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HUMAN USE OF HUMAN SUBJECTS:
THE PROBLEM OF DECEPTION IN SOCIAL
PSYCHOLOGICAL EXPERIMENTS¹

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Though there is often good reason for deceiving Ss in social psychological experiments, widespread use of such procedures has serious (a) ethical implications (involving not only the possibility of harm to S, but also the quality of the E-S relationship), (b) methodological implications (relating to the decreasing naïveté of Ss), and (c) implications for the future of the discipline. To deal with these problems, it is necessary (a) to increase active awareness of the negative implications of deception and use it only when clearly justified, not as a matter of course; (b) to explore ways of counteracting and minimizing negative consequences of deception when it is used; and (c) to develop new experimental techniques that dispense with deception and rely on S's positive motivations.

In 1954, in the pages of the *American Psychologist*, Edgar Vinacke raised a series of questions about experiments—particularly in the area of small groups—in which “the psychologist conceals the true purpose and conditions of the experiment, or positively misinforms the subjects, or exposes them to painful, embarrassing, or worse, experiences, without the subjects’ knowledge of what is going on [p. 155].” He summed up his concerns by asking, “What . . . is the proper balance between the interests of science and the thoughtful treatment of the persons who, innocently, supply the data? [p. 155].” Little effort has been made in the intervening years to seek answers to the questions he raised. During these same years, however, the problem of deception in social psycho-

logical experiments has taken on increasingly serious proportions.²

The problem is actually broader, extending beyond the walls of the laboratory. It arises, for example, in various field studies in which investigators enroll as members of a group that has special interest for them so that they can observe its operations from the inside. The pervasiveness of the problem becomes even more apparent when we consider that deception is built into most of our measurement devices, since it is important to keep the respondent unaware of the personality or attitude dimension that we wish to explore. For the present purposes, however, primarily the problem of deception in the context of the social psychological experiment will be discussed.

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² In focusing on deception in social psychological experiments, I do not wish to give the impression that there is no serious problem elsewhere. Deception is widely used in most studies involving human subjects and gives rise to issues similar to those discussed in this paper. Some examples of the use of deception in other areas of psychological experimentation will be presented later in this paper.

The use of deception has become more and more extensive, and it is now a commonplace and almost standard feature of social psychological experiments. Deception has been turned into a game, often played with great skill and virtuosity. A considerable amount of the creativity and ingenuity of social psychologists is invested in the development of increasingly elaborate deception situations. Within a single experiment, deception may be built upon deception in a delicately complex structure. The literature now contains a fair number of studies in which second- or even third-order deception was employed.

One well-known experiment (Festinger & Carlsmith, 1959), for example, involved a whole progression of deceptions. After the subjects had gone through an experimental task, the investigator made it clear—through word and gesture—that the experiment was over and that he would now “like to explain what this has been all about so you’ll have some idea of why you were doing this [p. 205].” This explanation was false, however, and was designed to serve as a basis for the true experimental manipulation. The manipulation itself involved asking subjects to serve as the experimenter’s accomplices. The task of the “accomplice” was to tell the next “subject” that the experiment in which he had just participated (which was in fact a rather boring experience) had been interesting and enjoyable. He was also asked to be on call for unspecified future occasions on which his services as accomplice might be needed because “the regular fellow couldn’t make it, and we had a subject scheduled [p. 205].” These newly recruited “accomplices,” of course, were the true subjects, while the “subjects” were the experimenter’s true accomplices. For their presumed services as “accomplices,” the true subjects were paid in advance—half of them receiving \$1, and half \$20. When they completed their service, however, the investigators added injury to insult by asking them to return their hard-earned cash. Thus, in this one study, in addition to receiving the usual misinformation about the purpose of the experiment, the subject was given feedback that was really an experimental manipulation, was asked to be an accomplice who was really a subject, and

was given a \$20 bill that was really a will-o’-the-wisp. One wonders how much further in this direction we can go. Where will it all end?

It is easy to view this problem with alarm, but it is much more difficult to formulate an unambiguous position on the problem. As a working experimental social psychologist, I cannot conceive the issue in absolutist terms. I am too well aware of the fact that there are good reasons for using deception in many experiments. There are many significant problems that probably cannot be investigated without the use of deception, at least not at the present level of development of our experimental methodology. Thus, we are always confronted with a conflict of values. If we regard the acquisition of scientific knowledge about human behavior as a positive value, and if an experiment using deception constitutes a significant contribution to such knowledge which could not very well be achieved by other means, then we cannot unequivocally rule out this experiment. The question for us is not simply whether it does or does not use deception, but whether the amount and type of deception are justified by the significance of the study and the unavailability of alternative (that is, deception-free) procedures.

I have expressed special concern about second-order deceptions, for example, the procedure of letting a person believe that he is acting as experimenter or as the experimenter’s accomplice when he is in fact serving as the subject. Such a procedure undermines the relationship between experimenter and subject even further than simple misinformation about the purposes of the experiment; deception does not merely take place *within* the experiment, but encompasses the whole definition of the relationship between the parties involved. Deception that takes place while the person is within the role of subject for which he has contracted can, to some degree, be isolated, but deception about the very nature of the contract itself is more likely to suffuse the experimenter-subject relationship as a whole and to remove the possibility of mutual trust. Thus, I would be inclined to take a more absolutist stand with regard to such second-order deceptions—but

even here the issue turns out to be more complicated. I am stopped short when I think, for example, of the ingenious studies on experimenter bias by Rosenthal and his associates (e.g., Rosenthal & Fode, 1963; Rosenthal, Persinger, Vikan-Kline, & Fode, 1963; Rosenthal, Persinger, Vikan-Kline, & Mulry, 1963). These experiments employed second-order deception in that subjects were led to believe that they were the experimenters. Since these were experiments about experiments, however, it is very hard to conceive of any alternative procedures that the investigators might have used. There is no question in my mind that these are significant studies; they provide fundamental inputs to present efforts at reexamining the social psychology of the experiment. These studies, then, help to underline even further the point that we are confronted with a conflict of values that cannot be resolved by fiat.

I hope it is clear from these remarks that my purpose in focusing on this problem is not to single out specific studies performed by some of my colleagues and to point a finger at them. Indeed, the finger points at me as well. I too have used deception, and have known the joys of applying my skills and ingenuity to the creation of elaborate experimental situations that the subjects would not be able to decode. I am now making active attempts to find alternatives to deception, but still I have not forsworn the use of deception under any and all circumstances. The questions I am raising, then, are addressed to myself as well as to my colleagues. They are questions with which all of us who are committed to social psychology must come to grips, lest we leave their resolution to others who have no understanding of what we are trying to accomplish.

What concerns me most is not so much that deception is used, but precisely that it is used without question. It has now become standard operating procedure in the social psychologist's laboratory. I sometimes feel that we are training a generation of students who do not know that there is any other way of doing experiments in our field—who feel that deception is as much de rigueur as significance at the .05 level. Too often deception is used not as a last resort, but as a matter of course. Our attitude seems to

be that if you can deceive, why tell the truth? It is this unquestioning acceptance, this routinization of deception, that really concerns me.

I would like to turn now to a review of the bases for my concern with the problem of deception, and then suggest some possible approaches for dealing with it.

IMPLICATIONS OF THE USE OF DECEPTION IN SOCIAL PSYCHOLOGICAL EXPERIMENTS

My concern about the use of deception is based on three considerations: the ethical implications of such procedures, their methodological implications, and their implications for the future of social psychology.

1. *Ethical implications.* Ethical problems of a rather obvious nature arise in the experiments in which deception has potentially harmful consequences for the subject. Take, for example, the brilliant experiment by Mulder and Stemerding (1963) on the effects of threat on attraction to the group and need for strong leadership. In this study—one of the very rare examples of an experiment conducted in a natural setting—independent food merchants in a number of Dutch towns were brought together for group meetings, in the course of which they were informed that a large organization was planning to open up a series of supermarkets in the Netherlands. In the High Threat condition, subjects were told that there was a high probability that their town would be selected as a site for such markets, and that the advent of these markets would cause a considerable drop in their business. On the advice of the executives of the shopkeepers' organizations, who had helped to arrange the group meetings, the investigators did not reveal the experimental manipulations to their subjects. I have been worried about these Dutch merchants ever since I heard about this study for the first time. Did some of them go out of business in anticipation of the heavy competition? Do some of them have an anxiety reaction every time they see a bulldozer? Chances are that they soon forgot about this threat (unless, of course, supermarkets actually did move into town) and that it became just one of the many little moments of anxiety that must occur in every shopkeeper's life. Do

we have a right, however, to add to life's little anxieties and to risk the possibility of more extensive anxiety purely for the purposes of our experiments, particularly since deception deprives the subject of the opportunity to choose whether or not he wishes to expose himself to the risks that might be entailed?

The studies by Bramel (1962, 1963) and Bergin (1962) provide examples of another type of potentially harmful effects arising from the use of deception. In the Bramel studies, male undergraduates were led to believe that they were homosexually aroused by photographs of men. In the Bergin study, subjects of both sexes were given discrepant information about their level of masculinity or femininity; in one experimental condition, this information was presumably based on an elaborate series of psychological tests in which the subjects had participated. In all of these studies, the deception was explained to the subject at the end of the experiment. One wonders, however, whether such explanation removes the possibility of harmful effects. For many persons in this age group, sexual identity is still a live and sensitive issue, and the self-doubts generated by the laboratory experience may take on a life of their own and linger on for some time to come.

Yet another illustration of potentially harmful effects of deception can be found in Milgram's (1963, 1965) studies of obedience. In these experiments, the subject was led to believe that he was participating in a learning study and was instructed to administer increasingly severe shocks to another person who after a while began to protest vehemently. In fact, of course, the victim was an accomplice of the experimenter and did not receive any shocks. Depending on the conditions, sizable proportions of the subjects obeyed the experimenter's instructions and continued to shock the other person up to the maximum level, which they believed to be extremely painful. Both obedient and defiant subjects exhibited a great deal of stress in this situation. The complexities of the issues surrounding the use of deception become quite apparent when one reads the exchange between Baumrind (1964) and Milgram (1964) about the ethical implications of the obedience research. There is clearly room for

disagreement, among honorable people, about the evaluation of this research from an ethical point of view. Yet, there is good reason to believe that at least some of the obedient subjects came away from this experience with a lower self-esteem, having to live with the realization that they were willing to yield to destructive authority to the point of inflicting extreme pain on a fellow human being. The fact that this may have provided, in Milgram's (1964) words, "an opportunity to learn something of importance about themselves, and more generally, about the conditions of human action [p. 850]" is beside the point. If this were a lesson from life, it would indeed constitute an instructive confrontation and provide a valuable insight. But do we, for the purpose of experimentation, have the right to provide such potentially disturbing insights to subjects who do not know that this is what they are coming for? A similar question can be raised about the Asch (1951) experiments on group pressure, although the stressfulness of the situation and the implications for the person's self-concept were less intense in that context.

While the present paper is specifically focused on social psychological experiments, the problem of deception and its possibly harmful effects arises in other areas of psychological experimentation as well. Dramatic illustrations are provided by two studies in which subjects were exposed, for experimental purposes, to extremely stressful conditions. In an experiment designed to study the establishment of a conditioned response in a situation that is traumatic but not painful, Campbell, Sanderson, and Laverty (1964) induced—through the use of a drug—a temporary interruption of respiration in their subjects. "This has no permanently harmful physical consequences but is nonetheless a severe stress which is not in itself painful . . . [p. 628]." The subjects' reports confirmed that this was a "horrific" experience for them. "All the subjects in the standard series said that they thought they were dying [p. 631]." Of course the subjects, "male alcoholic patients who volunteered for the experiment when they were told that it was connected with a possible therapy for alcoholism [p. 629]," were not warned in advance about the

effect of the drug, since this information would have reduced the traumatic impact of the experience.³ In a series of studies on the effects of psychological stress, Berkun, Bialek, Kern, and Yagi (1962) devised a number of ingenious experimental situations designed to convince the subject that his life was actually in danger. In one situation, the subjects, a group of Army recruits, were actually "passengers aboard an apparently stricken plane which was being forced to 'ditch' or crash-land [p. 4]." In another experiment, an isolated subject in a desolate area learned that a sudden emergency had arisen (accidental nuclear radiation in the area, or a sudden forest fire, or misdirected artillery shells—depending on the experimental condition) and that he could be rescued only if he reported his position over his radio transmitter, "which has quite suddenly failed [p. 7]." In yet another situation, the subject was led to believe that he was responsible for an explosion that seriously injured another soldier. As the authors pointed out, reactions in these situations are more likely to approximate reactions to combat experiences or to naturally occurring disasters than are reactions to various laboratory stresses, but is the experimenter justified in exposing his subjects to such extreme threats?

So far, I have been speaking of experiments in which deception has potentially harmful consequences. I am equally concerned, however, about the less obvious cases, in which there is little danger of harmful effects, at least in the conventional sense of the term. Serious ethical issues are raised by deception per se and the kind of use of human beings that it implies. In our other interhuman relationships, most of us would never think of doing the kinds of things that we do to our subjects—exposing others to lies and tricks, deliberately misleading them about the purposes of the interaction or withholding perti-

nent information, making promises or giving assurances that we intend to disregard. We would view such behavior as a violation of the respect to which all fellow humans are entitled and of the whole basis of our relationship with them. Yet we seem to forget that the experimenter-subject relationship—whatever else it is—is a *real* interhuman relationship, in which we have responsibility toward the subject as another human being whose dignity we must preserve. The discontinuity between the experimenter's behavior in everyday life and his behavior in the laboratory is so marked that one wonders why there has been so little concern with this problem, and what mechanisms have allowed us to ignore it to such an extent. I am reminded, in this connection, of the intriguing phenomenon of the "holiness of sin," which characterizes certain messianic movements as well as other movements of the true-believer variety. Behavior that would normally be unacceptable actually takes on an aura of virtue in such movements through a redefinition of the situation in which the behavior takes place and thus of the context for evaluating it. A similar mechanism seems to be involved in our attitude toward the psychological experiment. We tend to regard it as a situation that is not quite real, that can be isolated from the rest of life like a play performed on stage, and to which, therefore, the usual criteria for ethical interpersonal conduct become irrelevant. Behavior is judged entirely in the context of the experiment's scientific contribution and, in this context, deception—which is normally unacceptable—can indeed be seen as a positive good.

The broader ethical problem brought into play by the very use of deception becomes even more important when we view it in the light of present historical forces. We are living in an age of mass societies in which the transformation of man into an object to be manipulated at will occurs "on a mass scale, in a systematic way, and under the aegis of specialized institutions deliberately assigned to this task [Kelman, 1965]." In institutionalizing the use of deception in psychological experiments, we are, then, contributing to a historical trend that threatens values most of us cherish.

³The authors reported, however, that some of their other subjects were physicians familiar with the drug; "they did not suppose they were dying but, even though they knew in a general way what to expect, they too said that the experience was extremely harrowing [p. 632]." Thus, conceivably, the purposes of the experiment might have been achieved even if the subjects had been told to expect the temporary interruption of breathing.

2. *Methodological implications.* A second source of my concern about the use of deception is my increasing doubt about its adequacy as a methodology for social psychology.

A basic assumption in the use of deception is that a subject's awareness of the conditions that we are trying to create and of the phenomena that we wish to study would affect his behavior in such a way that we could not draw valid conclusions from it. For example, if we are interested in studying the effects of failure on conformity, we must create a situation in which the subjects actually feel that they have failed, and in which they can be kept unaware of our interest in observing conformity. In short, it is important to keep our subjects naïve about the purposes of the experiment so that they can respond to the experimental inductions spontaneously.

How long, however, will it be possible for us to find naïve subjects? Among college students, it is already very difficult. They may not know the exact purpose of the particular experiment in which they are participating, but at least they know, typically, that it is *not* what the experimenter says it is. Orne (1962) pointed out that the use of deception "on the part of psychologists is so widely known in the college population that even if a psychologist is honest with the subject, more often than not he will be distrusted." As one subject pithily put it, "Psychologists always lie!" Orne added that "This bit of paranoia has some support in reality [pp. 778-779]." There are, of course, other sources of human subjects that have not been tapped, and we could turn to them in our quest for naïveté. But even there it is only a matter of time. As word about psychological experiments gets around in whatever network we happen to be using, sophistication is bound to increase. I wonder, therefore, whether there is any future in the use of deception.

If the subject in a deception experiment knows what the experimenter is trying to conceal from him and what he is really after in the study, the value of the deception is obviously nullified. Generally, however, even the relatively sophisticated subject does not know the exact purpose of the experiment; he only has suspicions, which may approxi-

mate the true purpose of the experiment to a greater or lesser degree. Whether or not he knows the *true* purpose of the experiment, he is likely to make an effort to figure out its purpose, since he does not believe what the experimenter tells him, and therefore he is likely to operate in the situation in terms of his own hypothesis of what is involved. This may, in line with Orne's (1962) analysis, lead him to do what he thinks the experimenter wants him to do. Conversely, if he resents the experimenter's attempt to deceive him, he may try to throw a monkey wrench into the works; I would not be surprised if this kind of Schweikian game among subjects became a fairly well-established part of the culture of sophisticated campuses. Whichever course the subject uses, however, he is operating in terms of his own conception of the nature of the situation, rather than in terms of the conception that the experimenter is trying to induce. In short, the experimenter can no longer assume that the conditions that he is trying to create are the ones that actually define the situation for the subject. Thus, the use of deception, while it is designed to give the experimenter control over the subject's perceptions and motivations, may actually produce an unspecified mixture of intended and unintended stimuli that make it difficult to know just what the subject is responding to.

The tendency for subjects to react to unintended cues—to features of the situation that are not part of the experimenter's design—is by no means restricted to experiments that involve deception. This problem has concerned students of the interview situation for some time, and more recently it has been analyzed in detail in the writings and research of Riecken, Rosenthal, Orne, and Mills. Subjects enter the experiment with their own aims, including attainment of certain rewards, divination of the experimenter's true purposes, and favorable self-presentation (Riecken, 1962). They are therefore responsive to demand characteristics of the situation (Orne, 1962), to unintended communications of the experimenter's expectations (Rosenthal, 1963), and to the role of the experimenter within the social system that experimenter and subject jointly constitute (Mills, 1962).

In any experiment, then, the subject goes beyond the description of the situation and the experimental manipulation introduced by the investigator, makes his own interpretation of the situation, and acts accordingly.

For several reasons, however, the use of deception especially encourages the subject to dismiss the stated purposes of the experiment and to search for alternative interpretations of his own. First, the continued use of deception establishes the reputation of psychologists as people who cannot be believed. Thus, the desire "to penetrate the experimenter's inscrutability and discover the rationale of the experiment [Riecken, 1962, p. 34]" becomes especially strong. Generally, these efforts are motivated by the subject's desire to meet the expectations of the experimenter and of the situation. They may also be motivated, however, as I have already mentioned, by a desire to outwit the experimenter and to beat him at his own game, in a spirit of genuine hostility or playful one-upmanship. Second, a situation involving the use of deception is inevitably highly ambiguous since a great deal of information relevant to understanding the structure of the situation must be withheld from the subject. Thus, the subject is especially motivated to try to figure things out and likely to develop idiosyncratic interpretations. Third, the use of deception, by its very nature, causes the experimenter to transmit contradictory messages to the subject. In his verbal instructions and explanations he says one thing about the purposes of the experiment; but in the experimental situation that he has created, in the manipulations that he has introduced, and probably in covert cues that he emits, he says another thing. This again makes it imperative for the subject to seek his own interpretation of the situation.

I would argue, then, that deception increases the subject's tendency to operate in terms of his private definition of the situation, differing (in random or systematic fashion) from the definition that the experimenter is trying to impose; moreover, it makes it more difficult to evaluate or minimize the effects of this tendency. Whether or not I am right in this judgment, it can, at the very least, be said that the use of deception

does not resolve or reduce the unintended effects of the experiment as a social situation in which the subject pursues his private aims. Since the assumptions that the subject is naïve and that he sees the situation as the experimenter wishes him to see it are unwarranted, the use of deception no longer has any special obvious advantages over other experimental approaches. I am not suggesting that there may not be occasions when deception may still be the most effective procedure to use from a methodological point of view. But since it raises at least as many methodological problems as any other type of procedure does, we have every reason to explore alternative approaches and to extend our methodological inquiries to the question of the effects of using deception.

3. *Implications for the future of social psychology.* My third concern about the use of deception is based on its long-run implications for our discipline and combines both the ethical and methodological considerations that I have already raised. There is something disturbing about the idea of relying on massive deception as the basis for developing a field of inquiry. Can one really build a discipline on a foundation of such research?

From a long-range point of view, there is obviously something self-defeating about the use of deception. As we continue to carry out research of this kind, our potential subjects become more and more sophisticated, and we become less and less able to meet the conditions that our experimental procedures require. Moreover, as we continue to carry out research of this kind, our potential subjects become increasingly distrustful of us, and our future relations with them are likely to be undermined. Thus, we are confronted with the anomalous circumstance that the more research we do, the more difficult and questionable it becomes.

The use of deception also involves a contradiction between our experimental procedures and our long-range aims as scientists and teachers. In order to be able to carry out our experiments, we are concerned with maintaining the naïveté of the population from which we hope to draw our subjects. We are all familiar with the experimenter's anxious concern that the introductory course

might cover the autokinetic phenomenon, need achievement, or the Asch situation before he has had a chance to complete his experimental runs. This perfectly understandable desire to keep procedures secret goes counter to the traditional desire of the scientist and teacher to inform and enlighten the public. To be sure, experimenters are interested only in temporary secrecy, but it is not inconceivable that at some time in the future they might be using certain procedures on a regular basis with large segments of the population and thus prefer to keep the public permanently naïve. It is perhaps not too fanciful to imagine, for the long run, the possible emergence of a special class, in possession of secret knowledge—a possibility that is clearly antagonistic to the principle of open communication to which we, as scientists and intellectuals, are so fervently committed

DEALING WITH THE PROBLEM OF DECEPTION IN SOCIAL PSYCHOLOGICAL EXPERIMENTS

If my concerns about the use of deception are justified, what are some of the ways in which we, as experimental social psychologists, can deal with them? I would like to suggest three steps that we can take: increase our active awareness of the problem, explore ways of counteracting and minimizing the negative effects of deception, and give careful attention to the development of new experimental techniques that dispense with the use of deception.

1. *Active awareness of the problem.* I have already stressed that I would not propose the complete elimination of deception under all circumstances, in view of the genuine conflict of values with which the experimenter is confronted. What is crucial, however, is that we always ask ourselves the question whether deception, in the given case, is necessary and justified. How we answer the question is less important than the fact that we ask it. What we must be wary of is the tendency to dismiss the question as irrelevant and to accept deception as a matter of course. Active awareness of the problem is thus in itself part of the solution, for it makes the use of deception a matter for discussion, deliberation, investigation, and choice. Active awareness means that, in any given case, we will try to balance

the value of an experiment that uses deception against its questionable or potentially harmful effects. If we engage in this process honestly, we are likely to find that there are many occasions when we or our students can forego the use of deception—either because deception is not necessary (that is, alternative procedures that are equally good or better are available), because the importance of the study does not warrant the use of an ethically questionable procedure, or because the type of deception involved is too extreme (in terms of the possibility of harmful effects or of seriously undermining the experimenter-subject relationship).

2. *Counteracting and minimizing the negative effects of deception.* If we do use deception, it is essential that we find ways of counteracting and minimizing its negative effects. Sensitizing the apprentice researcher to this necessity is at least as fundamental as any other part of research training.

In those experiments in which deception carries the potential of harmful effects (in the more usual sense of the term), there is an obvious requirement to build protections into every phase of the process. Subjects must be selected in a way that will exclude individuals who are especially vulnerable; the potentially harmful manipulation (such as the induction of stress) must be kept at a moderate level of intensity; the experimenter must be sensitive to danger signals in the reactions of his subjects and be prepared to deal with crises when they arise; and, at the conclusion of the session, the experimenter must take time not only to reassure the subject, but also to help him work through his feelings about the experience to whatever degree may be required. In general, the principle that a subject ought not to leave the laboratory with greater anxiety or lower self-esteem than he came with is a good one to follow. I would go beyond it to argue that the subject should in some positive way be enriched by the experience, that is, he should come away from it with the feeling that he has learned something, understood something, or grown in some way. This, of course, adds special importance to the kind of feedback that is given to the subject at the end of the experimental session.

Postexperimental feedback is, of course, the primary way of counteracting negative effects in those experiments in which the issue is deception as such, rather than possible threats to the subject's well-being. If we do deceive the subject, then it is our obligation to give him a full and detailed explanation of what we have done and of our reasons for using this type of procedure. I do not want to be absolutist about this, but I would suggest this as a good rule of thumb to follow: Think very carefully before undertaking an experiment whose purposes you feel unable to reveal to the subjects even after they have completed the experimental session. It is, of course, not enough to give the subject a perfunctory feedback, just to do one's duty. Postexperimental explanations should be worked out with as much detail as other aspects of the procedure and, in general, some thought ought to be given to ways of making them meaningful and instructive for the subject and helpful for rebuilding his relationship with the experimenter. I feel very strongly that to accomplish these purposes, we must keep the feedback itself inviolate and under no circumstance give the subject false feedback or pretend to be giving him feedback while we are in fact introducing another experimental manipulation. If we hope to maintain any kind of trust in our relationship with potential subjects, there must be no ambiguity that the statement "The experiment is over and I shall explain to you what it was all about" means precisely that and nothing else. If subjects have reason to suspect even that statement, then we have lost the whole basis for a decent human relationship with our subjects and all hope for future cooperation from them.

3. *Development of new experimental techniques.* My third and final suggestion is that we invest some of the creativity and ingenuity, now devoted to the construction of elaborate deceptions, in the search for alternative experimental techniques that do not rely on the use of deception. The kind of techniques that I have in mind would be based on the principle of eliciting the subject's positive motivations to contribute to the experimental enterprise. They would draw on the subject's active participation and involvement in the

proceedings and encourage him to cooperate in making the experiment a success—not by giving the results he thinks the experimenter wants, but by conscientiously taking the roles and carrying out the tasks that the experimenter assigns to him. In short, the kind of techniques I have in mind would be designed to involve the subject as an active participant in a joint effort with the experimenter.

Perhaps the most promising source of alternative experimental approaches are procedures using some sort of role playing. I have been impressed, for example, with the role playing that I have observed in the context of the Inter-Nation Simulation (Guetzkow, Alger, Brody, Noel, & Snyder, 1963), a laboratory procedure involving a simulated world in which the subjects take the roles of decision-makers of various nations. This situation seems to create a high level of emotional involvement and to elicit motivations that have a real-life quality to them. Moreover, within this situation—which is highly complex and generally permits only gross experimental manipulations—it is possible to test specific theoretical hypotheses by using data based on repeated measurements as interaction between the simulated nations develops. Thus, a study carried out at the Western Behavioral Sciences Institute provided, as an extra, some interesting opportunities for testing hypotheses derived from balance theory, by the use of mutual ratings made by decision-makers of Nations A, B, and C, before and after A shifted from an alliance with B to an alliance with C.

A completely different type of role playing was used effectively by Rosenberg and Abelson (1960) in their studies of cognitive dilemmas. In my own research program, we have been exploring different kinds of role-playing procedures with varying degrees of success. In one study, the major manipulation consisted in informing subjects that the experiment to which they had just committed themselves would require them (depending on the condition) either to receive shocks from a fellow subject, or to administer shocks to a fellow subject. We used a regular deception procedure, but with a difference; We told the subjects before the session started that what was to follow was make-believe, but that

we wanted them to react as if they really found themselves in this situation. I might mention that some subjects, not surprisingly, did not accept as true the information that this was all make-believe and wanted to know when they should show up for the shock experiment to which they had committed themselves. I have some question about the effectiveness of this particular procedure. It did not do enough to create a high level of involvement, and it turned out to be very complex since it asked subjects to role-play subjects, not people. In this sense, it might have given us the worst of both worlds, but I still think it is worth some further exploration. In another experiment, we were interested in creating differently structured attitudes about an organization by feeding different kinds of information to two groups of subjects. These groups were then asked to take specific actions in support of the organization, and we measured attitude changes resulting from these actions. In the first part of the experiment, the subjects were clearly informed that the organization and the information that we were feeding to them were fictitious, and that we were simply trying to simulate the conditions under which attitudes about new organizations are typically formed. In the second part of the experiment, the subjects were told that we were interested in studying the effects of action in support of an organization on attitudes toward it, and they were asked (in groups of five) to role-play a strategy meeting of leaders of the fictitious organization. The results of this study were very encouraging. While there is obviously a great deal that we need to know about the meaning of this situation to the subjects, they did react differentially to the experimental manipulations and these reactions followed an orderly pattern, despite the fact that they knew it was all make-believe.

There are other types of procedures, in addition to role playing, that are worth exploring. For example, one might design field experiments in which, with the full cooperation of the subjects, specific experimental variations are introduced. The advantages of dealing with motivations at a real-life level of intensity might well outweigh the disadvantages of subjects' knowing the general

purpose of the experiment. At the other extreme of ambitiousness, one might explore the effects of modifying standard experimental procedures slightly by informing the subject at the beginning of the experiment that he will not be receiving full information about what is going on, but asking him to suspend judgment until the experiment is over.

Whatever alternative approach we try, there is no doubt that it will have its own problems and complexities. Procedures effective for some purposes may be quite ineffective for others, and it may well turn out that for certain kinds of problems there is no adequate substitute for the use of deception. But there are alternative procedures that, for many purposes, may be as effective or even more effective than procedures built on deception. These approaches often involve a radically different set of assumptions about the role of the subject in the experiment: They require us to use the subject's motivation to cooperate rather than to bypass it; they may even call for increasing the sophistication of potential subjects, rather than maintaining their naïveté. My only plea is that we devote some of our energies to active exploration of these alternative approaches.

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