PLACEBOS AND THEIR PSYCHOLOGICAL EFFECTS

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ALTHOUGH numerous instances of the surprising efficacy of placebos in a wide variety of conditions have been reported lately, little has yet been done towards providing an explanation of the occurrence of placebo reactions in terms of psychology. In what follows, the main findings concerning placebos will first be described, and then an attempt made to relate them to psychological theory. Even if this attempt is premature, it may succeed in showing the need for further work and in suggesting what directions this might take.

A placebo may be defined as "An inactive substance or preparation formerly given to please or gratify a patient, now also used in controlled studies to determine the efficacy of medicinal substances" (Dorland, 1951). In the latter sense it is sometimes termed "dummy" treatment (Gaddum, 1954). Such agents have probably been investigated more than any actual drug, as most psychological studies on drug effects have, for many years, made this concession, at least, towards scientific method: yet it is only recently that much attention has been focussed on them. When administered according to the "double-blind" method, their function is to prevent either the subject or the experimenter from knowing when the active drug is being given, so they cannot be disregarded even in experiments on animals. But in man they are of greater significance owing to the frequency of placebo reactions. The more ineffective the drug under investigation is, the more important is a knowledge of these placebo reactions for assessing its effect. Thus in psychological and psychiatric work placebos are of considerable importance, whereas they may be disregarded in, for example, a study of a new anaesthetic.

I. MATERIA MEDICA OF PLACEBOS

Placebos are usually inert substances, administered in the same manner as the drug under investigation, e.g. sterile water or saline for injection or a capsule of lactose, but sometimes potentially active substances are used in small quantities, especially the bitter-tasting alkaloids such as quinine which was used in the M.R.C. research on cold cures (1950) and strychnine which is still used in "tonics" (although in the usual doses it is without effect and in larger doses the effects would be highly undesirable according to Goodman and Gilman, 1955). For medical purposes, it has been recommended that they should be red, yellow or brown in colour, bitter in flavour and either very large or very small in size. The appearance should not resemble that of aspirin (Leslie, 1954). The colour preference may be very specific; a colleague reports that a certain patient can only sleep if given a *yellow* placebo capsule, the red and white being quite ineffective. For a liquid placebo Leslie (1954) recommends a 0·1 per cent. solution of sodium dehydrocholate as being more readily available than the once extensively used tincture of valerian. An ideal placebo would have all the inessential properties of the drug with which it was to be compared and not merely resemble it in colour and taste. Too often the active preparation makes itself known by obvious effects which are only incidental to the one under

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investigation, and changing the code is not an entirely adequate subterfuge. Baker and Thorpe (1956) have enlarged on these difficulties, as a result of their surprising findings that placebo administration led to some highly significant reductions in daytime incontinence in deteriorated psychotic patients, whereas "Pacatal", "a new and superior tranquillizer" (to quote the manufacturers' description) produced no significant changes in this respect. They "believe that there is at least one simple explanation for this unexpected result. Although the tablets are similar in appearance, if they are tasted the inert one is sweet. Thus, in terms of total experience, one control group received several small sweets daily from the nurses whilst the other group received a bitter pill. As shown by Merry (1956) and others, small changes which improve the personal relationship between the nurse and patient will lead to improvement in the behaviour of the latter." Among the difficulties mentioned, they point out that "any attempt to observe a form of behaviour in our patients has often led to a change in that form of behaviour", also that "the subjective experiences of patients taking the tablets may differ", that the nursing staff inevitably try to find out which the inert tablet is and "this knowledge (accurate or inaccurate) may influence their attitudes to the patients under investigation. The patients receiving one form of drug may then receive different nursing care from those receiving the other." Finally, the "double-blind" technique is made difficult with tranquillizers because of the association of Parkinsonism with reserpine, of facial pallor with chlorpromazine and of dryness of the mouth with "Pacatal". They discuss certain ways of avoiding these errors, whose prevalence is so great that little confidence can justifiably be placed on the results of initial trials with drugs.

II. Placebo Reactions: Some Examples

Reactions to placebos are seldom striking and rarely, if ever, lethal, but they are not confined to reports of vague subjective changes. They may involve almost every organ and system in the body, and a selective list of their desirable apparent effects would resemble a pharmaceutical advertisement. Beecher (1955) has compared the incidence of relief by placebos in fifteen studies, of the kind mentioned here, in over 1,000 patients. He found that this ranged from 15 to 58 per cent., with an average of $35 \cdot 2 \pm 2 \cdot 2$ per cent. relieved. The following is only a small sample of the responses reported following administration of placebos.

They may be associated with gastric changes like those caused by urogastrone and prostigmine (Wolf, 1950). In the form of a saline injection a placebo not only greatly reduced the number of attacks in a third of the asthma patients in whom it was tried but, as an intravenous infusion, benefited patients with adrenaline-resistant status asthmaticus (Wayne, 1956). It may be of benefit in hay-fever (Baldwin, 1954), and it was also as effective for suppressing cough as an injection of gr. 3 of codeine (Hillis, 1952). As a tablet, it benefited patients with tension symptoms as effectively as mephenesin (Wolf and Pinsky, 1954). In fact, Hampson *et al.* (1954) even found that "the decline in severity of symptoms was greater when patients were taking placebo than when they were taking 3 G. mephenesin per day", although the difference was not statistically significant. It has been found to be an efficacious treatment for 52 per cent. of headaches, although some patients are unaffected (Jellinek, 1946). In intermittent claudication injections of sterile saline improved the exercise tolerance more than did tolazoline ("Priscol") a vasodilator (Hamilton and Wilson, 1952). In 14 per cent. of the 69 patients with post-operative pain who received two or

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more doses of a placebo, Lasagna *et al.* (1954) found the pain to be consistently alleviated. Euphoria may follow its injection, particularly in subjects who respond atypically to other drugs (Lasagna *et al.*, 1955). For treating the common cold it was as effective as certain antihistamines, e.g. thonzylamine (M.R.C., 1950) or cold vaccines (Diehl *et al.*, 1940), but in this connection seems particularly liable to be associated with the occurrence of drowsiness, lassitude, listlessness, dizziness, giddiness, vertigo, headache, depression, insomnia and gastro-intestinal disturbances (M.R.C., 1950). Beecher (1955) reports thirty-five different toxic effects of placebos. Among the more severe reactions to be reported are dermatitis medicamentosa and angioneurotic oedema (Wolf and Pinsky, 1954).

In psychiatry, administered as compressed air, it rivalled carbon dioxide in its efficacy, 50 per cent. of the patients improving (Hawkings and Tibbetts, 1956b) and, as an injection of sterile water, it rivalled acetylcholine therapy, with 60 per cent. improving (Hawkings and Tibbetts, 1956a). According to the circumstances, placebos may appear to have stimulant (Flory and Gilbert, 1943) or depressant properties (Straus *et al.*, 1955). There may, however, be undesirable side effects: in fatigued subjects hallucinations have followed their administration (Tyler, 1947). Dependence and, in a sense, even "addiction" may develop. A case has been reported of persistent pain following the amputation of a limb, which was relieved only as long as frequent injections of saline were given. And in morphine addicts, saline has eventually been substituted for the drug without withdrawal symptoms appearing until the saline injections were stopped (Leslie, 1954).

As Steinberg (1956) points out, "the placebo symptoms often resemble those which would be expected from the drug under investigation. This may be partly the result of the way in which the reports of symptoms are elicited", but it may happen spontaneously if the subjects know or suspect what the drug is under investigation. Abramson *et al.* (1955) in their studies of lysergic acid diethylamide found that certain subjects gave positive responses after the administration of tap water, and they criticize much of the previous work on the grounds that "the use of controls given zero dosage was not perhaps as adequate as desirable". (On the other hand, their own work may be criticized because they administered the drug in tap water which often contains substances which inactivate the drug. This may have resulted in diminishing the difference between the control and the drug groups.)

III. Placebo Reactions: Their Significance, Consistency and Relation to Personality

So far the personality of the placebo-reactor has not been subjected to much study, nor is it known how generalized or consistent this tendency to react is. Jellinek (1946) in his study of the comparative effectiveness of analgesic agents found an "example of the rare U-shaped distribution . . . Thus there are individuals who definitely tend to respond and individuals who definitely do not tend to respond to *placebo*" (cf. Lasagna *et al.*, 1954, see below). He goes on to say that this difference must reflect a difference in the nature of headaches, although this does not necessarily follow. He suggests that placebo-reactors should be screened out. "Banal as it may sound, discrimination among remedies for pain can only be made by subjects who have a pain on which the analgesic action can be tested. The imagined pain, the psychological headache, may be a source of great discomfort to the subject, but it does not form the prerequisite condition for drug discrimination."

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Similarly, Beecher *et al.* (1953) in a comparative study of morphine, codeine and a placebo, all given orally, found that if the placebo reactors were excluded it became "possible to demonstrate significance where it had not been possible to do so before". If the grand total percentage relief from aspirin is compared "with the grand total relief from combined morphine-codeine . . . we would find 52 per cent. relief out of 131 doses of 'aspirin' and 40 per cent. relief out of 116 doses of morphine and codeine. The difference between 52 per cent. and 40 per cent. gives only a 6 per cent. level of significance. This comparison is not as well controlled as a comparison taking account of the fact that there may be differential percentages of patients relieved by placebos in the two drug groups." These differences were not, however, significant. Nevertheless, the presence of the placebo-reactors obscured the influences of the drugs. "Among placebo reactors there is little or no difference between percentages relieved by the drugs", whereas "among placebo non-reactors there is a significant difference between percentage relief in the combined acetylsalicylic acid groups and percentage relief in the combined codeine-morphine groups".

Placebo reactions in one particular situation have been investigated by Lasagna *et al.* (1954) who have also tried to compare the personalities of those whose post-operative pain was consistently alleviated by saline injections with those whose pain was consistently unaffected thereby. The group studied consisted of 162 post-operative patients who had required morphine or a similar narcotic to be prescribed for their pain. In phase 1 of the study there was one injection of saline to every five of morphine, and in phase 2 the placebo was given alternately with the morphine. "A medication was considered to have produced relief when the patient indicated sufficient alleviation of pain ('over 50 per cent.') at forty-five and again at ninety minutes after injection . . . and for every placebo dose which produced relief it was required that pain return, to eliminate the possibility that the pain had subsided spontaneously."

They found that there was a significantly higher incidence of relief from morphine in the placebo reactors than in the non-reactors. "Less than half of the patients who received multiple doses of a placebo responded consistently to the placebo. Those requiring more frequent treatment for their pain were less affected both by morphine and the placebo. Of 69 patients who received two or more doses of the placebo, 55 per cent. were inconsistent, the placebo only sometimes being followed by relief. 14 per cent. consistently reacted favourably to the placebo, as compared with 31 per cent. who did not."

Possibly the consistent reactors represent the two extremes of a personality continuum, with the majority falling in between, as with so many other psychological traits. But the low degree of consistency even under the carefully controlled conditions of the experiment suggests that it might be difficult to obtain any consistent reactions at all if subjects were compared in several different situations. The specificity or generality of the placebo reactions might well be determined before attempting to correlate the supposed trait with types of personality. It is possible that the patients who obligingly improve on a placebo are not the same as those who contrive to develop those curious and sometimes even alarming symptoms which have sometimes been reported to occur.

In the study by Lasagna *et al.*, psychological data on the consistent reactors and consistent non-reactors were obtained, by interviews, questionnaires filled in by nurses on surgical wards, the Wechsler-Bellevue vocabulary sub-test, and lastly (and according to some authorities, least), the Rorschach. The tests were all done at the end of the patients' stay in hospital, and the interviews and questionnaire earlier in their stay.

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Compared with the 16 consistent non-reactors, the 11 consistent reactors were on an average 5 years older and their pain relief with morphine was greater than in the non-reactors who appear to have had more persistent pain, although the type and extent of the major surgery undergone by the two groups was similar. "The reactors all considered the hospital care 'wonderful', whereas only four of the sixteen non-reactors felt this way." Whether this difference in attitudes resulted from an actual difference in the amount of pain endured, with or without medication (a favourable attitude could easily be developed towards those who were instrumental in reducing pain and anxiety) or whether the attitudes had been previously established is crucial, but uncertain. Possibly the "reactors" did enter the hospital more prepared and more able to tolerate pain uncomplainingly. It is curious that although over half of the non-reactors were reported not to attend churches, "Every placebo reactor in this group was a veritable pillar of the church, attending services with regularity and being greatly interested and active in church affairs" (Lasagna, 1955). The churches presumably represent forms of Christianity, which is apt to foster, at least in theory, a peculiar and "unbiological" attitude of acceptance of pain and suffering. In accordance with this, 72 per cent. of them were said to minimize their post-operative pain compared with 19 per cent. of the non-reactors. Thus Lasagna *et al.* appear to depend for their measurement of pain in the placebo reactors upon the complaints of those who, both in theory and in practice, are relatively uncomplaining. Without even fuller details than are given, such as the circumstances deciding the injection schedule in a given patient, it is difficult to assess just how serious this objection is. In further support of it, the reactors asked for medication less frequently, were more co-operative, and had had less formal education. On the other hand, they seemed to the nurses to have less severe pain (but the nurses could only observe the overt *reactions* to the pain, which would, of course, be less according to the view put forward here); they gave a history of more somatic symptoms under stress, a greater tendency to use aspirin and cathartics, and at the interview they were more "weepy" (but also more talkative). The P. of these differences ranges from $>\cdot 10$ to $\cdot 001$. It would be of interest to know how frequently the injections of morphine and of the placebo were accompanied by nausea; if the incidence should prove higher in the non-reactor group, this would support the interpretation given above.

The Rorschach data differentiated the groups in certain ways. For instance, the reactors gave more responses, especially relating to "insides". They were also considered on the basis of the Rorschach interpretation to be less mature and "more dependent on outside stimulation than on their own mental processes" and, although more anxious and dependent than the non-reactors, they were less rigid and more able to cope with these drives.

This interesting article has been discussed at some length because although frequently quoted, it has not received any critical assessment. Besides those already mentioned, the study has several other limitations:

1. Placebo reactions were only investigated in one type of situation.

2. There was no objective measure of the drug effect or of the pain, which was presumably altering daily.

3. The psychological investigations were done while the patients were convalescent, when those (like the non-reactors) who may have suffered more actual severe and prolonged pain, may well have not fully returned to their normal psychological state.

4. (*a*) The assessment of personality was inadequate. No evidence is

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given on the reliability or validity of the questionnaire, and there is good reason to suspect the quality of the psychological data collected by the surgical nurses.

(*b*) Although the Rorschach appears to differentiate the two groups significantly in certain ways (see, however, Cronbach, 1949), the composite portrait of the placebo reactors and non-reactors based on it is more questionable. According to Eysenck (1956a) when "used as a 'global' test of personality, subjectively interpreted and evaluated . . . it appears to be almost entirely useless, and the experimental literature leaves little doubt that validation studies of the test used in this fashion nearly always give negative results", although it may have some validity as a psychometric test objectively scored. "The variable having the highest saturation on the introverted side" in a study reported by Eysenck (1956b) is M per cent. Unfortunately Lasagna *et al.* do not mention this, nor the D score which is also said to be correlated with extraversion. However, a high FM ÷ M score was found to have a saturation of ·50 on a factor identified as extraversion; it also occurred in twice as high a proportion of reactions ($P = \cdot 06$). On the other hand a high F per cent. (average) which also had a loading on extraversion, was found in the non-reactors. Whether any conclusions can yet be safely inferred from the Rorschach procedure remains doubtful.

5. The method of repeated administration of placebos, quite apart from the discomfort to the patient who may not get the rest he requires, may have the disadvantage of extinguishing the placebo reactions, especially when opportunity is given for comparison with an effective drug, and discrimination is learned (cf. Glaser and Whittow, 1953, see below).

Until further studies have been carried out which avoid these limitations, it is difficult to know how general the findings of Lasagna and his colleagues are. One conclusion at least may be of importance, namely, that a classification into placebo "reactors" and "non-reactors" cannot be based on a single dose of placebo. This will inevitably make research into placebo reactions more complicated, but perhaps less misleading. Presumably on the basis of a single test, Straus *et al.* (1955) excluded "all known placebo reactors" in their study of the hypnotic effects of an antihistamine, but even then "over 30 per cent. of the patients scored the placebo as excellent in inducing and maintaining sleep".

IV. Psychological Aspects of the Placebo Reaction

In their recent study of placebo responses, Tibbetts and Hawkings (1956) attempted to link up their findings with personality theory. If it may be assumed that the tendency to react to placebos is a fairly unitary trait, their discussion is of some interest. They characterized placebo reactors (who were younger than the non-reactors, in contrast to those of Lasagna *et al.*), as less likely to have a history of previous neurotic traits or to have a hysterical or inadequate personality, but more likely to have "unelaborated anxiety".* They state that their findings concerning the lack of relation of the placebo reaction to hysterical conversion are "at variance with popular belief", but they assume "that the placebo reaction must be a manifestation of suggestion" and attempt to relate this to Eysenck's (1947) analysis of suggestibility. Eysenck "describes two quite uncorrelated and independent factors operating in the tests customarily used; primary suggestibility which concerns the suggestion of movements and secon-

* Beecher has recently presented evidence "that placebos are increasingly effective with increased stress" (*Amer. J. Physiol.*, 1956, **187**, 163–9). If this is so, it helps to explain the greater incidence of placebo reactions in clinical rather than experimental situations.

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dary suggestibility which concerns the suggestion to sensations or perceptions". Neither type of suggestibility is specifically related to hysteria, although primary suggestibility and neuroticism are related. "To explain his data Eysenck invokes the concepts of aptitude and attitude. In the case of primary suggestibility aptitude is the tendency for the thought of a movement to be accompanied by an incipient movement of the muscles involved. In practice this aptitude is influenced by attitude, the desire of the subject to resist or not to resist the suggestion." Tibbetts and Hawkings consider that it is the attitude which is important clinically, and that it is "possible that a positive attitude towards symptomatic improvement may more usually be associated with dysthymia than with hysterical illness, since in the latter powerful motives of secondary gain militate against progress".

This explanation is plausible but has some defects. If placebo reactions are manifestations of primary suggestibility, which is closely related to neuroticism (Eysenck, 1947), it would be expected that hysterics would differ from the normal in the same direction as dysthmics, although possibly to a lesser degree.

It appears more likely that *secondary* rather than primary suggestibility is the trait related to placebo reactions in so far as these are not learned. Primary suggestibility is related to movements, whereas "the main feature in the tests which go to define this trait (of secondary suggestibility) is the experience on the part of the subject of a sensation or perception consequent upon the direct or implied suggestion by the experimenter that such an experience will take place, in the absence of any objective basis for the sensation or perception" (Eysenck, 1947). This might almost be taken as a definition of a placebo reaction. It should be relatively simple to test this theory. As yet, only one study appears to have been carried out which is relevant to it. Grimes (1948) included a "placebo" test in a battery of tests of suggestibility, as a test of prestige suggestibility. Unfortunately, its test-retest reliability was low (·433) and its correlations with the other tests insignificant, so it is difficult to draw any conclusions.

Secondary suggestibility has not been related to any personality dimension. The aptitude for it may be affected by the attitude as Eysenck (1947) found with primary suggestibility and this could account for an initial difference in response between co-operative dysthymics and actively indifferent hysterics. Probably, however, the learned component of the response is important. Discussing the responses of addicts to drugs Lasagna *et al.* (1955) write: "An important factor that may overlay many responses is the long-term conditioning that usually begins before the first experience with narcotics." To this is added the effects of the desires and expectations evoked by the specific situation, which may even be so great as to counteract the influence of the drug. For example, Wolf (1950) administered a drug to a woman with hyperemesis gravidarum who was led to believe that her vomiting would thereby be relieved; it was, and the contractions of the stomach were also inhibited for a time. The drug, however, was ipecacuanha, which, in larger doses, is a powerful emetic. An additional factor affecting the subject's reactions is the reinforcement given by the doctor or experimenter, consciously or unconsciously, to certain responses (cf. Verplanck, 1955).

When repeated doses of a drug and/or a placebo are given the effects of learning and discrimination would be expected to become more pronounced. Glaser and Whittow (1954) found that subjects receiving placebos reported more symptoms if they had been given a drug (l-hyoscine hydrobromide), of similar appearance a few days previously, than if they had not received any

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previous medication. In succeeding tests, the incidence of symptoms reported after placebos declines. Even filling in questionnaires "can give rise to apparent responses in man", but when the procedure is repeated at intervals of 2–7 days, the responses become progressively less, until they reach a steady level. If a drug, indistinguishable from the placebo, is now given, it appears to have an "inhibiting effect on whatever habituation may have been acquired", because in the following test (when dummies were given again) more symptoms were recorded than before the drug had been taken (Glaser and Whittow, 1953*a* and *b*). These findings, based on a large number of subjects, were statistically significant.

A tentative explanation of these findings may be given in terms of learning theory. The initial responses to the placebo-questionnaire situation may be regarded as the result of generalization from other learning situations; the diminution of responses to this situation on repetition, as the result of lack of reinforcement; and the increase in responses to the placebo-questionnaire situation after a drug has been given, as the result of disinhibition.

Although the individual differences in these responses have not been related to personality, if the above elementary interpretation in terms of learning theory is tenable, there is at once a hypothetical link with personality theory. According to Eysenck's (1955) theory concerning the basis of differences between introverts (and dysthymics) and extraverts (and hysterics), it would follow that the introvert would tend to acquire placebo responses more readily and to lose them less readily than the extravert. Evidence for the implications of Eysenck's theory concerning personality differences in conditionability has been obtained by Franks (e.g. 1956). An alternative theory, associated with Spence and his co-workers, relates anxiety to ease of conditioning. Either theory is compatible with the few data that there are on placebo-reactors.

V. Some Implications of Placebo Effects

The clinical and ethical problems raised in this connection are fortunately beyond the scope of this article. Cabot (1906) wrote: "Every placebo is a lie, and in the long run the lie is found out." Similar views are commonly expressed, e.g. "The placebo is a form of deceit, initially of the patient, ultimately of the doctor" (Handfield-Jones, 1953). The demarcation between suggestion and deceit is not very clear, even in the light of Leslie's (1954) distinction between deception and deceit. The therapeutic effects appear to be enhanced if the physician is, like the patient, unaware that the substance is acting as a placebo. Likewise, "it is hard for a team to maintain its enthusiasm about the use of an inert substance . . . and it may well be that enthusiasm is one of the more effective ingredients of the therapeutic situation" (Tibbetts and Hawkings, 1956). As Wayne puts it: "It is very easy to transmit one's own faith to the patient and so achieve a positive result with inactive substances. This partly explains the well-known phase of initial enthusiasm for a new remedy which led Osler to say 'use new remedies while they continue to act' " (Wayne, 1956).

The mere fact of administering something, even if it is only acting as a placebo, is satisfying alike to the patient and the doctor. Tibbetts and Hawkings (1956) point out that the attitudes of relatives of the patient with a psychiatric disturbance may change in a direction more likely to promote recovery if they learn that the patient is receiving physical treatment rather than treatment by "talking" which they would regard as confirmation of their suspicion that

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the symptoms were "imaginary".* In addition to the effects on the patient and his relatives, there is the important but often unacknowledged influence on the doctor, who may be better able to preserve his own morale if he can prescribe something, even though its pharmacological effectiveness in this connection is not established. To be able to predict which patients would be unlikely to respond favourably to placebos would be an advantage.

The effect of the presence of placebo reactors in comparative studies of drugs has already been discussed, but the importance of placebos extends beyond this. Although placebo reactions may usually appear to enhance the drug effect, they may also subtract from it. An instance of this was quoted from Wolf (1950) and another is provided by Cameron and Kasanin (1941) who reported that "two patients said that after taking amphetamine at night (by mistake) they slept very much better, and they asked that the drug be substituted for phenobarbital". (But it is not quite clear whether this was a result of the patients' preconceptions, or some paradoxical pharmocological effect of the drug.) Such phenomena at least help to focus attention on the individual reactions to drugs, and it is increasingly recognized that "in evaluating a drug one needs to know not only the nature of the drug but also the status of the individual at the time the drug is given" (Grace, 1954).

The significance of placebo reactions for psychiatry is considerable. Tibbetts and Hawkings (1956) claim that the majority of "novel physical treatments" such as carbon dioxide inhalation and intravenous acetylcholine, "are likely to prove to be placebos". They imply that similar considerations may apply to psychotherapy.

The necessity of allowing for the placebo effect in assessing the effects of psychotherapy has been emphasized by Rosenthal and Frank (1956). They argue that "to show that a specific form of psychotherapy based on a theory of personality and neurosis produces results not attributable to the placebo effect", it is necessary to compare it with "another form of therapy in which patients had equal faith, so that the placebo effect operated equally in both". It is possible that satisfying this criterion may give no corresponding satisfaction to the advocates of psychotherapy.

Summary

The reported effects of placebos are briefly described, and the attempts to relate the occurrence of these effects to personality are reviewed. The role of secondary suggestibility and learning is emphasized, and the implications discussed.

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