pneumococci, and streptococci as the substrate for soil bacteria, and his success with tyrothricin and gramicidin was probably the stimulus which led Florey and Chain to investigate penicillin, a mould extract whose properties and potentialities as a chemotherapeutic agent had been described by Fleming ten years earlier. In the past few years many thousands of antibiotics have been isolated, but only a few have been found to be therapeutically useful. However, armed with the sulphonamides, penicillin, and streptomycin, and soon, we hope, with chloramphenicol and aureomycin, the medical practitioner can to-day tackle most bacterial infections with reasonable hopes of success. The therapeutic activity of the latter two drugs against the rickettsia and some of the larger viruses gives promise of still further successes.

Besides their clinical value in the treatment of established infection, the new drugs are by their bactericidal and bacteriostatic activity helping to eliminate the reservoirs of infection, particularly in convalescent and contact carriers. This effect was demonstrated in the use of sulphonamides for the treatment of bacillary dysentery, since the drug secured early bacteriological as well as clinical cure, and this action probably helped to curtail the spread of dysentery among our troops during the 1939-45 war. The sulphonamides have been equally effective in eliminating the meningococcus and gonococcus, and have been used prophylactically to control the spread of infection due to these and other organisms and to prevent relapses of rheumatic fever. Penicillin has also been used successfully to eliminate the haemolytic streptococcus and diphtheria bacillus from the upper respiratory tract of acute cases and carriers. A new danger, however, is the risk of the development of drug-resistant bacteria, exemplified by the sulphonamide resistant gonococcus and haemolytic streptococcus, the penicillin-resistant staphylococcus, and the streptomycin-resistant tubercle bacillus. So far, no satisfactory solution of this problem has been forthcoming.

Summing Up

With bacteriology still in its first vigour around 1900, it was natural that the parasite should be regarded as the most important factor in the occurrence of infection. The success of vaccine prophylaxis and of chemotherapy helped to establish the bacteriologist as an equal with his clinical colleagues, and for a time this new branch of medicine flourished better than perhaps it deserved. However, the development of immunology and the widening interest in bacteriology as a science in itself gradually led to the conception of infection as a struggle for existence between the parasite and its host. This oecological approach finds support in the history of infectious diseases, which after the first violent interaction, as when syphilis invaded the Old World, tend to reach an approximately balanced relationship between host and parasite, so that the survival of each is assured. For the parasite the main problem has become an easy means of transfer from one host to another. Some of the vehicles, like water and milk, have been made particularly hazardous, and intestinal infections have correspondingly declined. Blockage of the channels of spread of respiratory infections presents much more difficult problems; but dust is already being recognized as an important and controllable vehicle, and clean air in intramural spaces may some day become as commonplace as clean milk and water.

This attack on the parasite by improvements in environmental sanitation has been accompanied on the one hand by new knowledge of the reservoirs of infection and the means for their eradication, and, on the other, by successful

efforts at raising the resistance of the host by specific and non-specific means. The history of diphtheria shows that no measure short of specific immunization made any progress toward its eradication, and this would seem to be the method of attack with infections like whooping-cough and measles. But history warns us again that there is no single golden rule for the control of infectious diseases, and each infection must be studied as an entity. Improvements in social conditions, and particularly in the nutrition of the community, have greatly helped in reducing mortality in most infectious diseases, but again there is no room for complacency, for the death rates from measles and whooping-cough are still many times higher among the poor than among the rich.

The following general literature is suggested for the interested reader:

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THE DEVELOPMENT OF PSYCHOLOGICAL MEDICINE

BY

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The half-century which this series of essays is designed to cover also spans the history of modern psychological medicine, which is also the history of a new skill. Every advance in medical science can be related to the development of skills—in clinical observation, in the design and use of apparatus of research, in the interpretation of data obtained by the use of the apparatus, and above all in conceptualizing the problem that is being faced. To this general rule the development of psychological medicine is no exception; but since the data differ so greatly from those of the physiologist and pathologist the means by which the facts are collected also are different. Both kinds of research are concerned with answers to the fundamental question, "What goes with what?" If the data of the pathologist cannot be immediately linked with the data of the psychopathologist and psychiatrist, and vice versa, it simply means that "total medicine" has not yet found a theory which combines the two.

This article does not touch on the development of psychiatry but tries only to outline some of the changes in thought and practice that have resulted from the study of the psychological problems which patients present to doctors for solution. To summarize in a short article the changes in the last fifty years would exhaust the general reader and weary the specialist, but a description of how it all arose from simple if subtle consulting-room work (without appliances of any kind whatever) and how the range of case-taking has been extended in penetration and

in helpfulness to the patient may deserve a place in a story for doctors of doctors' work in this half-century of ferment and growth.

Doctors are not so confined as they were fifty years ago to the province of physical disease, and laymen are more ready to assume that their medical advisers are prepared to listen to any complaint, whether of body or of mind. If an examination of the body does not reveal a demonstrable disorder a doctor now hesitates before he says that a person with a multitude of complaints has nothing the matter with him. Where there is much complaining there must be something paining: if an organ does not show that there is anything amiss the person does.

Modern psychological medicine has arisen from the development of clinical skill in the doctor-patient interview, which in this specialist field is different in content, range, and effectiveness from what it was in the last century. At the beginning of this century psychiatry was under the influence of the German school of Kraepelin (1856-1926), which clung to the notion of disease entities and was absorbed in problems of description and classification of patients under certificate. Later in the 1920's another German psychiatrist, Kretschmer, working with neurotics, developed theories of the relation of disease entities with bodily types. These two schools of thought contributed ideas to psychiatry and gave the practitioner classificatory frameworks, but did not give a coherent body of theory which would integrate the enormously varied mass of phenomena in a practical way.

In America the main development of psychiatry was due to the psychobiological outlook of Adolf Meyer (1866-). His approach laid great emphasis on the interview, which was to be so conducted that the unusual features of the patient's psychology had rather to be avoided than explored, and the not inconsiderable experiential knowledge of man by the interviewer should be used to study what was known about the patient's behaviour in terms of actual overt performance open to anyone who cared to look, without making what was thought to be a fruitless search for what was going on "behind the scenes"—that is, in the unconscious. The merit of this approach is that it is available to every practitioner who takes a little trouble. The case history is examined with a thoroughness unknown to previous psychiatry. The collection of data regarding the "speechless years" (up to about age 2, obtained from parents) and the childhood years from 2 years to adolescence, and from then onwards (including, where relevant, the involutional years), is done with meticulous regard to detail and accuracy. An interpretation of the data thus collected is based on general views such as anyone of experience might form of the events and facts as found, together with a readiness to include ideas about the patient's purpose in life. It is necessary for the doctor, on his part, always to consider multiple-interrelations in the causal factors of disease and health, to make an intelligent selection of leading items when making his assessment of the case, while at the same time recognizing the need for consistency in face of the great diversity of data and of causation. (See Muncie, *Psycho-biology and Psychiatry*.) The psychobiological school, though it has improved skill in interview, has added very little to the understanding of disease processes or, for the matter of that, normal psychology, for the reason that it avoids theorizing—it lacks conceptual skill and is without challenge.

We must now turn to the vast amount of work which has been done in the last fifty years in the development of

the theory, technique, and application of psychopathological research. The emphasis here given to the rise and development of psycho-analysis is certainly not due to the number of patients treated by that method (for that is comparatively small, and will probably always so remain), but because this theory has given a new dimension and therefore a new starting-point for thought. It requires no apparatus in the ordinary sense and is based on a clinical observational technique which centres on social phenomena to be found, if care is taken, most clearly in the doctor's consulting-room. Further, the psycho-analytical theory has proved so wide-ranging and integrative that (though naturally with a time lag) it is now employed creatively outside the field of clinical medicine, and is using and feeding back into academic psychology, anthropology, and education ideas which provide new starting-points for research.

A Basic Assumption

The basic assumption on which the whole of modern psychological medical research rests is simple; furthermore, it sounds plausible and one is ready to give it at least a theoretical approval. It is just this: When any two ideas come together in temporal association in the flow of one's thoughts there must be some link or links of meaning. It is one thing to toy with this notion; it is another to press it to its practical conclusion. In the psychological laboratories experiments with word associations had been carried out for many years, but the results of the research did not disturb nor did they cure anyone. Though some of those research workers had medical degrees, they had no medical responsibility for the subjects of their research, for in those days patients did not go to laboratories for help. The reasons for the sterility of this well-planned research appeared only later, and in the unlikely place—in the consulting-rooms of neurologists who were dealing with what was then generally regarded as most unreliable data, the outpourings of neurotics. The revolution came when the basic assumption above referred to was taken so seriously that the aetiological study and therapy of very ill people was made dependent on it, and—dependent on this—the professional reputation of the physicians undertaking this unpopular field of research and therapy turned not only on the correctness of the basic assumption but on the vigour with which the implications of it were pursued. The last is important, for, despite the reasonableness of the basic assumption, patients resist its implications—at times everyone, including the physician, tries to evade them and persuade others to do the same. Progress in psychological medicine has been made in the face of persistent opposition to the application of scientific methods of investigation to mental phenomena; indeed, strange though it may seem, it is by the study of resistance to investigation that most advance has been made. The opposition of medical colleagues to this kind of investigation and therapy, which is now not so great as formerly, was a lesser hindrance—needed less courage—than the inner resistance of the medical psychotherapist to face and overcome the objection within himself to the acceptance of unpleasant ideas. In the long run it never pays to ignore unpleasant things: they return if not dealt with.

Freud's Ideas and Discoveries

In the 1880's Joseph Breuer discovered that neurotic symptoms had a meaning. Janet made the same discovery, but did not push his observations beyond saying that the symptoms were an expression of *idées inconscientes* possessing the patient's mind; he arrived at a generalization (as had the psychiatrist Leuret before him) but did not

give particular or personal significance to the symptoms. The concept of "meaning" here implies a relation—a relation in respect to detail—to the patient's previous life. But to return to Breuer: in 1880-2 he had as a patient a girl who suffered from numerous neurotic symptoms which came on after she had nursed her father during his last illness. She had periods of dreamy confusion in which her mind was far removed from present reality and occupied with her own thoughts. It was possible to hypnotize her and get her to talk without such confusion; her mind then kept going back to ideas and impulses which she had to suppress while nursing her father, and her numerous symptoms were related to these suppressed thoughts. When the patient recalled these thoughts and "re-lived" in imagination these scenes she was for a time rid of her symptoms, but soon relapsed, so that the process had to be repeated over and over again. In the repetition the scenes dwelt on shifted farther and farther back in her life; eventually all the symptoms were removed. The cure seems to result from re-living the emotional experiences which for various seasons she had avoided feeling in the first place. The theory of the cure was that the "accumulated emotion" which maintained the symptom found an outlet, a "catharsis," in the treatment-room of the physician—that is, when it was brought to consciousness the patient got better. Freud developed this technique by abandoning hypnosis and getting the patient to talk freely, to say whatever came into his mind, holding nothing back because it might be thought to be irrelevant or distressing. The "free association rule" is the foundation on which not only psycho-analysis but modern psychotherapy rests, and it makes its demand on the psychotherapist too, for if the patient must not consider anything irrelevant neither must his physician, and the latter has the added duty of making sense of it and also of convincing the patient of its meaning.

The history of psychological medicine is bound up with the development of Freud's ideas and discoveries. These may be said to date, first, from the abandonment of the use of hypnosis as a means of extending the range of exploration of the patient's mind; secondly, from the persistent study of "resistances"; and, thirdly, from the analysis of the phenomena arising between physician and patient.

In the course of the kind of treatment we are now considering two things are invariably met with: the first is "resistance." The patient's mind seems incapable of taking an objective view of the procedure, "forgets" the free association rule or pleads that certain ideas should be made exceptions to it, and becomes preoccupied with what the analyst must be thinking about the thoughts disclosed or about to be disclosed. In the hypnotic treatment the patient was urged to remember, and the amount of effort expended in recalling painful ideas and experience gave a measure of the "resistance" to their recall. In the free association treatment there is no urging, but attention is directed to the reason for the tardiness of the mind to master its own content. It becomes apparent (to both parties eventually) that something is happening in this social relationship of two people, physician and patient: the patient cannot recollect directly—the resistances are too strong—but he is "transferring" on to the analytical situation some of the undischarged emotion which he could not deal with in the critical phases of his development. This is the second of the things invariably met with. The therapeutic co-operation between two adults has superimposed on it all kinds of emotional cross-currents from the past of which the patient was consciously quite unaware, or to a strength

that he could not believe possible. This past situation, transferred to the present and dominating the physician-patient co-operation, is "the transference situation." The treatment consists in disclosing to the patient the operation of these early and buried impulses and seeing them in their past and present setting; the art of the treatment lies in the maintenance of a quiet, interested, objective personal relationship throughout the storms and confusion of these transference phenomena; "the science of the treatment," so to speak, lies in the employment of the simplest possible technical (theoretical) aids to the understanding of what is going on.

We may at this point consider an essential feature of this kind of research and therapy—namely, the capacity to listen: to listen without preconceptions and without impatience. This is a difficult accomplishment and takes years of practice. The physician needs to be utterly passive to impressions and to be not unduly hastened to action by a therapeutic urge (diagnosis and exploration must come before therapy), nor must theories intrude and bias contemplation of the facts.

The data provided by following the free association rule (and the transference phenomena) are given some sort of order if the basic assumption is really made basic to the work. (The patient's "resistance" frequently challenges this assumption; it is usually, if not invariably, a counter-attack to cover a sore spot.) Out of the experience of this rule and this simple notion Freud was enabled to construct a theory which gave meaning to neurotic symptoms, to hallucinations, and even to dreams.

Freud's Theory of Dreams

Without the basic assumption dreams would have remained an unsolved riddle, and without a solution of the dream problem neuroses would have been left without their key. In the first place it is necessary to distinguish between the manifest content of the dream and another, latent or hidden, content. The former is what the dreamer remembers of his dream—it is in consciousness; of the latter we will first assume that it has sense if we can but find it. Employing the "basic assumption" and free associations to elements of the remembered or manifest dream, it becomes clear that the dream elements represented a focal point in a number of trains of thought—that is, the dreamer makes a condensation of a number of thoughts all of which are represented in a single dream element. Another feature of the dream-work is the tendency to shift the accent from an important theme on to a trivial one—that is, there is a displacement of the emotion. A further peculiar feature is that a thing may be represented by its opposite; that is to say, it seems as if there is a part of the mind which can tolerate contradictions; and, finally, there seems at times to be a process at work to make the jumble look sensible and coherent. The importance of this study of dreams lay in the fact that by these simple devices of interpretation—that is, of undoing the disguises employed in the dream-work—light was thrown on the processes going on in the unconscious mind, or, more strictly, we are helped to make inferences about the interplay between different parts of the mind. The manifest dream is that part of the total dream process which is accessible directly to the conscious mind, but, by employing the basic assumption to free associations to the dream elements and the devices of interpretation above mentioned, thoughts are disclosed (and their relation to the manifest content is recognized by the dreamer) which seem to belong to another part of the mind and personality—to the unconscious. Something like a force seems to be keeping the

two apart; the urging to remember painful episodes in the hypnotic treatment and the "resistance" to freely associating justify the use of some such concept. Freud's most simple rules for the unravelling of the meaning of dreams may be described as the main tool of research and therapy in this field. They have often been challenged; some think they have added materially to them, but no one has found in them anything superfluous. Freud's theory of dreams provides the main conceptual structure on which psychodynamical research is built, and therefore on which therapy is based.

The Problem of Treatment

When the urgings of the hypnotist were abandoned in favour of a passive observation by the therapist of just whatever the patient liked to say or to impute to him (or to try to manipulate the relationship between them) the focus of attention of the therapist is turned to the forces in the patient's mind as the immediately significant data, and these data in strangely large proportion are apparently irrelevant to the immediate situation. The therapist is pictured by the patient to be playing all manner of roles; and it soon becomes apparent that these roles have relevance to periods and episodes of frustration in the patient's past life and even to early childhood.

When sufficient care is given to detail, and the phenomena to be observed are not blurred by the impatient interferences of the therapist—how difficult that task is, as beginners only later discover!—a new sort of mental functioning becomes apparent: it is primitive, infantile, and unconscious. One of its important features is the part which bodily impulses of the most elementary kind play in the personal relationship which the patient's fantasy elaborates. It is not a simple "falling in love" but a complicated mixture of love and hate, tenderness and aggression—put simply, both attraction and repulsion, "ambivalently" mixed; it is a mode of a relationship which is strange to adult ways of thought. It seems that the free associations in the transference situation disclose two new things: first the way in which bodily-centred impulses of instinctual origin (in the mental sphere the part of us which is nearest to the animals) find representation in our imagination and outlet in our action, and also how they become transformed into the bonds which tie us in love and in hate to those nearest and dearest to us, and also by displacement to our kind generally—this throws light on our cultural life and may provide a clue to that great gap which separates us from the animals. We are not only more intelligent than the beasts, but we have a more flexible emotional life; if we are frustrated in our love (and who is not?) we displace our longing to another and seek satisfaction from a new source. Animals pine for a lost companion; man uses his frustrations, for the most part, to build, under the pressure of painful loss, an inner world—a private zone of culture—where he can work through his privation, however long and devious the path, to a solution of his longing. The richness of that inner world, which animals seem to lack, is the result of overcoming mental pain; we seem to differ from the animals, too, in being able to share with others the benefits we gain from our private zone of culture.

The second thing that may be observed is that, though there are in fact only two people in the therapeutic situation, the patient frequently behaves as if there were three or more—that is to say, he takes the analyst as the object of his impulses and also feels a constraint as if another person's rights and feelings had to be taken into account

at the same time. It seems as if from an early age of personal or mental development the individual cannot help dealing with two people at a time; if the third party is not actually present the mind unconsciously imagines him or her to be there. The character of the behaviour, and indeed the mood, of the individual and his confidence or diffidence in life generally, as well as his capacity to co-operate with his fellows, are greatly influenced by his relation to this third party. (The obscurity of these last statements may be perhaps diminished in a later consideration of this important topic.) With a perhaps aphoristic inexactitude we may say that the barrier between human psychology and sociology is broken down when account is taken of the unconscious influence of "the third party" in the relation between two people. (As this touches on society, it may be one of the most momentous discoveries in social history.)

By taking a few liberties with dates it is possible to arrange the dominant ideas into four periods.

First Period (1896–1914) : Development of a Libido Theory

As has been said, one of the things disclosed by the free associations is the strange unadult nature of the impulses which the unconscious harbours. They are primitive and erotic and the conscious mind repudiates them; indeed, much of the above-mentioned "resistance" is a manifestation of this repudiation. Man appears to be unique in having two types of sexuality: an infantile kind, which persists in the unconscious, and an adult kind, which "crystallizes" at puberty. It is the persisting influence of the infantile type which leads to abnormalities of a sexual nature in the adult and largely accounts for unhappiness in married life, and it is also one of the elements in the causation of social maladjustments, including neuroses.

The sexuality of the infant—the erotic desire for another person or part of that person—is in the early days characterized by a mouth-to-nipple relationship. The infant is predominantly a "mouth animal": what it does with its mouth is exciting to it and has greater emotional value than have other activities. In fantasy the mouth activities give it control over the object of its desire and thus minister to its sense of power; they also give that feeling of access of pleasure, even ecstasy, which is characteristically erotic. Later in infantile development defaecation and urination (unlike the early oral and later genital activities) do not necessarily involve physical contact with another person, but in the infant's fantasy they provide a means of doing something to people. A personal and bodily substance is held in control at an orifice and then is expelled, not into the void—the child's mind peoples every cranny of its world—but towards those on whom its thoughts rest. A bodily substance and bodily action which biologically have nothing to do with sexuality are used by the imagination as the medium of erotic play and personal relationships. In the course of development the genitals take the primacy. These organs above all others have the power to discharge the sexual tensions of the body and at the same time to bring the individual psychically into a specially close relation with another person. The increasing urge to sexual mastery and possession of the desired object, in imagination as well as in the act, brings with it a new, or rather an enhanced, source of danger—that of rivalry with another person of the same sex, typically a parent figure in the unconscious. There is rivalry in the earlier ("pre-genital") activities also, but the unification of erotic activity and the clarification of sexual objects and aims, which reach a climax with the primacy of the genital organ, increase its

influence in personal relationships. The Oedipus complex—that is, sexual attraction to the parent of the opposite sex and hostility to the one of the same sex—is the earliest social relationship which the individual experiences. This difficult period of development is reached and usually in good part solved by the age of 5. These stresses are veiled from adult recollection by an involuntary and active forgetting, but they reappear when the effort of urging under hypnosis overcomes the resistance, and, as has been said, spontaneously and with less distortion in the transference to the therapist.

Extension of the Theory

In the course of his work Freud found that his neurotic patients remarkably often presented scenes of seduction in infancy, in a detailed and precise way, and these scenes fitted into the picture of the symptoms; but on trying to get objective verification Freud found no substantiating evidence. This was at first felt to be a blow to his previous findings—that a disturbance of the development of the sexual impulse due to active interference was one of the main factors in causing neurotic illness. Then he took a courageous and momentous step in his theoretical constructions: these events had not occurred objectively but subjectively—that is, they were occurrences in the unconscious, they were fantasies which were important to the child at the time. These fantasies were repressed but retained their urgency, not to say clamorousness, in adult life—not, of course, that the adult is aware of the cause, but he is aware of the effect, the inner unrest. A new dimension was thus given to scientific thought by this extension of theory—what happens in the world of imagination obeys the laws of that world and can influence behaviour and a person's outlook on life; medicine and science need no longer be confined to the physical realm but had a new field to explore and conquer.

An indispensable addition to the theory was introduced with the notion of "cathexis"—the concentration or accumulation of "mental energy," the nature of which is obscure, in some particular channel. When an object is "cathected" that object has a particularly strong interest for the person. This energy may be displaced from one object to another—for example, from a father figure to a representation of the father in later life: first on to those who stand *in loco parentis*, such as schoolmasters, and later to office chiefs, rulers, and so forth. Combining this concept with that of the unconscious, it is clear that the object in which the mental energy is invested need not be in the focus of conscious attention, nor need the person be aware of how much he is tied in bonds of interest (love and/or hate) to the object. Further, there is a linking of the cathexes in the unconscious, so that the characteristics of the early cathexes tend to persist in respect to later ones in the same series—that is, the patterns of behaviour which characterize early object relationships tend to be repeated in later object relationships of the same type.

Second Period (1914-23): Aspects of Ego Development

The ego itself, it was thought, could be the focus of this interest or cathexis, and the love-impulse, or at least a part of it, might take the self as its object—as happened in the myth of Narcissus. But "narcissism" is not only a peculiar and somewhat perverted manifestation of the love life; it seems apt as a descriptive term of a phase that the young usually pass through, when attention is focused on the body's strength or its graces. Closer observation showed that it describes also an attitude towards those who are derived from the self, such as one's children, or objects

with which there is a close, but maybe quite unconscious, identification: a self-love flows over to them and they are enjoyed less for what they actually are than for being an embodiment in the external world of what the self once was or would like to be. From this last point it was but a step (but not all steps are easy to take) to see in the attitude to an idealized object of the ego some of the primitive, but by displacement loftily aspiring, relation to the self. An "ego-ideal" thus absorbs some of the available object-cathexes, so that those whose ego-ideals are overstrong display a restricted capacity for an adaptable and kinder object-love—"reformers" trying to shape the world to their own (often rather over-simple, if not infantile) ideas seem to exemplify this tendency.

The notion of cathexis leads to the view that the distribution of mental energy in the field of psychic life may be considered quantitatively; in the instance given the quantity of "devotion" or love is portioned out between the persons ostensibly served and the image upon which they are being moulded. To the reformer himself his conduct seems to be one of selfless devotion to others, while to the rest of the world he may seem rigid in manner, self-centred, and ungenerous. Both views are in their way correct—the frames of reference are different: the first takes its reckoning from the energy put into the ego-ideal, the second from the meagre amount of personal love (object-love) displayed. This notion of the distribution of the quantities of mental energy is not to be restricted to that which is, so to say, visible in overt behaviour: the artist and scientist, the mystic and the lunatic—for that matter all of us—have inner worlds of fantasy in which are deployed and expended considerable quantities of mental energy. Whether that inner labour results in anything which is socially applauded or has social uses varies with each individual. But, useful or not socially, it is a source of gratification to the individual; it gives, if it is in low degree, that meed of pleasure without which mental life of human standard seems not to operate; when in high degree, it gives that rare sweeping "oceanic" exultation of spirit and creative ecstasy which the artists, of all men, can best communicate to their fellows, and which it is our humble duty here merely to explain.

Third Period (1923-32): The Ego and the Id

How do we animals come to have an ego-ideal? Of what experience is it a product? Is it universal and invariable or confined to idealists? Do "really normal" people possess one, or are the "really abnormal" alone of mortals without one?

Reverting to the early work again, the patient's unconscious mind was found to contain active elements which resulted from incompletely solved emotional experiences; these, to be sure, were foci of illness, but the same principle is seen—depending on the circumstances—to be operative in a constructive or "ego-cohesive" direction as well as in a neurotic (and particularly in the psychotic) "ego-destructive" tendency. In the early stages of our development, perhaps because of an underlying bisexuality, the individual is oriented to two people at once, typically the two parents; the amount of positive or friendly cathexis which is attached to the parent of the same sex becomes incorporated in and attached to the ego, which henceforth acts as an internal representative of a once external object—a parent—guiding and supporting the ego in its struggle with its own unruly impulses. Born of a longing for the parent's approval and affection, the ego seems to split into two functions—an executive part (the

ego proper), and a critical, parent-derived part (the super-ego), which watches the ego's behaviour respecting the crude impersonal instinct-driven part of the personality called the "id."

When referring to the treatment situation it was said that the patient attributes to (or "projects" into) his doctor all kinds of roles, and at times behaves as if a third party were present from whom the communications about to be made must be kept secret. We are in a better position now to "place" these phenomena—they are manifestations of those parts of the unconscious mind with which the ego is dealing—namely, with the id and the super-ego. The task of therapy is to bring about a reorganization of these three elements of the mind so that they work together in harmony; it comes about when they are confronted with one another in the present—that is, when the patient comes to recognize that, though his id is primitive and amoral, it is a tolerable part of the total personality. At the same time there occurs an amelioration of the severity of the super-ego which, though, broadly speaking, it is patterned on a parent figure, is in fact in its early stages based not on what the parent actually was but what he was fantasized to be—another instance of the influence of fantasy.

(A study of the ego-ideal, or super-ego, is of importance for understanding some of the phenomena of hypnotism and even of autosuggestion: the hypnotist is endowed with the qualities of an ego-ideal and there is a consequent compliancy towards him. The more disguised form of suggestion, such as with placebos, probably follows this pattern—that is, on to the person of the doctor there is projected infantile fantasies concerning his magical qualities. In the long run this sort of patient-doctor relationship proves a hindrance to the acceptance of a more rational medical co-operation between physician and patient.)

Fourth Period (1932 to the Present): Aspects of the Development of Object Relationship

The severity, the sometimes fantastic severity, of the super-ego led to a closer study of the aggressive component in the personality. Going back to the early days of personality development, it seems that the infant has to effect a working arrangement between two opposed tendencies—of love and hate—and furthermore that his love and hate are directed to the same objects—once again the parents. When our feelings towards any object are such that we wish more of it, want it closer to us, and hope that its like will never perish from the earth, we may be said to love that object, and to us it is a "good object." When our feelings are the reverse, when we want less of it, want it farther away, hope it and its like will cease to exist, we may be said to hate that object; to us it is a "bad object." For love and hate, good and bad, we may, on this viewing, substitute the simpler concepts of motion towards or away from, more or less, construction or destruction. These two opposed tendencies are at work in the infant's relation to its first love object—the mother's breast. On this it lives; hate for it brings inevitably the pangs of hunger: emotional conflict is from the beginning a desperately important thing. Frustration magnifies the hate—that is, makes the object still more bad—and yet the need for the breast makes the infant desire it as a thing which stills physical discomfort, so it is at times thought of as a "good thing." At this stage the child is a "mouth animal"—that is, the instrument by which it attains dominion over its object is that which incorporates the object within itself: mastery of an object entails

internalizing it. The self thus becomes filled with "good" and "bad" objects—"good" if the mood at the moment of internalization is friendly; "bad" if it is hostile. There are therefore dire and, indeed, lasting consequences from the use of the expedient of "projecting" its own emotional state upon the object. "Good" and "bad" have at first no moral connotation; that may come later, but can be expressed in terms of movement nearer, a desire for more, etc., or the opposite: we are dealing here with the pre-moral stage and pre-social stage of development. When the self is filled with "bad internal objects" its greed for more and more "good" ones increases, to neutralize the bad; hence a vicious circle is developed, because greed begets guilt. As development proceeds these internalizations take on more and more the character of the actual objects, so that, to jump several stages, the person feels that he embodies the attributes of his parents. In passing we may note that savages, still in this animistic stage of object relationship, imagine that if they eat a lion's heart they will be imbued with courage; the idea is found also in some religious rituals.

Speaking descriptively, the ego is a boundary phenomenon between an internal world (an "internal society," it might be called, since the unconscious seems to be almost exclusively preoccupied with personal relationships) and an external world revealed through the sense organs. Behaviour can be viewed as the result of the ego being driven by (id) instinct-impulses but curbed by that representation within itself of parental authority (the super-ego), while at the same time the ego has to adapt itself to and master portions of the external world. But behaviour may also be regarded (and without contradiction) in a rather different way—namely, as a container of cathected objects which may work in a unified way or which may show oscillating, unstable, divergent tendencies according as the grouping of forces within the ego is cohesive and unified or disruptive and diversified. These internalized objects (or super-egos) may be pictured as having an arrangement in depth; the most primitive are the most deeply buried, but with each "layer" (representing a phase of development) influencing the deposition of, and the freedom of, movement in the more superficial layer above it; and, furthermore, and more difficult to conceive, in each "layer" the same objects (the parents, siblings, and other relations, or their surrogates, are always the central figures) recur again and again. So we find, for example, parent-regarding tendencies of differing degree of primitiveness (or, on the other hand, of complexity) interacting with each other, the resultant influencing behaviour. The "cathected internal objects" should be distinguished from mere memory traces. The unconscious is not a sort of card-index drawer of photographic images; a better analogy would be a group of objects (people or bodily parts of people) being constantly rearranged and manipulated in moods of love and hate, but unconsciously, by the individual concerned, while at the same time he is similarly manipulating objects in the external world, in the "external society." There is a constant interplay between these two manipulations; achievements, no matter how sublime or base, are made not alone for their effect on contemporary society or posterity, but also to adjust the relationships in the "internal society," that intrapsychic constellation of social and personal forces which is an ever-present and inalienable heritage of our past experience and development.

Now to return to the early stages of this eventually elaborate object relationship: there is stability in our emotional orientation to, and hold upon, objects when we are able to recognize at the same time their "good"

and "bad" qualities, when, despite anger-rousing frustration, we can keep our orientation to them and our good regard unchanged. One of the several ways by which this mature attitude is achieved is by turning against the self part of the aggressiveness which the frustrating object rouses in us; we then become severer with ourselves for our aggressive impulses towards objects that we hold to be good, and the object is spared at the cost of the self; we suffer pangs of guilt. Pain thus caused is, as it were, cherished by the self (or at least there is "resistance" to its disclosure and removal) because it is part of a device for protecting a good object. Another way by which the mind is eased of its load of guilt is by "restitutive acts"—that is, making good the damage done in moods and moments of anger. Sometimes "restitution" thus based is the main motive of an adult's life; the indefatigably, almost wearisomely benevolent people commonly react lifelong to impulses of great strength which once operated at a nodal point in their emotional development, and as the whole process is unconscious it pursues its course usually unchanged by time and circumstance. Apart from more extreme cases, the restitutive reaction to unconscious guilt plays a large part in the drive towards creativeness which differentiates us from the animals, whose work usually perishes or becomes indifferent after the act of eating, of copulation, gestation, and lactation. Man combines with his fellows in his restitutive work, as he sometimes combines with others in his destructiveness. From this recognition of the need in ourselves and in others to restore and create, from the unconscious feeling and sharing of the guilt of destructive impulse, rises a community of feeling for the restitutive and constructive urges: in these feelings we find some of the roots of religion, art, and science.

Other Workers in the Field of Psychotherapy

Two names are, or used to be, commonly coupled with Freud's—Jung and Adler. The latter employed the genetic method of approach—that is, he tried to find out how the patient's present condition and symptoms can be explained by reference to his past experience; but he narrowed the range of his theory unduly by an over-emphasis on the will to power. His ego psychology was too simple to be professionally useful, though it helped many others to write popular rather than scientifically penetrating articles. Jung's work is different. In so far as I understand his complicated and seemingly mystical theories, Jung holds that in addition to the influence of past personal experiences there is also and always the influence of the collective unconscious shaping the destiny of the individual. This may of course be true, but from the point of view of science (and therefore its application in medicine) such general theories are of less importance than a step-by-step process of explanation of the influence of events that can be traced in a sufficiently thorough investigation. In the thirty-five years in which Jung's views have been developed in detachment from the history outlined above they have never attained such strength of articulation as to embody a quarterly journal or any cohesive library series of books; the absence of such collective and conscious utterance puts the views of this school at a disadvantage.

Returning to the main line of psychopathological development, which for vigour and imagination is almost exclusively psycho-analytical, mention may be made of four workers beside Freud (1856–1939). Sandor Ferenczi (1873–1933) was also a clinician of the highest imaginative capacity who grasped the full implications of the transference situa-

tion and thus widened the range of therapy; his study of the part played by the homosexual impulse in the aetiology of paranoia and the developmental stages of the sense of reality were useful in the study of the psychopathology of the psychoses. Karl Abraham's (1877–1925) work on manic-depressive disease did a similar service to the psychodynamic study of that disorder. Melanie Klein, using the extended application of transference analysis employed by Ferenczi to the study of small children, developed theories of object-relationships and depressive and schizoid conditions which have proved of great value in the study of neuroses and psychoses. That the last-named person is not a doctor or an educationist or a psychologist by training and yet has added to the specialist literature in a region of considerable clinical difficulty emphasizes the fact mentioned earlier that in research work the acquisition and employment of special skill are of paramount importance: old skills alone do not break new ground. Ernest Jones more than any other worker than Freud has applied psychodynamic ideas to a multitude of fields.

Value of a Common Frame of Reference

At the close of the last century there was a lack of a medium of communication between doctors in respect to the aetiology, symptomatology, and therapy of the psychoneuroses, and the same was almost true of the psychoses. One man's guess was as good as another's, since none of them produced a theory wide enough or elastic enough to act as an integrator of thought: a general psychopathology was lacking. The value to medicine of the ideas outlined above lies chiefly in the fact that they provide a frame of reference, a means of communication between practitioners and students. One person may put more emphasis on one aspect, another on another, but at least everyone who studies the subject at all will know where his views fit in, and where they do not, in a widely ranging theoretical structure.

The practical professional consequences of this general theoretical structure are of considerable importance. First, there can now be a greater mobility of professional personnel—for example, from in-patient mental hospital with psychotics to out-patient work with neurotics; the child-guidance and delinquency clinics need not be separated from the hospital work by lack of common ideas. Secondly, the young practitioner who takes up psychiatry has got a lively body of ideas to bite on, to struggle with, master, and improve—it would be no longer said to a beginner proposing to go into a mental hospital, as was asked of me, "Is it beer or whisky which brings you so low?" nor do young psychiatrists when considering a change of job ask first of their young colleagues what are the sporting facilities of the other hospital, but what are the opportunities for study or research in psychodynamics. Flexible theories vigorously applied improve morale.

Applications and Effects of the New Ideas

The provision of a technique for the study of the development of the human personality, carried on with vigour, courage, and discrimination over a period of fifty years, leads almost inevitably to the practical application of the findings in as many fields as the theory covers and there are research workers ready to use the new material. Perhaps the reason why practitioners of psychological medicine are asked so often to contribute to technical discussions held by professional men in other disciplines than medicine is because a clinical study of psychodynamics

inevitably leads to investigations of the interaction of the individual with the institutions of society and to an attempt to discover the motives which lead to the individual's interest in science or art and his need for religion, politics, and sport.

The work began with the need to cure adult hysterics and 'obsessional neurotics, but it soon became clear that there were infantile neuroses which reappeared in early adult years (the first psychodynamic treatment of a child, by a sort of child-guidance technique, was undertaken by Freud in 1909); the application to psychotics in and out of institutions came later.

The barriers which separated medicine proper from insanity and the neurotic from the normal have begun to break down. Clinical medicine, which has never been blind, has acquired a new interest and grasp in listening not merely to the sound of organs but to the voice of the whole personality seen in a social setting. If the contribution of psychological medicine to general medicine could be summed up in a single sentence, one would say that it has given a new dimension to the medical interview. The study of psychodynamics has progressed step by step with the improvement of clinical skill applied to discourse between doctor and patient: as in science generally, so in psychological medicine, progress consists in an ever-developing scrutiny (in this case without the aid of apparatus) of what lies in the field of observation. Nowadays we can get more out of a consultation than could be got before—that is to say, clinical skill has been increased.

Conclusion

It was said that the psychodynamic ideas outlined above have given a new dimension to medical thought; in no branch of medicine is this more true than in psychiatry. That the child is father to the man and that the child models himself on his parents have long been guessed, but how the process worked was not realized. These studies have led to a way of looking at the growth of personality in health and disease which is valuable because it provokes further thought (one of the best criteria for assessing the worth of a theory); psychiatrists, while developing other techniques for the empirical treatment of mental disease, find themselves, wittingly or not, when trying to explain the behaviour of their patients, employing some or most of the ideas here so briefly sketched.

On this occasion it may not be out of place to recall that the key idea to this great advance in medical theory and technique was published just fifty years ago: Freud's *Interpretation of Dreams*. A clinician, without laboratory aids or other such devices, by the closest attention to the material before him, unpromising and the least worthy of scientific care as it was then thought, changed his specialty out of recognition and raised the potential of every doctor's clinical interviews.

"In the first instance, when the illness first came upon me, I seemed to be aware of what was about to happen. I became powerfully impressed with the idea that the Devil was about to seize me, and I felt convinced that the only way to meet him—if efficient way there was—was to remain awake waiting for him all through the night, and combat him in a naked condition. I therefore threw off all my clothing, although it was a bitterly cold February night, and there awaited the Evil One." "The Late Mr. John Ruskin: Mr. Ruskin's Illness Described by Himself." From the *British Medical Journal*, January 27, 1900, p. 225.

FIFTY YEARS OF TROPICAL MEDICINE

BY

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The progress which has been made during the past fifty years in the field of tropical medicine is so vast that no adequate account of it can be given within the compass of a short article. Inevitably many matters which are far from unimportant must either be omitted or be given but scant reference.

The discovery of the relationship between malaria and mosquitoes, made at the end of the nineteenth century, gave both impetus and direction to research along similar lines in other tropical diseases. Several hitherto unrecognized pathogenic parasites have been identified, and in many cases the part played by an intermediate host in transmitting the disease to man has been demonstrated, thus allowing new and precise methods of prevention to be applied. In these investigations much fresh ground had to be broken. At first little or nothing was known of medical entomology or parasitology, while microbiology, though a rapidly expanding science, was still in its infancy. Most of the detailed knowledge of these subjects that is now available has been amassed in recent years, during which time both laboratory and field specialization in the different branches may be said to have evolved. Important work has been done by specially appointed bodies such as the Plague Investigation Committee which worked in India under C. J. Martin, the Commission under Sir David Bruce appointed by the Royal Society to investigate sleeping sickness, the Kala-Azar Commission working under the Indian Research Fund Association, the American Yellow Fever Commission, and various teams sponsored by the Indian Research Fund Association, the Rockefeller Foundation, and the Medical Research Council.

In matters of therapy no important new "herbal" remedies have been discovered, although some advances have been made in the extraction and purification of the active principles of those already in use. Investigation along the lines of immunology yielded some valuable vaccines for prophylaxis and antisera for therapy, but the latter have become less important with the advent of specific chemotherapy and of antibiotics.

Vitamins were first identified during this period, and the aetiology of deficiency diseases, such as beriberi and pellagra, was explained.

Some credit for the progress made must be attributed to the stimulus of the two world wars, during which the presence of large numbers of troops in unhealthy tropical surroundings was an incentive to intensive research—some, as for example the work on malaria with human volunteers, of a kind which could not have been carried out in less urgent circumstances. Financial restrictions, the stumbling-block of most research workers, ceased to be of significance, and efforts on an unprecedented scale were made to solve outstanding problems. The results achieved were in some cases of the greatest value, and must be classed among the best of the few good things which emerged from these wars.

The practice of tropical medicine calls for an intimate knowledge of subjects which play only a minor part in the normal medical curriculum. To meet this need special teaching establishments have been founded, of which we have in Britain the London School of Hygiene and Tropical