larger number of subjects, as we have mentioned earlier (see pp. 32-33). We are referring to instances in which subjects, upon confrontation during the interview with the comparisons and their earlier pro-majority responses, found it difficult to understand how they could have deviated to the degree they did. Again, for lack of direct tests, the evidence is not conclusive. It is possible that the subjects yielded in a more conscious way but veiled the fact from themselves after the lapse of 15 to 20 minutes. Assuming that they were trying to report correctly, it would be a necessary inference that inhibition of awareness occurred at the time of recall.

Yielding at the level of judgment. The subjects included in this group were robbed of confidence by the opposition and quickly reached the conclusion "I am wrong, they are right." They spoke much like the independent subjects without confidence (see pp. 40-41), but unlike the latter they lacked any other source of support. To be sure, they did not like to expose their judgment, but this was not the sole or even the main reason for yielding. Rather their mental field was narrowed down to a preoccupation with their accuracy (or lack of it) to the point where they appeared to feel that they had lost the right to express their inferior judgments. This is the only way in which we can understand the recurring statements that they went with the majority because they did not wish to spoil the experiment. These reactions suggest that the presence or absence of confidence alone are not decisive, that equally important are the resources for coping with unavoidable doubt and strain.

The subject, age 20, erred ten times. His principal concern was to report accurate judgments, and he adopted the judgments of the majority solely because he was convinced they were right and superior to his. Because of poor coordination of his bodily movements he had come to expect that he will usually be deficient in tests of physical effectiveness. He suffered no cognitive confusion, continuing to see the relations clearly in his own way. He also claimed that he did not mind differing from the group.

Did the fact that other people were present and attending to the same task affect you in any way? *Only insofar as when I was doubtful I thought they were correct. It didn't bother me to disagree with them, or I wouldn't have done it at all.*

When you gave an estimate that disagreed with the others, did you feel that your perception was objectively correct or incorrect? *I gave the answer I saw.*

Did you feel that the perceptions of the others were objectively correct? *Yes.*

What did you think when you first heard the others give an answer different from the one you were going to give? *I just wondered what was the matter with me.*

Did the others arouse doubt concerning the correctness of your judgments at the time you were giving your estimates? *Yes. [Moderate doubt.]*

How did you feel when the others and you agreed—when they gave the same answer that you had in mind? *Until I'd given a different answer, it didn't matter, but after that, it was reassuring.*

Did you feel that the answers of the others were arousing a tendency in you to agree with them? *Only in four or so cases. Only when really doubtful, then I'd agree. I thought they were probably right, nothing more.*

Were there times when you saw the lines one way and you answered in another way? *In those four to six cases I agreed because I figured they were right.*

Did you ever give an answer which you knew to be wrong? *No. I only assumed my answers to be wrong, because I disagreed with everyone else.*

Did you think the group would disapprove of you, or think you were peculiar if you gave a different answer? *No—if I had, I wouldn't have differed on any of them.*

What did you do about your first choice, the one you thought was really correct? *I tried to compare mine—I gave the group answer against the card. Often mine still looked best, but I figured they were right.*

When you gave such an answer, did you at times forget about the question of accuracy, and consider rather that it might make you appear

different from the others? *No, it was always a question of accuracy.*

Suppose I told you that your judgments were always right when you disagreed with the group, what would you think? *Hm-m-m. I wondered if it was a put-up job, because those guys were all up here when I arrived.*

The next subject, age 19, yielded ten times. He quickly became tense and worried, examining the lines more and more closely. The fifth comparison, which was neutral, obviously relieved him. Then he went along with the majority in a high-strung, shaken way.

Did you feel that the perceptions of the others were objectively correct? *Yes.*

What did you think when you first heard the others give an answer different from the one you were going to give? *That they were wrong.*

Did the others arouse doubt concerning the correctness of your judgment at the time you were giving your estimates? *Yes. [Moderate doubt.] The majority was against me—I thought perhaps I was wrong.*

How did you feel when the others and you agreed—when they gave the same answer that you had in mind? *I thought we must be right.*

Did you feel that the answers of the others were arousing a tendency in you to agree with them? *Yes. [Moderate doubt.]*

Were you tempted at times to answer as the others did? *In one case there was a slight bit of doubt. It was rather close and I wasn't sure of myself.*

As you continued to look at a pair of cards, did the answers of the others continue to appear wrong, or did they seem to become more plausible? *Except for the two occasions the group answers seemed plausible.*

So convinced was this subject of the accuracy of the majority that he could not respond adequately to the first step of the disclosure. "Suppose I told you that your judgments were always right when you disagreed with the group, what would you think?" *I'd think something was fishy.* He received the full disclosure in a controlled, inhibited way, appearing guilty and unable to admit the fact of yielding. Toward the conclusion, when confronted with one of the comparisons and his group response, he stated: *There were so many against me that I thought I must be wrong. Toward the end I got mixed up. I thought I heard the direc-*

tions wrong. I was beginning to become confused and was more prone to their influence.

This subject, age 20, yielded eight times. He was active and talked throughout the interview without limit, almost obviating the need for the formal questions. He had yielded consciously on the basis of the judgment that the group was accurate and because of fear of opposing them. He justified his yielding, although he knew better, in terms of unwillingness to spoil the experiment, opening the interview with "Did I foul up your works?" (this referring to his independent judgments!). During the experiment he was preoccupied with "figuring out what to do, what was wrong"; the sense of disappointment with himself came only later. He discovered the purpose of the experiment as soon as the interview opened. Suspicion had flashed through his mind during the session but was not acted upon. His occasional disagreements with the majority seemed to function (a) as protest or self-assertion which he did not have the strength to sustain, and (b) as attempts to get others to break away with him (on the hypothesis that they were following the leader), which he abandoned when he received no support.

Would you please describe in your own words your experiences during this experiment, that is, what happened, and what thoughts you had? *To be frank, I disagreed with them always after the first three or four trials. I agreed but didn't really agree. I was afraid I fouled up your statistics. Sure I was right, but seven of them had to be right so I gave their answer except that I put in my own opinion every once in a while. Were they always right? I tried looking away, concentrating less or more on drawing imaginary lines—always disagreed with them. I was frustrated because I couldn't agree. I now suspect it was fixed; I came last, you told them the answers. First, the thought flashed through my mind during the experiment, but then I was mostly busy figuring why we didn't agree. I realized you'd know I'd been fibbing so thought I had better tell you and not spoil the statistics. Also, I was thinking the others were following the first fellow; I gave my own answers a few times in hopes they'd join me, was determined to ask you to let me see the cards later, swore I was right. "Fixed" idea didn't really strike me till afterwards. During the*

experiment I assumed they were right and I wrong, and tried to figure out why. Later it occurred to me maybe it was "fixed."

Did the effect of the others change in any way in the course of the experiment? *No, the level of shock and surprise at disagreement remained constant throughout. Am wondering now (in case it was fixed) what they think of me for following. Wish I'd had the guts. But I went with them, not only because I was sure I was wrong and didn't want to be the only one disagreeing, but because I was sure I was wrong and didn't want to foul up your statistics. I realize that's unscientific, but that is the way it seemed. Then sometimes I thought it worse for the statistics [to go with the majority]; so I gave my own answer. Then it would switch. For the last eight or ten [trials], I resigned myself to give their answers and see you afterwards to find out what was wrong.*

Did your doubt change as the experiment progressed? *Yes, at first I thought I was right, then I became convinced the other seven couldn't be wrong. I stayed steady then. Toward the end I lost hope they'd come back to me and it was too much for coincidence. Became sure I was wrong.*

Did you have a great deal of doubt at that time? *Visually sure I was right, judged that I certainly was wrong. There were seven others—knew they were all normal.*

Would you say you were disturbed about the disagreements? *Didn't have time to be. It bothered me. I would have been more worried if I wasn't sure I could find out at end of experiment what was wrong. I was too busy wondering to be too disturbed.*

Yielding at the level of action. Included in this group were individuals who yielded although they saw the relations clearly and did not allow themselves to become confused about them. Their compliance was not based on the assumption that the group judgment was superior. Indeed, they skirted the question of truth because another side of the problem became paramount. They were dominated by their exclusion from the group which they took to be a reflection on themselves. Essentially they were unable to face a conflict which threatened, in some undefined way, to expose a deficiency in themselves. They were consequently trying desperately to merge in the group in order not to appear peculiar.

Those who responded in this manner were exposing themselves to the most painful possibilities of the situation. Their compliance had for them a quality of deliber-

ateness, since they knew that they were suppressing their judgments and were unable to mitigate the conflict by becoming unclear. Although they had "decided" to ignore questions of fact, the knowledge that they were acting in this way weighed upon them and made it peculiarly difficult to acknowledge it in a detached way either to themselves or subsequently to the experimenter.

In this group one observes a strange conjunction of open-eyedness and blindness. The subjects embark on the path of compliance in an effort to allay the immediate pain but without a realization of the consequences soon to follow. When these do become apparent they are no longer free to change direction. Although yielding almost without exception, these subjects will also state that "after I became a conformist I was mad at myself," that they "felt better" on the few occasions of independence, and that "it required more of an effort to answer as the group." One obtains the impression of a violently unreasoning persistence, of impulse moving ahead without a cognitive path prepared for it.

This subject is a classic example of the reaction we are trying to describe. He showed pronounced conflict, feeling that his judgments were right but unable to expose himself to the group. He erred eight times.

How many times did you disagree with the group? *Three or four.*

When you gave an estimate that disagreed with the others, did you feel that your judgment was objectively correct or incorrect? *Correct.*

Did you feel that the judgments of the others were objectively correct? *No.*

What did you think when you first heard the others give an answer different from the one you were going to give? *It could be me.*

Did you examine the lines more closely? *Yes.*

Did the others arouse doubt concerning the correctness of your judgments at the time you were giving your estimates? *Skepticism more than doubt. Because there were ten other people disagreeing. [He describes his doubt as moderate.]*

Did you have doubts that your eyes might be deceiving you? *Yes.*

Did this doubt change as the experiment progressed? *Increased, because those looked awful right to me.*

Were you concerned about the disagreements? *Not particularly.*

Try to describe exactly why you were concerned. *That I might be alienating a few people. Here was a group; they had a definite idea; my idea disagreed; this might arouse anger.*

How did you feel when the others and you agreed—when they gave the same answer that you had in mind? *Fine.*

Did you feel that the answers of the others were arousing a tendency in you to agree with them? *Yes.*

Would you say that the pressure was very strong, considerable, moderate or slight? *Very strong. I had a feeling that I was going against their wishes.*

Were you tempted at times to answer as the others did? *Yes . . . we all want to be with the bandwagon.*

As you continued to look at a pair of cards, did the answers of the others continue to appear wrong, or did they seem to become more plausible? *Continued to appear wrong.*

Did you ever give an answer which you knew to be wrong? *Yes.*

How often? *About three or four times.*

Why did you follow the group in these cases? *First, because I figured I probably was wrong, and second, I didn't want particularly to make a fool of myself.*

Did you not feel that you should answer correctly? *When you're in a crowd, who's supposed to know?*

How did you feel when you saw the lines one way and answered in another way? *I felt I was definitely right, even more so when I gave a different answer.*

Did you think the group would disapprove of you, or think you were peculiar if you gave a different answer? *They might think I was peculiar.*

When you gave such an answer, did you at times forget about the question of accuracy, and consider rather that it might make you appear different from the others? *Yes.*

What did you think our purpose was in this experiment? *An experiment.*

As the experiment progressed, did its meaning change? *I began to feel I was being pushed to an answer I didn't want to give.*

At the beginning, after the first three or four judgments, were you aware that you were in disagreement with all the students? *Yes.*

Were you aware that all the students were in agreement with each other? *Yes.*

Did the fact that the others agreed with each other make them appear as a group? *Certainly did—they were trying to put their ideas on me.*

Did they as a result appear closer to each other than to you? *Yes.*

Did they seem to become more united as the experiment progressed? *They seemed united all the way through—only it was more noticeable.*

Did the disagreements produce in you the feeling that you were separated from the group? *Yes and no.*

In opposition to the group? *They were in opposition to me.*

Did it require an effort to answer differently from the others? *No, it required more of an effort to answer the same.*

Suppose I told you that your judgments were always right when you disagreed with the group, what would you think? *A combination of surprise mixed with something of I-told-you-so.* After the full disclosure, he appeared serious, simply commenting: *It's pretty effective.* Invited to explain his reactions, he continued: *I was torn between them and me. At first I was more inclined to disagree with them. As it became more obvious that the disagreements would continue, I changed over.*

We then proceeded to put the following questions:

Were you self-conscious at the beginning of the experiment? *Yes.*

Did you become more self-conscious as the experiment progressed? *Yes, I was standing out as a sore thumb.*

Did you doubt the accuracy of your perception? *At times, yes, not at other times. Sometimes I had a violent reaction—that they were wrong.*

What was your major concern at this time? *To merge into the group.*

Did you suspect that the group intended to affect your judgments? *Yes.*

When did you first begin to feel suspicion? *After five or six [trials].*

Did you retain this suspicion? *Yes. I was very suspicious.²³ They were strangers. It was like being in a strange country. "When in Rome you do as the Romans do."*

What in your character and experience would you say was responsible for the way you acted in this experiment? *They are connected—yes. I tend to do things sometimes a little differently from others—jumping at what I can get. [Here the subject assumes that he was largely independent.]*

At the conclusion, in the course of a general conversation, he expressed the view that *the duty of a government is to do the will of the majority, even if you are convinced they are wrong.* Suppose it concerned a lynching? *I wouldn't want to stand in the way, I've seen one. It's like a tide—they'd trample me over—I was run over.*

²³ This was an instance of hypothetical suspicion. The subject continued to yield to the end.

The following subject, with ten errors, resembles the one preceding, except for possessing a serious conviction that his action was wrong and called for improvement.

Did the fact that other people were present and attending to the same task affect you in any way? *If people had been alone, there wouldn't be so much agreement.*

How would you describe the effect? *Some people followed. I think I followed a couple of times. I think it was a great deal a group response. If I wasn't absolutely positive, I changed, thinking maybe I'm wrong.*

When you gave an estimate that disagreed with the others, did you feel that your perception was objectively correct or incorrect? *Just the way I saw it. People perceive things differently. Numbers don't make it right.*

Did you feel that the perceptions of the others were objectively correct? *Yes.*

What did you think when you first heard the others given an answer different from the one you were going to give? *I just thought, "to hell with it, I'll give what I think."*

Did you examine the lines more closely? *Yes, I checked it and still thought the same thing.*

Did the others arouse doubt concerning the correctness of your judgments at the time you were giving your estimates? *Yes (moderate doubt). I thought that maybe because I wore glasses there was some defect.*

Were you concerned about the disagreements? *No.*

Did you feel that the answers of the others were arousing a tendency in you to agree with them? *Yes—mob psychology.*

Were you tempted at times to answer as the others did? *Yes. The more uniformity among the group, the more it made me conform.*

Were there times when you saw the lines one way and you answered in another way? *Yeah, when I decided to be a conformist on a couple of occasions.*

How often? *Three to four times.*

Why did you follow the group in these cases? Try to describe exactly. *I felt the need to conform. Force of habit—mob psychology builds up on you.*

How did you feel when you saw the lines one way and answered in another way? *Oh—hell, (smiles embarrassedly)—I'd see one, then they'd answer, and I'd figure it wasn't important enough to stand out and resist. Do you always get such uniformity?*

Did you think the group would disapprove of you, or think you were peculiar if you gave a different answer? *I didn't at first, but maybe near the end this did operate.*

When you gave an answer that did not agree with your own perception, did you feel that it was objectively correct? *No.*

When you gave such an answer, did you at

times forget about the question of accuracy, and consider rather than it might make you appear different from the others? *Yes.*

When in the experiment did this happen? *Anywhere after the fifth [trial].*

What did you think our purpose was in this experiment? *Psychological response. I thought there was something else than eyes.*

As the experiment progressed, did its meaning change? *Toward the middle, I thought maybe it had something to do with pressure.*

Did this situation acquire any personal importance for you? *No.*

This subject's reaction to the disclosure appears notable for its lack of perceptiveness. To the question, "Suppose I told you that your judgments were always right when you disagreed with the group, what would you think?" he replied: "It would inflate my ego." It is understandable that this information, validating his judgment, would produce relief. That he appeared to lose sight of his yielding, responding mildly to the full disclosure, treating the information as a "big joke," and showing predominantly relief and happiness, takes on, in the light of his later statements, a defensive character. Actually this subject was able to extract something positive from his experience. When, toward the conclusion, he spoke more freely, he mentioned that he had always suffered from a strong sense of inferiority, and that he would have complied even more when younger. As it is, he felt that he had overcome this difficulty to some extent and hoped to improve in this respect, predicting that in the future he would be much more independent. Thus he openly recognized his conformity as a weakness which he was working to eliminate.

The following record illustrates the inner turmoil, the fluctuating efforts at rationalization, the contradictions and disturbances that were the consequences of yielding. This subject erred ten times.

Early in the interview he stated: *I must have a difficult time judging lines—I kept getting more and more unsure and gave their answer. Most of their answers*

were faster than mine, much to my chagrin. Why disagree? I couldn't see it too well—a few I just didn't bother with. If seven out of eight are in perfect agreement—nothing to worry about. He continued: I was more or less in doubt—wasn't too sure. I can't think they were all so sure. They aren't that much more keen. They were all reacting pretty much—just going along. Why don't you give it to them again—you'd probably get different answers.

Despite his uncertainties he felt, when he responded independently, that he was right and the group wrong. Also significant was the statement that he "felt better" when opposing the majority.

He further explained the pressure as follows: *From the start there was a tendency to agree with them. I thought they would see them the way I did—they all got them right away—I wasn't too sure of myself then. I was annoyed that I was seeing them differently. I didn't get a chance to make up my mind. Half the time I thought I was wrong and might as well go along. . . . A number of times I thought they were wrong, but I didn't get a chance to think it out myself. I squirmed through the whole thing, thinking I'll just go along with them. . . . It was half and half—I wasn't so sure—felt their answers must be right, and I would be peculiar . . . I agreed because I wanted to agree with them. Takes a lot of nerve to go in opposition to them.* At times he mentioned that "I didn't even bother to look." He also upbraided himself for not being "more assertive."

Toward the conclusion he volunteered a further example of his group consciousness. Around election time he marked Dewey on a student ballot, although he preferred Truman, because he thought Dewey would win and that he was preferred by most. He was making the point that he went along with the majority even when he could have acted on his own belief.²⁴

The following protocols are of interest mainly for the light they throw on the elaborations and justifications for compliance when it becomes a settled mode of the individual's conduct, which he is unable to accept outright or to discard.

This was a sophisticated young man of eighteen with a mock-heroic swagger, who responded with defensively preten-

²⁴ These comments raise a further problem concerning the operation of group pressure that we have not studied but which deserves investigation. It appears that compliance with a group trend can be strong although one suspects that the group itself is misguided and conformist.

tious generalizations from his social science courses. He erred 10 times. He had the air of inviting one to join him in a subtle joke which of course he alone could understand. He was also nervously ready to burlesque himself if his swagger failed to impress as a "straight" performance. Before admitting to yielding, of which he was aware, he fenced as long as possible. As far as we could see, he stopped trying to decide which answer was right, taking refuge in a feeling of amusement while following the group.

His feeling of amusement functioned in a way that reveals the core of one kind of cynicism. He considered that the others were following the leader, and so he went along with a contemptuous, amused feeling that he was nobody's fool and that nothing was being put over on him. When asked why under these conditions he joined the farce instead of exposing or resisting it, he readily explained (and this he saw as a still deeper joke in the situation) that he was not certain it was a farce and therefore he protected himself from exposure to (remotely possible) wrongness. His attitude protected him from the humiliation of yielding, but was at the same time necessitated by lack of courage.

Would you please describe in your own words your experiences during this experiment? Frankly I thought the mob were following the first man. Of course, it could be my eyes since I was the only one who disagreed.

Try to think back to the time that you were giving the judgments. Did the presence of the others affect you in any way? Yes, people tend to follow the leader. When I disagreed I felt outside the group.

Still thinking back to the time that you were giving your judgments, would you say that the others made you doubtful about your accuracy? Yes. Being in a minority might have a tendency—it might have had a tendency to make me change my mind, but it didn't.

How did you feel when you continued to give answers different from the others? There's naturally a tendency to wonder what the others are thinking. Really couldn't say what I thought.

Did you ever answer as the others did, against your own first choice? [Gay and subtle] Yes. You don't make your own choice, you let others choose for you. Instead of proving you're wrong, you let yourself be right.

On these occasions, as you continued to look at a pair of cards, did the answers of the others continue to look wrong, or did they begin to look more right? Wrong. Just doubting your own abilities. There's the old tendency there not to mind being wrong in company. Henry Adams wrote about that.

What did you think about the other people in the group when they all gave an answer that looked wrong to you? Either they all saw the same thing and I was wrong, or they were following the first guy. Thought the experiment would be just as good if only the first guy were there.

Did you wonder what everybody might be thinking of you when you disagreed? Yes, I had a tendency to wonder what others are thinking about when you get out of the groove.

Suppose I told you that your judgments were always right when you disagreed with the group, what would you think? Wouldn't break any buttons over it.

Following the full disclosure he stated: I even had a hunch of that, a stray hunch, never serious. He then continued: If it had been on some other issue, I would have stood my ground. But on a question of faculties, like this, you get unsure. When you've tried once or twice and you're still wrong, there is a tendency to crawl back into the fold. I also felt it was a game of follow the leader. Felt amused.

How did you feel when you saw the lines one way and answered in another way? Frankly, I was thinking over in my mind how people will follow the rule of the majority.

The following subject, age 20, reveals a reaction that cannot be readily included among the preceding categories. He yielded eight times. Although the situation was quite salient for him, and his degree of disturbance considerable, he was unaware of the impact of his yielding and rationalized it in "philosophical" terms.

Would you please describe in your own words your experiences during this experiment, that is, what happened, and what thoughts you had? There was general agreement at first. Around the middle, I started doubting which was which. I said what I saw, but guess I was wrong when I disagreed. Majority is usually right.

Did the presence of the others affect you in any way? Yes. Toward the end, I felt slightly disturbed, not confident.

Did the effect of the others change in any way in the course of the experiment? Usually I agreed, sometimes felt they were dead wrong, but I guess they

weren't. If I had any doubts whatsoever, I'd perfectly naturally go with the majority. I'm a political science major; I carry those principles over into psychology.

Did you feel that the comparisons during the later part of the experiment were easier or more difficult than in the early part? Obviously more difficult, no doubt. They seemed that way, anyway.

Still thinking back to the time that you were giving your judgments, would you say that the others made you doubtful about your accuracy? Yes. Who am I to disagree with everybody? Sometimes I did, of course. I'm perfectly willing to stick my neck out. My thought was: "I can't subvert my principles that far." I won't agree just for the sake of agreeing, but will go along when in doubt.

Did you ever think that your eyes might be deceiving you? Yes. Suppose my eyes got tired. I was quite sure in my own mind I was definitely wrong.

How did you feel when you continued to give answers different from the others? Doesn't bother me. Would just as soon disagree, usually do.

Would you say you were disturbed about the disagreements? Not a bit. Took it rather easily.

Would you say that you were tempted at times to answer as the others did? Yes. If there's an equal balance between two alternatives, I think it natural and right to permit the majority to influence your answer.

Did you decide at any point to agree with the group, or to be independent of them? No. I let every case be separate. Not a fair test if I didn't.

What did you think when the others gave the same answer you had in mind? They're right, and I'm right, too.

How do you explain it? Sometimes I felt they all were going along with the first guy who answered. Not much strength of mind.

What did you think about the other people in the group when they all gave an answer that looked wrong to you? Most people are sheep anyhow. Sometimes I thought they seemed to be wrong, but probably I am.

While you were comparing the lines, what did you think our purpose was in this experiment? If there was disagreement, why? And whether the group behavior influenced results. Am sure if no one were there I would have been equally doubtful.

What is your opinion of psychology experiments generally? They have contributed great deal to our knowledge. Wouldn't go into it myself, I'm not that interested in people. I'm interested in government, how to make people work together. If we must have government, I'd like to be in it.

Suppose I told you that your judgments were always right when you disagreed with the group, what would you think? Wouldn't believe you. I think a majority is usually right.

After the full disclosure he laughed hard: A dirty trick! Apparently toward the end I was really influenced. Said what I thought right most of the time.

Did you suspect that the group intended to affect your judgments? No.

This experiment lasted a fairly long time. Could you tell us how your feelings and attitudes changed as the experiment continued? *When you begin to disagree there is some doubt. When doubt continues against insuperable odds, there is a strong tendency to say "what the hell" and go along.*

Did the situation in general become easier or more trying? *Never trying. After disagreeing for so long, you figure you might as well agree, especially since it isn't easy to judge and there's some doubt.*

Some of the preceding protocols contain a sense of resentment at the majority. It is not surprising to find this reaction to compliance that violates conviction. It also suggests, what our observations otherwise confirm, that yielding was not a mark of respect for the majority or a sign of closer feeling with it.

D. The Question of Right and Wrong

Among the questions facing the subject, one of the most crucial was whether he or the majority was judging veridically. Let us attempt to see whether there was an orderly relation between performance and the answers this question received. Among the possible alternatives the following were the most usual: (a) The majority is wrong, I am right; (b) I am right; (c) I am wrong, the majority is right.

We will consider first the independent subjects. (a) Included among the independents are those who arrived at the first conclusion. As we have seen, the emotional reactions of this subgroup were not homogeneous. (b) Also included among the independents were those who adopted the second conclusion, namely, that they were right, while refusing or reluctant to commit themselves about the majority. (c) The third conclusion was also compatible with independent performance (see pp. 40-41). It is clear that the answer to the question "who is right, and who is wrong?" did not automatically decide whether one was going to be independent. The first two alternatives pointed toward

independence, and the last toward yielding, but independence was compatible with the entire range of alternatives. Supervening upon these alternatives were subsequent emotional reactions which could take different directions and produce divergent decisions.

Turning to those who erred it might appear that there were none who adopted the first or second conclusion, and that yielding was compatible only with the third alternative. But there are grounds for holding that all the alternatives were also represented among those who erred.

The nub of the difficulty concerns the meanings of the terms right and wrong in the present context. "The majority is right" can mean that they are judging the given data correctly; it is this comparatively specific sense that figured in the thinking of independent subjects. But yielding subjects extended the assertion to mean that the majority was generally right. They endowed the majority with a quality of rightness or authority that went beyond the immediate question at issue, granting it a general and undefined superiority that was capable of overriding their convictions about their own rightness in the specific case. This assumption of group superiority expressed itself, however, in diverse ways. 1. Some yielding subjects rested their case ostensibly on a simple probabilistic inference. But when they did so they were also denying to their judgments the status of evidence, trying to see the relations as the majority apparently did, and at times allowing themselves to become confused. 2. A deeper effect is observed in those who followed the majority because they found open opposition to it untenable. These subjects continued to see the relations clearly and even appeared no longer concerned with questions of accuracy. They granted the majority a pervasive and more absolute kind of legitimacy; the majority wielded the sinister power of rightness although its actions were distorted—because it was the majority. 3. We can say least about the few who complied without awareness (see pp. 42-43). Possibly these individuals acted on the assumptions of the preceding groups. It seems justified to conclude that yielding subjects granted superior credence and power to the group, but that the pressure took effect in different ways.

From what has been said it follows that yielding was incompatible with the first alternative when taken in its specific meaning. To state the point differently, yielding could not have the standing of a "Gali-

lean" act. The absence of coercion excluded the defiant suppression of one's experience in order to escape ignorant or cruel group sanctions.

E. The Problem of Individual Differences

It will be evident that we have described the features, rather than explained the grounds, of independence and yielding. Our procedure was not designed to throw light on this question. The interview was concerned mainly with the overt content, and the subjects could not be expected to inform us of the functional determinants of independence and its failures. The striking individual differences leave us therefore with an unsolved problem that requires investigation. At this point we will make only some first comments.

There are two directions open for an interpretation of the observed individual differences. They may be the product of momentary, episodic circumstances. Or they may be a function of consistent personal qualities which individuals bring into the experimental situation and which have as decisive a bearing on their actions as any of the other conditions we have studied.

The contingency thesis might be formulated as follows. Although the experimental setting was in its general contours similar for all subjects there is no doubt that it was not completely controlled. The composition of the majorities varied from time to time. Even when they remained constant a majority could hardly duplicate its actions exactly. Doubtless the majority also responded in subtly different ways to each subject. Nor did we have control over the subject's immediate reaction to the group or over his definition of the situation which may have depended on his momentary condition of gaiety or preoccupation. These and numerous circumstances of this kind might be responsible for the observed variability. According to this view, the same individual who went consistently with the majority might with equal likelihood have been independent if the circumstances described had varied in slight ways.

Although such contingent conditions probably played a part, there are strong grounds for holding that they accounted for the results only partially. The evidence cited in this chapter, particularly that pertaining to the different modes of reaction, produces the insistent conviction that the responses

to the experimental conditions were functionally connected with crucially important character-qualities. One could not observe the subjects and escape the impression of a coherence between their actions and the kind of persons they appeared to be. While these observations and impressions cannot take the place of evidence they may be the starting point for thinking.

To proceed with this problem it would be most desirable to establish the degree of individual consistency of independence. The most convincing way would be to observe the same person in different situations each of which poses an alternative between independence and yielding (while excluding the subject's conscious comparison between them).²⁵ Or one might formulate relevant hypotheses about the relation between the experimental performance and certain character qualities, the presence of which would be established independently. The combination of both procedures would be most pertinent.

Concerning the probable grounds of independence and compliance as characteristic modes of coping with social opposition we can here only say some preliminary words. In the first place the problem needs to be specified. The issue concerns the probable reasons for differences in tolerance of the denial of one's private experience by others. To face such denial is for most who have had a social past an ordeal. Under this stress some adhere to their direct experience despite doubts and pains, while others abandon its claims. We are concerned with the reasons for differences in endurance of this difficulty.

Social opposition of the kind here referred to is an ordeal because it exposes the individual to misunderstanding, calumny, or ostracism. Differences in endurance are therefore differences in capacity to withstand social misunderstanding or suspicion.

Our observations suggest that independence requires the capacity to accept the fact of opposition without a lowered sense of personal worth. The independent person has to organize his overt actions on the basis of experience for which he finds no support; this he can do only if he respects his experiences and is capable of claiming respect for

²⁵ It would be enlightening to establish whether there is a relation between performance under the present conditions and those resembling the classical suggestion experiments in which the source of influence is largely or entirely unknown to the subject. Within the range of the present procedure it should be possible to study the effect of a majority when its deviations from accuracy are sufficiently small to prevent the experience of outright conflict and to compare the performances of individuals with those obtained under the present conditions.

them. The compliant person cannot face this ordeal because he translates social opposition into a reflection of his personal worth. Because he does so the social conflict plunges him into pervasive and incapacitating doubt.

A guiding assumption concerning the sources of these differences is that the experimental dilemma communicates in an important way with central regions of the individual's forgotten past. It communicates with deep-seated feelings of inadequacy, isolation, of real or imagined deficiency, as well as with capacities for mobilizing resistance to these. A further and more specific assumption is that psychic inadequacies of this order are in part a consequence of the denial by others of the worth of one's experiences, and that one of the consequences of such denial is self-depreciation and estrangement from one's own experiences. Few grow up without some denial of their feelings and insights by others. The child who is assured that he is attached to his infant brother, when other emotions toward his sibling predominate, or that his parents are devoted when sees them bursting with anger, is faced with feelings that have no validation in the world of others. If feelings of inadequacy are present they are likely to blunt reliance on one's own observations and breed confusion. Aside from such experiences, which resemble in a measure the structure of the present experimental conditions, there are the daily, unremitting pressures to conformity which shape not only the practices of persons but also their most intimate conceptions of themselves. The pursuit of this problem therefore brings us to the uncharted area of the relation of the person to his own experiences and convictions, and of the relation between these and interpersonal ties. It is in the clarification of these personal-emotional processes that the solution of the present problem lies.

A point that may complicate the clarification of the problem concerns the observed differences in responsiveness to the majority. If we could assume that all subjects faced the same difficulty it would follow that performance was a function of ability to cope with it. This was not the case; some experienced a more severe conflict than others to the opposition of the majority (see pp. 35-36). The resulting performance was therefore a function both of the cogency of this kind of conflict for the individual and of his ability to overcome it. Some independent subjects were less sensitive than others to the import of the disagreement, without being necessarily more confident than others in their own judgment. Some yielding subjects experienced a severe conflict, while others did not appear much shaken, did not feel deeply about yielding, and the requirement to report truthfully was apparently not a very strong motive with them. The latter may have yielded for the reasons mentioned rather than for lack of confidence. These

considerations leave open the possibility that the differences between independent and yielding performances were in part due to the severity of the conflict rather than to differences in capacity to withstand the same degree of conflict.

We must leave open the question whether and how constitutional differences contribute to the observed individual differences. It is conceivable that there are systematic differences between persons in capacity to endure tension or in ability to cope with contradictory forces, to weight their respective merits without becoming overwhelmed.

The reader who has followed the account to this point may have wondered whether this mode of experimentation, which places an individual in a situation that can cause pain and embarrassment, is justified, and whether its effects are desirable. We will attempt to state briefly our thinking concerning this question as it developed in the course of these experiments.

On the basis of our observations and of the comments they made, we are of the view that the greater number of subjects felt that they had taken part in an experiment with a bearing on serious human questions, and one that justified the brief conflict to which they were exposed. They found it illuminating to consider their earlier doubts, temptations, and surrenders in the light of the subsequent disclosure of the actual state of affairs. The experiment had provided a vivid illustration of the importance of individual independence and of the dangers of certain forms of group pressure; in many cases it aroused wonder and reflection about the role of these forces in social and personal life.

Their conduct also confronted the subjects in the end with certain evidence about themselves that they used variously. If they were open to self-knowledge the disclosure furnished them an opportunity to evaluate their conduct and to appreciate more clearly certain trends in their

character. When they had been independent they found encouragement in the capacity they showed to meet the challenge of the experimental episode and were somewhat wiser about the weaknesses they had to battle. Those who had yielded to the majority were often able to show more respect for the feelings of resistance and the struggle for independence that all in some measure displayed. (This may be one explanation for the focusing of many yielding subjects on their occasional independence.) Others could not use the knowledge of their shortcomings constructively; these slurred over the significance of the situation and refused to think about it. It would be too much to expect that a brief episode in a permissive setting which touches off conduct that has a long history, would produce lasting changes for good or ill. We are inclined to hold that where further changes did occur they were in a favorable direction and that those who found it difficult to defend their conduct acted so as to obscure the facts and the problems they raised. As far as we were able to observe there were no harmful effects.

Assuming the correctness of the preceding observations the issue is by no means completely resolved. Unfortunately the problem we studied excluded the possibility of obtaining the subject's permission in advance. To be sure, the subject was not placed in a situation in which he was forced to suffer indignity; he could not fail to see that his conduct was of his own making. The present procedure thus had nothing in common with those which, for some experimental purpose, insult or embarrass the subject. Nevertheless the involuntary participation, the fact that the subject was, without his knowledge or consent, placed in a situation in which he revealed himself (without the other parti-

cipants revealing themselves in turn) remains a problem.

To justify this mode of experimentation it is necessary to take the position that persons engaged in the normal occupations of life and shouldering its usual responsibilities should be considered capable of handling truth emotionally, that we have no moral obligation to shield them from everyday facts about themselves. To take part in social life implies the ability to meet new experiences: either by profiting from them or by shutting them out if they appear too threatening. (We do not here consider whether it may not be our obligation to challenge each other to bear more truth.)

Nevertheless the circumstances place a special responsibility on the experimenter and obligate him to surround the procedure with proper safeguards. It has been the writer's experience that far more important than the momentary pain or discomfort of the procedure is the way in which the experimenter deals with the subject. When subjects grasp the aim, when they see that the experimenter respects their feelings and that he depends upon them for help in clarifying what has happened, they become for the time being collaborators and cease to regard the problem from an entirely personal standpoint.

V. VARIATIONS OF THE EXPERIMENTAL CONDITIONS

The present chapter describes a number of variations the aim of which was to clear up certain questions of interpretation arising out of the preceding experiment (Experiment 1). The main feature of the earlier procedure was retained: there was always a unanimous majority of 7 to 9 persons and a naive minority of one. As in Experiment 1, the subjects (and the mem-

bers of the majority) were male college students.

Experiment 2: Varying the Modality of Judgment

Nothing in the observations of Experiment 1 suggests that the majority effect was peculiarly a function of the dimension of length which we employed because of its convenience. It seemed nevertheless advisable, in view of our limited knowledge, to observe whether the effect could be obtained with an entirely different continuum. Accordingly the present variation was performed, the task being to compare the brightness of two discs.

The subjects viewed two color wheels, of which the one at the left was the standard. They were instructed to judge whether the (comparison) wheel at the right was lighter, darker, or of the same brightness as the standard. Between trials a screen was placed in front of the wheels while the experimenter adjusted the one at the right and checked to see that there was no flicker.

The standard color wheel was throughout set at $90^\circ W + 270^\circ Bl$. In the course of the trials the comparison wheel was set to the following 6 degrees of white: 10° , 30° , 60° , 130° , 180° , and 260° . In short, there were 3 steps above and 3 steps below the $90^\circ W$ of the standard. According to the observation of the experimenters the steps were easily distinguishable from each other and from the standard. The points were chosen so that they would be at approximately equal intervals. The comparison disc was never set equal to the standard.

The color wheels were $7 \frac{1}{4}$ inches in diameter and the distance between their centers was 47 inches. The subject sat directly in front of the wheels and at approximately the same distance from them as those in Experiment 1 were from the lines. He did not know that only one wheel was adjusted. The speed of rotation was the lowest at which no flicker was visible.

On critical trials the majority judged wrongly, calling the darker comparison disc brighter, and conversely. Announcements of the majority were always in terms of "darker" and "lighter." Consequently judgments of "equal" by minority subjects are to be considered as compromise reactions.

There was a total of 23 trials of which the first 5 were for the purpose of accustoming the subjects to the procedure. Trials 1 and 2 were neutrals; the settings of the comparison wheel were extreme so that the judgments were very obvious. Trials 3 and 4 were critical "buffer trials," the dis-

TABLE 14
BRIGHTNESS COMPARISONS AND MAJORITY RESPONSES: EXPERIMENT 2

Trial	Degrees of white of comparison color wheel	Correct response	Majority response
6	60	D	L
7	180	L	D
8	130	L	D
9	10	D	D
10	30	D	L
11	260	L	L
12	130	L	D
13	30	D	D
14	10	D	L
15	60	D	L
16	180	L	L
17	260	L	D
18	30	D	L
19	130	L	L
20	10	D	L
21	60	D	D
22	260	L	D
23	180	L	D

Note.—The preliminary five trials, which were introduced for purposes of explanation, are not included. L = Lighter; D = Darker.

crepancies being small, 10° in each case; Trial 5 was another neutral trial. There followed 18 trials (6 to 23) with which we are here concerned and which are summarized in Table 14. They consisted of 12 critical and 6 neutral trials, distributed in a random order. Each critical setting was presented twice.

There were 11 subjects in this variation. The errors of the subjects were, in order of increasing frequency, as follows: 0, 0, 0, 1, 2, 3, 3, 8, 11, 11, and 12. Eight of the 11 subjects showed one or more errors. The range of individual differences was great, from complete independence to complete yielding. The mean number of errors was 4.6 or 39 per cent of all critical estimates. Five out of a total of 51 errors were compromises.

In Table 15 the frequency of errors for each of the steps is tabulated. Because of the small number of intermediate subjects the relation of errors to the magnitude of discrepancy remains undecided.

The main conclusion we draw is that

TABLE 15
FREQUENCY OF ERRORS ON BRIGHTNESS COMPARISONS: EXPERIMENT 2

Setting of comparison wheel (in degrees of white)	10°	30°	60°	130°	180°	260°
Number of errors	8	8	7	13	9	6

the majority effect was present under these conditions. Further, our observations of the subjects and of their reactions during the postexperimental interview leave no doubt that they were independent or acquiescent for essentially the reasons that obtained in Experiment 1.

The level of tension appeared somewhat lower than in the main experiment, but the observations were not continued far enough to clarify the reasons.

We conclude that in its main aspects the present situation was psychologically similar to that of Experiment 1, and that the majority effect there observed is not restricted to a particular sensory dimension.²⁶

Experiment 3: A Further Variation of the Dimension of Judgment

The stimuli of Experiment 1 were lines $\frac{3}{8}$ of an inch wide. It might be contended that since the lengths were actually rectangles, the judgments involved the dimension of form and not of length alone. Although our observations did not support this interpretation, it seemed desirable to limit the procedure more strictly to the comparison of lengths.

²⁶ Since we made no effort to equate the brightness differences with the size differences of Experiment 1, we cannot compare the magnitude of the effects in the two cases.

Accordingly the experiment was repeated with lines $\frac{1}{32}$ of an inch wide. The trials and other details of procedure were those of Experiment 1. Following the eighteenth trial with the thin lines the subjects were given the first 9 trials of Table 1, this time in the original width of $\frac{3}{8}$ of an inch. There were 11 subjects in this variation. The results are summarized in Table 16.

Errors occurred with somewhat lower frequency than in Experiment 1, comprising 24.5 per cent of the critical estimates. Extremely yielding scores were curtailed, but the number of cases is too small to establish whether this difference is significant. The difference between the proportion of errors in this variation and in Experiment 1 is not significant; if we dichotomize the distributions into 0-3 and 4-12 errors, $\chi^2 = .179$.

When the stimuli of Experiment 1 were restored in the final trials the level of errors was much the same as with the thin lines, accounting for 27.4 per cent of the critical estimates. There was also a curtailment of extremely yielding scores. Finally, the individual performances under the two conditions were significantly associated. Comparing the concordance of ranks (see Footnote 9) for the number of errors produced by each subject under

TABLE 16
DISTRIBUTION OF ERRORS: EXPERIMENT 3

Condition	Subjects										
	1	2	3	4	5	6	7	8	9	10	11
Thin lines (12 trials)	0	0	1	1	3	3	3	4	4	6	7
Thick lines (6 trials)	0	0	1	1	0	2	3	1	4	2	4

each of the two conditions we obtain an approximation to chi square of 22.7, which with 11 degrees of freedom gives a p between .02 and .01. The rank correlation between errors under the two conditions equals +.75. The subjects showed a definite tendency to maintain to the end the stand they adopted earlier in the experimental session.

We may conclude that the majority effect occurs when the comparisons are strictly restricted to the dimension of length. If we bring these results in relation with those of Experiment 2, we have added basis for the conclusion that the majority effect of the present studies is not limited to a particular sensory dimension.

Experiment 4: The Import of Public Judgments

One distinctive feature of Experiment 1 was the requirement to announce one's estimates in public before a group that was also estimating in public. It stands to reason that this procedure may have contributed to the majority effect. The task of the minority-of-one was not only to arrive at a private decision in the face of opposition; he also had to announce his judgment within the hearing of those who disagreed with him. In the following variation we altered this condition. The majority continued to respond publicly as before, but the critical subject stated his estimates in writing.

The present variation is part of an experiment designed primarily to study a different problem to be reported subsequently in detail; we will therefore state the procedure here only summarily. In brief, we arranged to have the critical subject arrive "late" in the experimental room. The experimenter offered an acceptable reason for not being able to include the subject in the procedure of

public announcements, but invited him to take a seat (which happened to be, as in Experiment 1, next to the last) and to put his estimates in writing. In the course of this explanation the experimenter managed to include the full instructions. In addition, the experimenter explained that he was interested in the time relations of the judgments, that he would signal to each member, with the help of a metronome, when to announce his response, and that the critical subject was to wait with writing his estimate until his turn came. This procedure insured that he would respond, as in Experiment 1, only after all but one of the majority. Thereupon the experimenter "continued" with the trials of Experiment 1 (which were numbered, for the sake of the critical subject, from 7 to 24). The majority of course responded publicly. In short, we duplicated the conditions of Experiment 1, except for the mode of response of the critical subject.

There were fourteen subjects in this variation.

The results appear in Table 17. It includes the distribution of errors on critical trials and, for purposes of comparison, the distribution of errors in Experiment 1 and in the control group.

The shift from public to silent judgments markedly lowered the frequency of errors. The mean frequency of errors was 1.50, or 12.5 per cent of all critical estimates, about one-third of the errors found in Experiment 1. The results were intermediate between Experiment 1 and the control condition. In Experiment 1 the errors ranged up to the maximum of 12, in the control group they did not exceed 2, while under the "silent" condition the maximum was 6. Because of the small number of cases in this variation and the great range of errors in Experiment 1, we cannot establish a conclusive difference statistically

TABLE 17
ERRORS ON CRITICAL TRIALS: EXPERIMENT 4

Group	N	Number of Errors												
		0	1	2	3	4	5	6	7	8	9	10	11	12
Experiment 4	14	5	4	1	3				1					
Experiment 1	123	29	8	10	17	6	7	7	4	13	6	6	4	6
Control group	37	35	1	1										

between the two conditions. However, inspection of the data leaves little doubt that the two conditions were producing different effects. The difference with the control group is significant ($t=3.64$, which with 49 degrees of freedom, gives a $p < .01$).

Other aspects of the results confirm the reduced character of the group pressure under the present conditions. We found in Experiment 1 that on extreme trials—trials on which the majority chose the most discrepant comparison line—the critical subjects mostly followed the majority; 81 per cent of the errors were extreme, and 19 per cent were compromise reactions, or errors nearer to the standard. (See Table 5.) With the critical subjects responding silently all errors (of which there were 10) were moderate, no one followed the majority when it became extreme, a result that confirms the diminished power of the present majority.

The difference described holds not only in general but also for each critical trial. Figure 6, which plots the errors on successive critical trials, demonstrates this fact. It also reveals a striking parallelism between the fluctuations of the curves in this experiment and Experiment 1, again confirming the presence of stable differences between the stimulus-comparisons, this time despite a considerable shift in the general level of performance.

Why did the condition of silent judgment fail to abolish completely the occur-

rence of errors? The statements obtained during the interview provide a strong hint. All but one of the critical subjects assumed that the experimenter would compare their written estimates with the majority's. They added that this presumption had no effect upon their judgments, but this statement has little evidential value. We will have ample occasion to see in later studies that critical subjects grossly underestimate the effects of helpful circumstances upon their independence, that they attribute independence to themselves and not to conditions which we can demonstrate to have altered their actions decisively.

It is clear that the silent judgments were not private in the full sense. This raises a

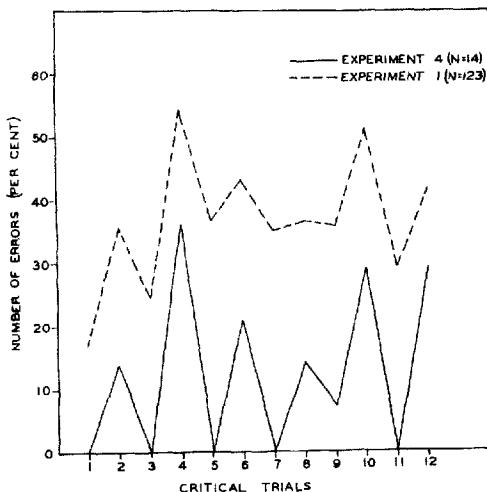


FIG. 6. Frequency of errors on successive critical trials: Experiments 1 and 4.

number of questions that await further investigation. One might attempt, for example, to surround the individual's judgments with more complete privacy in order to establish the sheer effect of a disagreeing majority.

It would also be of interest to exclude the bodily presence of the majority while retaining the knowledge of its disagreement. This could readily be done by merely informing the subject how a group of others judged the materials before he sets down his own judgment. We would then be in a position to compare the effects of a predominantly cognitive awareness of a conflict with those produced by a physically present group.

Experiment 5: Role of the Temporal Factor

We have found that the subjects of Experiment 1 were highly consistent in coping with the majority; early independence was prognostic of later independence, and similarly for yielding. The absence of a cumulative effect of majority pressure is a matter of considerable interest. Since the duration of Experiment 1 was limited, it seemed reasonable to ask whether a prolongation of the experimental dilemma would produce changes of direction—whether independent subjects might weaken in time, or whether yielding subjects might free themselves of the incubus of the majority. Accordingly, the following variation was done with a group of 19 subjects to establish whether they would continue to show a consistency of performance with a prolongation of the critical trials.

A series of 36 critical comparisons, three times as many as those of Experiment 1, was given in succession. In order to exclude as far as possible the effects produced by varying stimuli, we employed only the following two comparisons:

Standard	Comparison lengths	Majority choice
5 6	5 6	6 1/2 7 1/2
		4 7 1/2

Each of these was shown 18 times. On successive trials the comparison lines appeared in different positions. The instructions and other details of procedure were those of Experiment 1. The series opened with 2 neutral trials; there were no neutral trials thereafter in the case of 11 subjects. Eight subjects continued to receive the same pair of neutrals after each set of 6 trials. The results were so very similar that we present the data jointly.

The results closely resemble those of Experiment 1. Errors varied from 0 to 36, and the mean frequency was 37.6 per cent of the total judgments. In a control group of 11 subjects the total number of errors was 4, or 1 per cent of the critical estimates. Of greater interest to us is the consistency of the reactions. For the group as a whole the level of errors is remarkably constant, as is evident in Figure 7, which plots the frequency of errors on successive critical trials. With the exception of the first trial there is no change of direction throughout the series. To establish whether the mass consistency is based on a corresponding consistency of the individual subjects we have obtained their scores in each third of the series (each based on 12 trials). Most subjects were found to be highly consistent throughout. In particular, those who were initially entirely independent or extremely yielding changed least. The only appreciable changes occurred in four initially intermediate subjects, and they changed in both directions. The mean errors on successive thirds for the entire group were 4.05, 4.68, and 4.78, respectively; the differences between them were not significant.²⁷

²⁷ Dr. Eugene Galanter has proposed a simple and attractive test of the consistency of individuals

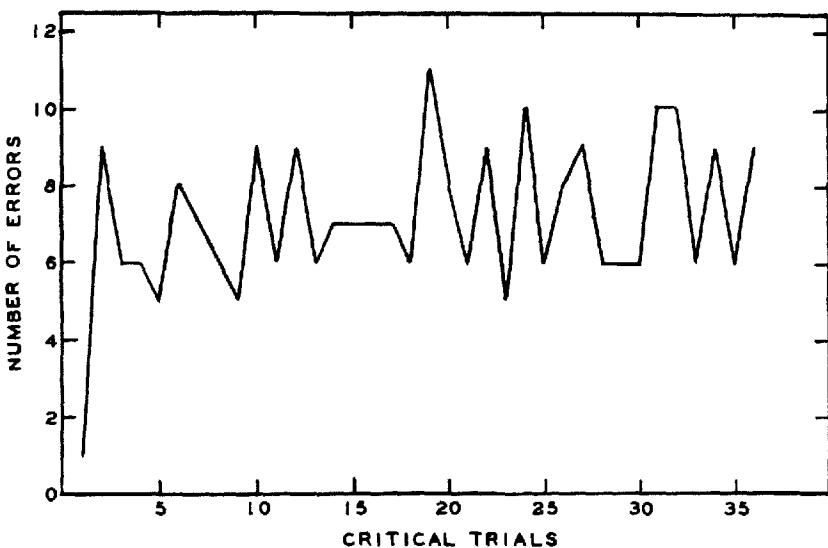


FIG. 7. Frequency of errors on successive critical trials: Experiment 5.

A more detailed analysis of the trials, which differed systematically in certain respects, revealed the following. 1. The frequency of errors was greater on all but the first 8 critical trials with a 6-inch standard than with a 5-inch standard. Of a total of 257 errors, 153 (or 60 per cent) came from the comparisons with a 6-inch standard, this

despite the fact that the magnitude of contradiction was larger than with the 5-inch standard. This result is in accordance with the findings of Experiment 1 (see pp. 18-19), and is further substantiated by the results of Experiment 6. 2. With the 6-inch standard the majority judgments were extreme. In accordance with the findings of Ex-

which should prove useful when the data are less decisive. Let us assume that on each set of twelve trials the individual has an equal likelihood of making errors between 0 and 12. On the assumption that the errors occur randomly we can compute the probability of differences between the sets as follows. Suppose we have 13 balls in an urn, numbered from 0 to 12. If we make two independent drawings with replacement, and observe the absolute value of the difference, we should find in the long run that most of the differences are small, since there are 13 ways in which a difference of zero can occur, but only 1 way in which a difference of twelve can occur, i.e., if one of the balls is a zero and the other is a twelve. We plot this theoretical probability distribution in Fig. 8. The median difference in this distribution is greater than 3. Therefore we should expect, on the chance assumption, that subjects would show a difference less than 3 about as often as they show a difference greater than 3. The obtained probability distribution with the 57 pairs of observations (19 subjects times three combinations) is also plotted in Fig. 8. We observe that 50 of the 57 observations are less than 3. We would expect an outcome such as this less than once in 1,000 experiments.

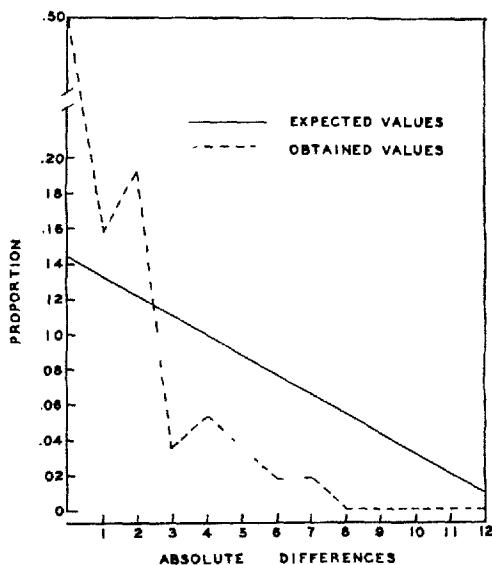


FIG. 8. Expected and obtained distribution of absolute differences: Experiment 5.

TABLE 18
POINT OF FIRST YIELDING AND RELATION TO FREQUENCY OF SUBSEQUENT ERRORS: EXPERIMENT 5

	Trial							
	1	2	3	4	5	6	7	8
	1	8	1	1	1	1	1	1
Number of subjects who first erred on a given trial								
Mean number of errors subsequent to first error	35	20.8	13	25	0			5

periment 1 the errors on these trials were not compromise errors; with one exception the errors were identical with those of the majority. 3. We also analyzed the frequency of errors as a function of the spatial positions of the three comparison lines and of their relation to the standard. As might be anticipated from the relative constancy of the errors on successive trials the analysis was negative. (a) There was no relation between the position of the correct alternative and frequency of errors; all differences were entirely insignificant. (b) Nor was the proximity to the correct alternative of the standard and lines chosen by the majority of consequence. Again the differences were not significant.

The prolonged trials of this variation permit us to check the previously reported finding concerning the relation of latency of yielding to amount of yielding. (See pp. 21-23.) Table 18 contains the relevant information, based on 13 subjects who erred at least once. It records the points at which they first went with the majority and also the mean of subsequent errors at each of these points. Again we find, as in Experiment 1, that first errors clustered early in the series. No subjects who were independent during the first 8 trials erred thereafter, and more than three-fourths of first errors occurred during the first 2 critical trials. We also find a distinct relation, in conformity with results previously reported, between the time of appearance of first errors and the frequency of subsequent errors. The one subject who erred on the first trial is the only one in this group with the maximum possible subsequent errors. Among the 8 subjects who erred on the second critical trial the minimum number of subsequent errors was 9. The lowest errors are to be found in subjects who started to yield latest.

We conclude that *the initial reactions of the minority subjects set the direction for their subsequent action*. The continued contradiction of the majority did not increase or decrease its power in most cases. The present conclusions, it should be noted, also apply to a limited duration of the ordeal; we are not in a position to foretell the developments if the experimental situation had been prolonged much further.

Experiment 6: The Effects of Size of Standard and of Absolute Discrepancy

In Experiment 1 the incidence of errors was to a remarkable degree a function of the particular stimulus relations. There was evidence of a tendency for errors to increase with size of standard but not with the magnitude of the contradiction. Because many relations varied simultaneously it seemed advisable to study the contribution of these factors under more systematic conditions. This was the purpose of the present variation.

The comparisons were between a standard and a *single* comparison line that was always unequal to the standard. There were 4 standards; their lengths were 3, 5, 7 and 9 inches, respectively. Each standard was paired with comparison lines

TABLE 19
STANDARD AND COMPARISON LINES (IN INCHES): EXPERIMENT 6

Standards	Comparisons					
	-3	-2	-1	1	2	3
A 3"	2.25	2.50	2.75	3.25	3.50	3.75
B 5"	4.25	4.50	4.75	5.25	5.50	5.75
C 7"	6.25	6.50	6.75	7.25	7.50	7.75
D 9"	8.25	8.50	8.75	9.25	9.50	9.75

TABLE 20

ERRORS AS A FUNCTION OF SIZE OF STANDARD AND SIZE OF DISCREPANCY: EXPERIMENT 6
("M" denotes majority errors, "C" denotes compromise errors)

Length of standard	Discrepancy with standard						ΣM	ΣC	$\Sigma(M+C)$	Mean	Per Cent					
	-.75"		-.50"		-.25"											
	M	C	M	C	M	C										
3"	4	0	3	1	6	4	5	0	4	1	5	0				
5"	5	0	2	2	6	5	5	5	5	0	4	0				
7"	4	0	5	1	6	5	5	6	6	0	4	1				
9"	5	0	6	4	8	4	7	5	6	2	5	0				
ΣM	18	0	16	8	26	18	22	16	21	3	18	1				
ΣC																
$\Sigma(M+C)$	18		24		44		38		24		19					
Per cent	25.0		33.3		61.1		52.8		33.3		26.4					

that deviated from it to the extent of .25, .50, and .75 inches, respectively, in both the positive and negative directions.

On critical trials the majority judged contrary to the true relation; for example, it would judge a line 9.75 inches long as shorter than the 9-inch standard. The schema of the comparisons appears in Table 19.

Each critical comparison was made once, giving a total of 24 critical trials. The same comparisons were also shown in the course of the experiment as neutral trials, i.e., the majority judged them correctly. The experiment opened with 8 neutral trials; there were 24 other neutral trials interspersed among the criticals; in all there were 56 trials. Eighteen subjects took part in this variation.

The critical subject had three alternatives: to respond correctly, with the majority, or to compromise. A compromise was in the present context a judgment of "equal."

The relevant data appear in Table 20, which includes the errors in response to each comparison, and lists separately majority (M) and compromise (C) errors.

We note, first, two detailed findings. (a) Errors in response to positive and negative discrepancies were almost identical in frequency for each size of standard. Combining the data for all standards the mean number of errors for positive discrepancies was 4.5 and for negative discrepancies 4.8; these were 37.5 per cent and 39.8 per cent of the total number of judgments, respectively. We may therefore in the subsequent analysis combine the data for the two directions. (b) Compromise responses varied

inversely with size of discrepancy. They increased as the magnitude of contradiction decreased, and became vanishingly low when the discrepancy rose.

Table 21 presents the data of Table 20 in summary form. It gives the errors in per cent according to size of standard and of discrepancy, combining positive and negative directions and treating compromise errors identically with the other errors.

An examination of these data shows the following. (a) The frequency of errors varied inversely with the magnitude of discrepancy. A crude index of the relation is obtained by combining the data for all standards; the proportion of errors falls from 56.7 per cent to 33.3 per cent to 25.7 per cent as the discrepancy rises from .25 to .50 to .75 inches. The differences between each of the discrepancy steps are

TABLE 21
FREQUENCY OF ERRORS (IN PERCENTAGES)
AS A FUNCTION OF SIZE OF STANDARD AND
MAGNITUDE OF DISCREPANCY:
EXPERIMENT 6

Magnitude of discrepancy (in inches)	Size of standard (in inches)			
	3	5	7	9
$\pm .25$	41.7	58.3	61.1	66.7
$\pm .50$	25.0	25.0	33.3	50.0
$\pm .75$	25.0	25.0	25.0	27.8

significant. The t value for .25 and .50 inches is $4.01, p < .01$; for .50 and .75 inches $t = 2.64, p < .01$. (b) Errors increased with size of the standard. The differences were not large but were consistent in direction. The difference between the 3- and 5-inch standards was not significant, nor between the 5- and 7-inch standards. All other differences between the standards were significant, as follows: between 3 and 7 inches, $t = 4.63, p < .001$; between 3 and 9 inches, $t = 4.51, p < .001$; between 5 and 9 inches, $t = 3.19, p < .01$; and between 7 and 9 inches, $t = 3.42, p < .01$. (Throughout, $df = 10$.)

The rise of errors with the size of standard, for which we also obtained evidence in Experiment 1, is a puzzling result for which a rationale is difficult to find. One would suppose that once a difference is clearly above the threshold, variations of relative difference should not affect the certainty of judgment. Our results show, however, that this is the case. They suggest that differences above the threshold do vary psychologically along a continuum of what we might call "unquestionability." This dimension does not emerge in the conventional psychophysical experiment where a small but distinguishable difference seems as certain as a large one. However, as soon as one's judgment is called into question, subjects do take relative differences into account. Their independence then varies systematically within a region far above the psychophysical threshold.

To summarize; (a) Errors were a joint function of the magnitude of discrepancy and size of standard. (b) Errors rose with size of standard, suggesting that differences above the threshold vary along a dimension of "unquestionability" when judgments are brought under social challenge. (c) Errors increased in frequency as the discrepancy of the majority with the given facts decreased.

Experiment 7: The Role of Neutral Trials

The procedure of Experiment 1 provided for the inclusion of neutral trials, to which the majority responded correctly. There were, it seemed to us, a number of reasons for introducing them. By starting with neutral trials we hoped to forestall

suspicion, and also accustom the subject to the procedure before he reached the critical trials. We also inserted them in the middle of the series in order to demonstrate that the majority could judge correctly. Nevertheless, our procedure was guided only by an informal sense of what was needed to make the experimental situation credible and effective.

It seemed of interest to explore further the role of neutral trials, both for their psychological significance and for technical reasons. A neutral trial may mark a relief from the tension of disagreement and therefore may heighten independence. Or, yielding to the majority might be the result of continuous application of pressure, which increasingly frequent neutral trials should dissipate. On the other hand, a neutral trial is also an equivocal situation. While it relieves the subject of the odium of dissent (and at times raises his hope that the nightmarish contradiction is coming to an end) it also demonstrates to him that the majority is judging correctly, rendering all the more weird the preceding and following disagreements. If viewed in this way, it might further weaken the subject's resolution.

We accordingly varied systematically the ratio of neutral to critical trials. For each condition there was a different group of subjects, drawn from the three educational institutions described earlier (see p. 12). The following were the variations: (a) *Two neutral trials*. These were the two opening trials of the series, identical with the series of Experiment 1. All further neutral trials were omitted, the 12 critical trials succeeding each other without interruption. The ratio of neutral to critical trials was therefore 1:6. One could also think of this condition as eliminating the neutral trials, since they were excluded once the critical trials appeared. There were 14 subjects in this variation. (b) *Six neutral trials*, the ratio of neutral to critical

trials being 1:2. This was the condition of Experiment 1; here we present the data of that experiment as Experiment 7b. (c) *Twelve neutral trials.* The number of neutrals was increased to twelve, which was also the number of critical trials. (The positions of the neutrals among the series of 24 trials was: 1, 2, 5, 7, 8, 10, 13, 14, 17, 19, 20, and 22.) There were 19 subjects in this variation. (d) *Twenty-six neutral and six critical trials.* In this final variation we increased the ratio of neutrals to criticals to somewhat over 4:1.²⁸ Critical trials were separated by four to five neutral trials. (The positions of the critical trials were: 6, 11, 16, 22, 27, and 32.) Because of the length of the series there were only 6 critical trials. There were 14 subjects in this variation.

The results appear in Table 22. While the differences are not significant there is a suggestion that independence increases with a higher ratio of neutrals; comparing the extremes, the errors fall from 53 to 26 per cent. There was also a tendency for compromise errors to increase with the ratio of neutral trials. The proportion of compromise errors on extreme trials was as follows in the several variations: 7a, 5 per cent; 7b, 19 per cent; 7c, 10.5 per cent; and 7d, 41.7 per cent. (These calculations are based on the trials in the first half of the series, to make them comparable with variation 7d.)

We conclude that neutral trials tended to heighten independence, but that their effect was weak. That they did not act more strongly may be, as we suggested earlier, because they initiated both strengthening and weakening forces.

Experiment 8: Varying the Number of Alternatives

The decisive alternatives under the present conditions are between the match which the subject judges to be correct and

the incorrect match of the majority. In Experiment 1 a third alternative was introduced. The evidence showed that each of the comparison lengths, including the "silent" one not chosen by the majority, was exerting a definite effect. It is probable that the number (as well as the kind) of alternatives play a part in deciding the outcome. In the following variation we re-

TABLE 22
MEANS OF ERRORS AND PER CENTS:
EXPERIMENT 7

Experiment	N	Errors	
		Mean	Per cent
7a	14	6.4	53.0
7b	123	4.4	36.8
7c	19	4.6	38.6
7d	14	1.6	26.2

duced the comparison lengths to two: one identical with the standard, the other differing from the standard and chosen by the majority.

The comparison lengths were those of Experiment 1, except that the line that had not previously been chosen by the majority was now eliminated (see Table 1). For example, Trial 1 retained the 3 and $3\frac{1}{4}$ inch comparison lines, and omitted the third length. This procedure in no wise changed the estimates of the majority. It reduced the number of alternatives and also abolished the distinction between moderate and extreme errors (in the relational sense they had in Experiment 1).

Immediately following the 18 trials with two alternatives we introduced without pause the first 9 trials of Table 1, with the third comparison restored. (Three subjects did not take part in the second phase of the procedure.) In all other respects the procedure was that of Experiment 1. There were 17 subjects in this experiment.

Table 23 summarizes the distribution of errors. For easier comparison we have

²⁸ We have not studied the most extreme condition, that of excluding neutral trials altogether.

TABLE 23
DISTRIBUTION OF ERRORS: EXPERIMENT 8

Subject	Two comparison lengths (12 trials)	Three comparison lengths (6 trials)
1	0	0
2	0	0
3	0	—
4	0	—
5	1	0
6	1	0
7	1	0
8	2	1
9	2	2
10	2	—
11	5	1
12	10	6
13	12	6
14	12	6
15	12	6
16	12	6
17	12	6

arranged the scores of subjects in the order of increasing errors.

With the alternatives reduced to two—the correct choice and that of the majority—the individual differences ranged from complete independence to complete yielding. Although the level of errors was very similar to that of Experiment 1, accounting for 40.8 per cent of all judgments, the forms of the distributions differ quite strongly. Under the present conditions *the subjects concentrated at the extremes*, intermediate forms of yielding being least frequent. The critical trials, which in Experiment 1 produced characteristically different rates of error, became almost completely homogeneous in this variation. The effect of the procedure was, for reasons not clear to us, to increase the proportion of independent and of strongly yielding reactions.

Table 23 also reports the results for the last trials which included the three alternatives of Experiment 1. Individual performances remained remarkably consistent.²⁹

²⁹ The reliability of individual consistency on the 2- and 3-line judgments can be demonstrated in the manner described earlier (see footnote 27,

With the third comparison line restored, the subjects continued to cluster at the extremes, and the individual differences between the critical trials so prominent in Experiment 1 now completely disappeared.

The consistency of individual performances in the two phases of the variation is best accounted for in terms of an effect of the earlier upon the later condition. We propose that the subjects persisted, despite subsequently altered circumstances, in the direction they first adopted, probably because they felt committed to it. In this manner we can explain the fact that the second phase of this experiment resembles the first and departs strikingly from that of Experiment 1, with which it is identical in procedure. In the light of results to be reported in the future it seems probable that the high consistency of the subjects was in the present case the consequence of a self-commitment.

The variation here reported is only a first attempt at a problem that may deserve systematic exploration. In Experiment 8, two and three alternatives were used; other experiments could use four, five, six, etc. alternatives. Increasing the number of alternatives raises new questions that can be studied in a forthright way, such as their effect on the level of independence and on compromise solutions. Certain figural effects could also be studied in this connection. One might, for example, introduce a gap between the continuous array of alternatives and observe the effect of placing the majority on the extreme or moderate side of the gap. It may also be of interest to vary the position of the majority on the continuum of alternatives while keeping the absolute discrepancy constant.

Experiment 9: The Role of Warning

The conflict with the majority was, under the conditions of Experiment 1, confined mainly to the immediate present. We now undertook to invest the situation with a reference to the future. In brief, we informed the subject that the estimates would be checked by measurement at the end of the experiment. We hoped that this

p. 58-59). On the assumption of equally-likely random errors the median of the theoretical distribution for 0 to 6 errors is close to 2. For our subjects the difference between error scores for the two conditions is less than 2 for thirteen out of fourteen subjects. (The comparison was between the last 6 trials of the first phase of the variation and the 6 trials of the second phase.) This result differs from chance expectation at p less than .003.

procedure, which we considered to be a counterforce with an objective reference, might throw light on the persistence or fragility of the effect.

To the instructions of Experiment 1 the following was appended as a last statement: "At the conclusion of the experiment, when you have made the estimates, we will measure the lines with a ruler and show you which of your answers were correct, and which were in error. This we will do as soon as you have completed all the estimates." In addition, the experimenter illustrated the future procedure on the first (neutral) trial. As soon as all had announced their estimates, he measured the standard and the comparison line in front of the group, saying: "Your answers were correct. This is how we will measure the other lengths later." He added that the other comparisons would proceed uninterruptedly and be checked only when all the estimates were in. Thereupon he proceeded to the other comparisons.

In all other respects the procedure was that of Experiment 1. There were 11 subjects in the present variation.

The results resemble closely those of Experiment 1. Errors ranged between 0 and 12; the mean number of errors was 4.4, or 36.7 per cent of all critical estimates. (The individual error scores were: 0, 0, 1, 1, 2, 3, 5, 5, 7, 12, and 12.)

The subjects' comments during the interview as well as our observations agree in indicating that the added instructions had little if any effect in comparison with the impact of the total situation. Completely independent subjects stated that the proposed measurement made them anxious to reach the end, but expressed strong doubt that it affected their reports. A number of yielding subjects expressed the same view, adding that they gave no thought to the matter while the experiment was in progress. No subject stated that the

instructions made any difference to his performance.

If one were to take these results at face value it would be in order to conclude that the effect of the majority grows primarily out of the immediately given conditions, that the subject acts mainly in accordance with forces present at the moment. We need however to keep in mind that the warning here employed might not have promoted independence even if a potentially yielding person were constantly aware of it, since the knowledge of a future check would not suffice to relieve him of the doubts that the situation produced. Indeed, we have seen earlier (Experiment 4) that the prospect of a future check was mainly responsible for yielding under circumstances that worked strongly for independence. It would therefore appear that the present procedure maintained intact the conditions of Experiment 1 and that these were not altered appreciably by the addition of a warning lacking in direction. We may conclude that generalized warnings are not effective under our conditions.

We must of course leave open the possibility that other forms of expectation or warning might have definite consequences. We are thinking of procedures such as the following: (a) To include in the instructions a specific statement to the effect that majorities are not always right (and, in a more extreme procedure, to add a statement about the hazards of following majority opinion); (b) to announce in advance that previous experimentation has shown, contrary to expectation, frequent errors, or to announce that such errors are rare but have significance. In such directions we see the promise of valuable investigation.

Summary

1. The majority effect was obtained with the stimulus dimension of brightness, demonstrating that the effect is not restricted to a particular modality (Experiment 2).
2. Eliminating the public character of the judgment markedly lowered the majority effect (Experiment 4).
3. The high consistency of individual performances found in Experiment 1 was confirmed when the experimental series was tripled in length (Experiment 5).
4. The frequency of errors was demonstrated to vary positively with the size of standard and negatively with magnitude of discrepancy (Experiment 6).
5. Neutral trials had a tendency to

heighten independence, but their effect was weak (Experiment 7).

6. Reducing the alternatives to those represented by the majority position and by the subject's view tended to eliminate intermediate performances, pushing the subjects in the direction of complete independence or yielding (Experiment 8).

7. Generalized warning did not affect the level of independence (Experiment 9).

8. Critical subjects persisted in the direction they adopted early in the experimental session (Experiment 5). They showed a strong tendency to maintain their early direction also when the subsequent conditions were altered in certain respects (Experiments 3 and 8).

VI. STRUCTURE OF THE EXPERIMENTAL CONDITIONS

The crucial feature of the present experiments was the persistent recurrence of a disagreement about a fact between a minority-of-one and a majority. But this was a quite specific, indeed an unusual, kind of disagreement, whose distinguishing characteristics we need to delineate. Having surveyed the results it may be helpful to examine the principal properties of the experimental setting. We may as a result gain a clearer view of the boundary conditions of our data and of their relations to group influences under other conditions. (In this discussion we will be referring mainly to Experiment 1, omitting for the present reference to the variations described in the preceding section.)

1. The circumstance that decisively governed the course of the reactions was the introduction of *an unambiguous objective condition as the object of judgment*. It was this fact that was responsible for the quality of paradox and conflict that the situation engendered. One may nevertheless ask why disagreement about a matter that was in itself not too important aroused the strong reactions that we have described. The answer touches upon the role and function of consensus in social life. Our procedure produced a failure of consensus where

it was least understood and expected, tending to turn disagreement into a more ultimate kind of contradiction. Now consensus, especially on fundamental traits of the surroundings, is the vital prerequisite of social action; to abolish or impair it is to threaten the relations of interdependence which ordinarily experience continuously validates. (For a fuller discussion of consensus see I, Chaps. 4 and 16.) It is in these terms that we propose to account for the strength of the reactions which the present situation produced. Although ostensibly the disagreement centered on very specific and limited data, it acquired a wider import. It signified to the critical subjects that they were at odds with a majority about a basic relation in the world.

2. Another central condition was the *independent access to the facts*. The experimental arrangements insured that each person could see with his own eyes and under optimal conditions. In this respect the present situation differs sharply from other, and frequent, forms of disagreement. Often in social life differences of judgments are about facts that are far less visible. The social and political "lines" and their relations are as a rule not bluntly given in the individual's field. Instead he often depends on others to inform him not only about the interpretation, but also about the existence of facts remote from his experience. This indirectness was here excluded. The facts were constantly present, and the individual could not help but see them as he did.³⁰

3. Implied in what has been said is that the minority person accepted the reports of the majority as evidence of their perception and judgment. He knew that they had as direct an avenue to the facts as he did. Further, since he did not (as a rule) question their capabilities or good faith, he could not help but grant their reports the same kind of credence and respect that he wanted to accord and to have accorded to his own observations.³¹

³⁰ On the assumption that the clarity of the perceived data was the source of opposition to the majority, it follows that conditions impairing clear observation should offer less resistance to majority opinion. It should therefore follow that (a) successive presentation of standard and comparison lengths and (b) brief intervals of exposure would increase the majority effect. Another deduction, that the level of the majority effect would vary with the magnitude of contradiction, we have studied and will report subsequently.

³¹ The subject had no ground for questioning the capacities of the majority; they were on the same level as far as the particular task was concerned. The situation would of course alter if doubts on that score became possible, as would be the case if, for example, the majority all wore thick lenses or a patch on one eye, or if their competence were discredited by some other means.

4. *The unanimity of the majority derived added force from the knowledge that it had its source in the independent judgments of individuals.* From the standpoint of the subject the majority was not an interacting group. The type of unanimity is therefore structurally different from that obtained as a result of group decision. Consequently the probabilities of obtaining such unanimity by chance appeared vanishingly low. (To be sure, some subjects came to see the majority as a united opposition, but they were referring not to the source of the contradiction as much as to the presumed reactions of the majority when challenged.)

5. *The experimental situation possessed a relatively closed, self-contained character.* Because the contradiction centered around a specific perceptual relation it was not possible to minimize it by reference to external conditions, such as differences of tradition or attitude. The contradiction was present right within the psychological field.³²

6. The preceding circumstances shaped the conflict that proceeded from the opposition between "self"-evidence and the unanimous majority. In the first place the conflict had a quality of *irreconcilability*. The facts in question were rigid, not lending themselves readily to restructuring. Nor was there a possibility, for the reasons stated earlier, of an outright repudiation of the majority. Neither was it possible to overcome the disagreement by altering the views of others or by modifying one's own view in order to accord with the group.

7. In addition to its irreconcilability, the contradiction was ununderstandable, containing a hidden condition which the minority person was unable to penetrate (provided his suspicion was not aroused). This characteristic is perhaps in greatest contrast to ordinary experience. We almost never meet with opposition, however strange, without possessing some notion about the grounds of disagreement. Consequently we account to some extent for dissent even if we cannot resolve it. Thus we may disagree with others about the merits of a person or a proposal without impugning either their discernment or ours. We may realize that the question is complex, that one or the other side has not taken into account the relevant facts, or failed to weigh them properly. If these explanations do not suffice, we may suppose that interest or bias are responsible. Such considerations were excluded from the present study. Because of its high sim-

plicity the issue was not "controversial." One could hardly dismiss the majority with the convenient cliché that there are two sides to every question. The present situation debarred the minority person not only from reaching a common ground with others; it also prevented him from seeing satisfactorily how the failure of agreement could arise.

8. These conditions created a minority-of-one in a rather special sense. It would be missing the point to say that the present situation differs from usual forms of dissent because it is rare to find in life a minority of one, or that as a rule people hold the most unpopular opinions as members of groups, however small, thus enabling them to face opposition as parts of a social body. However rare it might be, it is not difficult to conceive of a person defending a position single-handedly. More significant is the consideration that even in instances of the latter kind the person is not to himself a minority of one in a final sense. As long as he feels justified in his stand he also has the conviction that if others could be made to understand they would be on his side; at least he can retain faith that he will be justified in the future. Such is the power of our confidence in human reason and feelings (see also 1, p. 359). In contrast, the *loneliness with which we are here dealing has a more absolute quality, since the minority of one saw no possibility of persuading or of being persuaded.* The majority, although limited in size, was representative. The minority individual had no reason to suppose that others, not included in the group, would be more likely to side with him. The given majority was symbolic of what any portion of humanity might perceive. These are the reasons why the contradiction struck consternation in many.

This statement needs, however, to be qualified. We have seen that the subjects adopted many measures of defense to mitigate their doubts. Further, the experimental episode arose too suddenly and lasted too briefly to arouse the sinister fear that the incomprehensible disagreement would accompany them through life. The subjects knew that they were in an experiment, and retained a healthy confidence that soon they would be back in the safely familiar world out of which they had been jolted.

9. The situation contained a further significant condition: *the minority of one had to take a stand, to declare himself before the group, when to do so had the meaning of either siding with the group or dissenting from it.* Had the critical subject been only a spectator the unusual discrepancy between the group and himself would most probably have still attracted his attention and given rise to perplexity. But in addition he was required to state his position, a circumstance that intensified his difficulties. (For evidence of the import of the public character of the response, see pp. 56-58).

10. We can now appreciate more clearly the

³² It should, however, be pointed out in qualification that the procedure did limit the disruption of consensus by confining it to a narrow range of data. The contradiction concerned only one detail in the surroundings. Presumably the conditions would have become more drastic if the majority simultaneously challenged the minority-of-one about several independent data in the environment.

forces which the situation produced. There were, on the one hand, the objectively given relations which the subject had undertaken to report accurately, and which therefore exerted a directed demand upon him. Opposed to it was the force of the group. The conflict disrupted irreconcilably and incomprehensibly a consensus about a simple and basic fact in the surroundings. It was continually maintained by the individual's direct experience, which plunged him into the position of a minority of one who could not draw for support upon considerations lying outside the experimental setting, and was further intensified by the necessity of acting publicly. The requirement to state one's position meant that the subject could not escape, postpone, or delegate the difficulty. (No subject at any time refused or excused himself from stating a judgment.) Although the situation was temporary and relatively segregated from the stream of outside events, the minority subject was surrounded by the forces it produced.³⁵

11. It is in terms of the relations described above that we need to understand the decision required of the minority of one. He had before him the alternative of adhering openly to his experience and rejecting the majority, or of siding with the majority at the cost of suppressing his direct experience. This is the first meaning of independence and yielding in the present context.

It should be pointed out that in other contexts resistance and compliance can have widely different meanings. Acceding to the will of a group may, under some conditions, require a high measure of steadfastness, and resisting it may be a symptom of weakness. The resistance to group pressure we are here studying is that of a person in a lonely condition opposing an arbitrary group; it is closer to what is known as *courage civile* than to the courage that people show when they act in concert.

There remain to be mentioned the following additional characteristics of the situation.

12. *The minority and majority were peers.* The minority person was only temporarily in a minority in relation to others who were only temporarily in a majority. We have not here studied the problems that would arise if the participants had also differed systematically in other respects—in age, sex, or social position.³⁶

13. *The procedure lacked several essentials of a group process.* First, the groups in question were tempo-

³⁵ It should be understood that the forces in question were within the phenomenal field of the subject and not in the surroundings.

³⁶ One subject in a related experiment, who was independent, remarked in the course of the interview with a superior air that he was the only engineering student in the group. In general, the course of events might be considerably modified once it became possible to adopt an evaluative attitude toward the majority.

rary aggregations of persons, gathered for a brief and special purpose. There was consequently, as was noted earlier, a quality of finitude to the situation which contrasts significantly with the chronic and often irrevocable relations of social life. Second, the present groups lacked the property of continuous mutual interaction. Since the majority performed a predetermined function it did not form, together with the minority of one, a self-regulating unit. There was social action, but it was confined mainly to the acts of the critical subject.

14. Another aspect of the preceding point may now be stated. *The group did not exert pressure in the usual sense of persuading or applying sanctions.* There were no rewards or punishments in the ordinary sense of these terms, nor were there any specific "interests" introduced which might serve as goals or as a basis for calculation.³⁷ Rather the subject decided for himself what his interests were, and what mode of action he found rewarding or punishing. Objectively the majority was an entirely neutral chorus of voices. Whatever pressure the subject felt grew solely within himself.³⁸

15. *The task concerned a physical fact in the surroundings which was not intrinsically related to the constitution of the group.* Doubtless the dynamics would be different in many respects if the focus of contradiction were itself social and related to the group structure.³⁹

VII. SUMMARY AND CONCLUSIONS

1. We investigated some of the conditions responsible for independence and lack of independence in the face of arbitrary group pressure. To this end we produced a disagreement between a group and one individual member about a clear

³⁶ To introduce experimentally specific incentives or interests—either individual or social—for siding with the majority (or for opposing it) might be of value, especially since we could compare the effects with those obtained under the present conditions.

³⁷ The situation was also most highly personalized in the sense that the subject acted solely for himself. He had neither the responsibility nor the opportunity to act on behalf of others, a circumstance that might have exerted marked effects.

³⁸ The issue is not solely or even mainly whether the question in dispute concerns a physical or social datum. There are social data at least as unambiguous as those in the physical sphere; for example, the meaning of a word or phrase, or the relative dates of the Roosevelt and Truman administrations. Far more significant is the relation of the given issue to the goals and structure of the group.

and simple issue of fact. The majority, which was in all cases unanimous, co-operated with the experimenter by reporting wrong judgments, in disagreement with the individual member (or the critical subject) who could only judge the facts correctly. The critical subject was called upon to state his judgments in public, after hearing the report of the majority.

2. The task required the comparison of the relative length of lines. A standard line was to be matched with one of three comparison lines which differed appreciably in length from one another, and of which one was equal to the standard. The unanimous majority, which consisted of 7 to 9 persons, as a rule matched the standard with a length that differed from it. The errors of the majority were far above the threshold.

3. The contradictions by the majority deflected considerably the estimates of the minority in its direction. Whereas the judgments were virtually free of error under control conditions, one-third of the minority estimates were distorted toward the majority. At the same time the minority estimates remained preponderantly accurate, testifying to the force of the perceived relations under the given conditions (Experiment 1).

4. Individuals differed markedly in resistance to the arbitrary judgments of the majority. The performances ranged from complete independence to complete acquiescence.

5. The majority effect was not restricted to the relation of length. It was also obtained when the contradiction concerned brightness relations (Experiment 2).

6. The pressure of the majority did not increase with time. Most subjects remained at a constant level of independence throughout the experimental episode (Experiments 1 and 5).

7. The majority effect here obtained was

a function of the public character of the proceedings. When the minority subject was relieved of the necessity of announcing his dissent openly the level of errors dropped markedly (Experiments 1 and 4).

8. There was a far-reaching lawfulness in the operation of the majority effect. The majority effect was shown to be a function of (a) the stimulus-conditions, (b) of the majority position, and (c) of factors residing within the subjects.

9. The stimulus-conditions controlled the operation of the majority effect in a variety of ways. (a) Comparable experimental groups responded similarly (Experiment 1). (b) Identical stimulus constellations produced consistently similar effects (Experiment 1). (c) The occurrence of certain errors (such as compromise reactions) was a function of the particular stimulus relations (Experiment 1). (d) The level of errors decreased as the magnitude of the majority contradiction increased (Experiment 6). (e) Errors increased in frequency with increase in the absolute size of the standard (Experiments 1 and 6).

10. The action of the majority controlled the level and quality of errors. A moderately erring majority induced only moderate errors, while a majority making extreme errors induced an appreciable number of compromise errors (Experiment 1).

11. The performances of individuals were highly consistent. (a) Individuals showed a marked tendency to be consistently independent, yielding, or intermediate in coping with the pressure of the majority. The performances during the early and late phases of the experimental episode were significantly associated (Experiments 1 and 5). (b) There was a high association between the latency of submission to the majority and subsequent independence (Experiments 1 and 5). (c) Individual performances remained

highly consistent in the face of certain changes in the given conditions. When subjects established a level of independence they tended strongly to maintain it when the circumstances altered within the limits here employed (Experiments 3 and 8).

12. The interview, which followed the experimental session, provided qualitative evidence concerning the effects produced by the majority. (a) Subjects endeavored to resolve the conflict, of which all were aware, by means of various hypotheses which they were compelled to surrender as the contradiction continued. (b) The contradiction frequently produced concern, doubt of one's accuracy, and temptation to join the majority. (c) As the opposition persisted the reactions became increasingly self-centered. Subjects expressed fear of conspicuousness, of public exposure of personal defects, and of group disapproval; they felt the loneliness of their situation.

13. The subjective reactions to the conflict of independent and yielding subjects differed markedly in certain respects. (a) Conviction of rightness, freedom from doubt, and absence of temptation to join the majority were more frequent among independent subjects. The differences, although highly significant, did not, however, completely separate the independent and compliant groups. There was no relation between feelings of concern and independence. (b) Yielding subjects seriously

underestimated their compliance. They offered a variety of reasons for their errors, the most usual being the painfulness of standing alone against the majority.

14. Subjects offered diverse grounds both for independence and yielding. On the basis of the comments of those whose performances were extreme a number of outstanding modes of reaction were described. (a) The independence of some appeared due to a basic confidence in the face of group opposition. (b) There were, however, subjects who, while convinced that the majority was right, remained independent. (c) A very few yielding subjects appeared unaware of the effect of the majority upon them. (d) A substantial proportion of subjects yielded once their confidence was shaken. The presumed rightness of the majority deprived them of the resolution to report their own observations. (e) Others who yielded lost sight of the question of accuracy, being dominated by an imperious desire not to appear different, apparently out of fear of revealing a general and undefined defect.

15. The problem of individual differences in independence and their possible relations to character and early experiences was discussed.

16. The particular properties of the experimental situation and their relation to more usual social contradictions were described.

REFERENCES

1. ASCH, S. E. *Social psychology*. New York: Prentice-Hall, 1952.
2. ASCH, S. E. Effects of group pressure upon the modification and distortion of judgment. In H. Guetzkow (Ed.), *Groups, leadership and men*. Pittsburgh: Carnegie, 1951. (Also in G. E. Swanson, T. M. Newcomb, & E. L. Hartley (Eds.), *Readings in social psychology*. New York: Holt, 1952).
3. MOSTELLER, F. & BUSH, R. R. Selected quantitative techniques. In G. Lindzey (Ed.) *Handbook of social psychology*, Cambridge: Addison-Wesley, 1954. Chap. 8.

(Accepted for publication October 19, 1955)