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THE PSYCHOLOGY OF INDIVIDUAL DIFFERENCES AND ITS SIGNIFICANCE FOR PHYSIOTHERAPY¹

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I have selected as the title of my talk "The Psychology of Individual Differences and its Significance for Physiotherapy" because, inasmuch as physiotherapists deal with human beings, I believe that they should be acutely aware of the factors which cause the vast range of differences characterizing the people whom they see in their professional practice.

Physiotherapists deal with matters of the mind as much as with matters of the body. But the actions of minds and bodies are not confined to watertight compartments of the individual's make-up. They are closely interrelated and inter-functioning aspects of his whole personality. I wish, therefore, to consider first the forces which contribute to the formation of personality or individuality.

FORCES INFLUENCING THE FORMATION OF PERSONALITY *Nature and Nurture*

What is the basic knowledge on which we are able to draw in relation to human personality and its development? We know that some of the forces or elements in building the personality of each individual derive from an innate basis. For example, there is an innate basis in both an individual's intellectual development and in the nature of his physical constitution. Some individuals are bright, some are dull, some are physically strong and some are weak, and these variations may be largely determined by nature and not by nurture.

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Other forces or elements which enter into an individual's personality pattern may derive largely from environment. Thus, whether an individual is independent, whether he is anxious and over-dependent, or whether he has a good store of general knowledge or not, is due largely to nurture and not to nature. There is every likelihood that an environment of security with freedom to experiment and make social contacts will endow an individual with initiative and self-reliance. On the other hand, an unduly protective or repressive environment may make an individual timid, lacking ability to do things for himself, and may interfere with his development of useful social habits or acquisition of effective social skills. However, the development of personality is such a complex matter that even in this example the innate characteristics of the individual may play a more important part than variations in his environment.

Nature and nurture play in their interaction all kinds of tricks and produce strange variations. For example, delinquent children and even criminals may come from seemingly excellent environmental backgrounds, while some of the most stable personalities may be fashioned in the most unpromising and adverse home conditions. In some cases innate traits seem dominant in the destiny of the individual; in others environment seems to transcend all in the final result.

Perhaps what matters most in the environmental fashioning of personality is not the material characteristics of the

individual's home but the quality of his experiences as a child or young adolescent, particularly the attitudes he forms as the result of his parents' attitudes to him and their treatment of him. This is true in adult life, too; mental breakdown is not the result of adverse material conditions but of frustrating psychological ones.

We may therefore sum up this section of our argument by saying that in the patterning of personality nature and nurture are complementary and interacting forces, but during the last two decades considerably more importance has been attached to the influence of nurture than has hitherto been the case.

We are slowly accumulating evidence to show that if we provide the right kind of environmental influences, in which security, effective motivation and adequate opportunities for expression and consequent satisfaction play a part then we can achieve excellent results with human material of all kinds. For example, we find in universities that intelligence and scholastic achievement play only a contributory role in the later success of individuals; maturity, motivation and personal qualities are extremely important factors in success in university studies.

Physical Equipment

The first element in the formation of individual differences is the obvious one of physical equipment, which is based partly on the kind of innate physical qualities with which a person is endowed, and partly on the influence of the kind of conditions in which he is brought up. Perhaps what concerns us most is the influence of the physical characteristics of an individual on his mental states. Psychological research has shown that there is little actual relationship between physical qualities and intellectual ability as such; people with comparatively gross physical abnormalities can be highly intelligent in spite of them. An example is the athetoid patient who, in spite of his outward physical appearance, may be a very intelligent person.

There have been in the past many misconceptions about the relationship between

outward physical signs and mental characteristics. Lavater's theory of physiognomy propounded the idea that the face revealed the character of the individual in its variations of contours, and hence the popular fallacies about a "weak chin", a "cruel mouth", a "fighting nose", "a crafty character with a narrow distance between the eyes". Gall and Spurzheim believed that it was the skull and not the face which gave indications of the person's character, and hence the idea of "getting one's head read" or the pseudo-science of phrenology. Lombroso's idea that criminals are of a particular physical type and that they manifest physical stigmata is another example of inaccurate thinking. All these theorists made the mistake of thinking that because two sets of conditions were found together they were necessarily causally related. The physical imperfections of some delinquents have little to do with their criminality as such but are mainly derivatives from limitations of a nutritional kind in early childhood.

While there is no actual connection between physical imperfection and intellectual ability, there is a relationship between physical handicaps and mental attitudes. As Adler and others have shown, physical blemishes or organ inferiority may be the basis of mental inferiority or of adverse emotional attitudes which interfere with normal personality development. It is interesting to note that when physically handicapped children or partially deaf children are placed in special schools and allowed to compete with others similarly handicapped their feelings of resentment and suspicion and their difficult conduct often disappear.

This aspect of the relationship of physical and mental states is of the utmost importance to the physiotherapist, and where there are handicaps of a physical kind or limitations in locomotion the physiotherapist should do all she can to combat the development of adverse emotional attitudes. She should note any changes which take place and do all that she can to dispel adverse attitudes by aiding the patient in making his readjust-

ment. This point is one of great importance for us all, particularly for those whose work lies in a curative or therapeutic sphere. As human beings dealing with other human beings, we should not be influenced by a person's physical limitations or physical malformations. We should never make premature generalizations or assessments on outward physical signs or characteristics—they will be wrong more often than right. This is one reason why an interview may prove misleading.

General Ability or Aptitude

Let us turn now to another factor in the production of individual differences, namely, general ability or intelligence.

A basic element in personality formation is general ability or aptitude, the power of effective thinking and learning, the ability to learn from experience. The degree to which this power can develop appears to be determined more by innate factors than by environmental ones. In general, children are born bright, mediocre or dull. They appear to be endowed from birth with a certain potential of intellectual power, which varies from very high to very low. Although many conditions influence the growth of intellectual power, the degree of potential for intellectual growth in each individual is largely determined from birth. A bright child is bright mainly because of his innate brightness; a dull or subnormal child is unable to keep up with his fellows largely because of the poor quality of his intellectual power, very often a weakness of an inherent kind. Naturally, there are exceptions to this statement, but the proposition holds good in so many cases as to put the relationship far beyond the possibility of chance. However, in noting this we should be aware of the far-reaching influence of emotional factors on intellectual expression.

During the first three decades of the century it was assumed that the degree of intellectual aptitude was almost entirely dependent on innate factors, but we have

begun to modify this. We now realize that general intellectual aptitude is also influenced by opportunity in early life and also by the degree of stimulation and the forms and modes of thinking which the individual is encouraged to adopt. Recent work by Hebb (1949) a psychologist in Toronto, and Piaget (1951, 1952) the famous Genevese psychologist, shows that very favourable environmental conditions can increase to some degree a person's intellectual ability as expressed in the acquisition of knowledge¹.

Dullness and Subnormality

There is a marginal field, largely unexplored and unexplained, in regard to the causative conditions in dullness or subnormality in children. It is doubtful whether we have sufficiently investigated the effects of prenatal toxic conditions, of oxygen deprivation during birth, of the effects of shock at birth and so on, as possible causes of inferior intellectual power in a child. The compilation of full prenatal and natal histories of children, together with adequate follow-up studies in both experimental and control groups, with a view to obtaining more information on dullness and subnormality, has not gone far.

There is the evidence from study of handicapped and deprived children, particularly those spastic children who have been deprived of mobility and experiences, some of whom make great strides in intelligent thinking as they catch up with experiences through becoming partly mobile. Here again I must emphasize the important role of the physiotherapist in helping crippled children to become mobile and hence to gain experience and to participate in activities which will help not only their physical but also their mental development. Mobility is much related to the assimilation of information and to the formation of attitudes of enquiry and experiment.

¹We once thought that an intelligence test was an absolute measure of an individual's innate ability. We now know that an intelligence test result is based at least 30% on acquired experiences and 70% or thereabouts on mental ability.

Temperament and Emotional Attitudes

Equally important determinants in the formation of personality are the temperamental and emotional attitudes that influence a person's outlook and his behaviour.

Briefly, on the "feeling" side of mental life, there is in the first place an individual's temperament which influences his behaviour. Temperament, it would appear, is largely determined by innate physiological states. Thus, some individuals are cheerful, assertive and extroverted, while others are quiet, introverted and reserved. Although some aspects of these characteristics depend on environmental influences, physical constituents, particularly secretions from the endocrine glands, appear to play a dominant part in the formation of an individual's temperamental pattern.

All individuals, except those very far down the scale of general ability, appear to be born with certain fundamental impulses, drives or propensities, and these have an important bearing on behaviour. By an innate drive or impulse we mean the tendency to act in a certain way when in a certain situation and when this tendency to act, as to get angry or to try to flee from danger, is not due to environmental training. For example, every individual shows a fear reaction in certain situations and he tries to escape from danger in certain circumstances. Of course, the number and nature of fear situations or objects which cause fear, apart from a small number of universal ones which occasion fear in everyone, are individual, and as a person grows up what he is afraid of and what causes apprehension are largely dependent upon his experiences. The innate tendency to show fear may really be reserved for a relatively small number of situations when the showing of fear is a normal and natural reaction. On the other hand, a child may be brought up in such an anxious, apprehensive atmosphere that many minor situations occasion for him a mild fear reaction. The impulse to show fear is natural, the tendency to show it in

the face of a large number of situations is unnatural, abnormal, or neurotic.

Similarly, the impulse to assert oneself seems to be a fundamental, innate one connected with an individual's will to live. The impulse varies in strength from one individual to another and shows itself in a modern, complex community in many different ways.

Superiority and Inferiority

Two aspects of this basic quality of personality are inferiority and superiority attitudes or feelings, both of which are natural states. Superiority feelings of elation or satisfaction spur us on and stimulate us to effort, while inferiority feelings enable us to evaluate situations effectively and at the same time they may be the basis of efforts to improve. For example, we may feel inferiority regarding our knowledge in a particular area or in a particular skill and so set about improving ourselves. Extreme forms of this basic characteristic of self-assertion are seen in a superiority "complex" and an inferiority "complex". In the former, the individual builds up an exaggerated idea of his knowledge, power or skill, or he may use it as a compensation for feelings of inferiority. An inferiority complex may arise when an individual is constantly made to feel immature, inexperienced, ignorant and so on. Common causes of marked inferiority are (a) adverse environmental influences — economic or material, over-sheltered or over-protective atmosphere (b) failure (c) physical affliction (d) mental inferiority (e) lack of affection or security, anxiety (f) habit states, such as enuresis, stammering. A state of intense inferiority may express itself in different ways, the most common of which are (a) assumed indifference (b) excuses, the constant blaming of others or the irrational use of excuses (c) illness, (d) misconduct (e) daydreaming (f) delinquency and crime (g) bullying or cruelty (h) extreme introversion.

Innate impulses important in personality development are pugnacity and anger. It

is perfectly natural for all of us to be aroused if we are thwarted or frustrated but as a result of earlier training and experience we have learnt ways of substitute action. These are many, ranging from swearing to saying the alphabet backwards, from substitute annoyance of people involved in the thwarting or frustration to real sublimatory action to work off the anger. I wish to stress to physiotherapists who work with children or, in another capacity, as parents with children of their own, that innate impulses, urges or drives exist within all of us and that they may be accompanied by strong emotional reactions.

Opportunity for Expression

We must realize that the formation of the personality depends upon adequate expression of primary drives or impulses, and we must not be upset by them. We must give children a chance to stabilize in respect to their reactions by learning to use their reasoning, by being able to control the impulses and by being able to bring into play substitute reactions. Hence the very great need for free play, for plenty of companionship, for all kinds of social and experimental situations that will give opportunities for self-building.

Provision for needs in expressional fields is all-important. There is the possibility that the Australian view is becoming "lop-sided" insofar as too much time, money and energy are devoted to competitive sport and not enough to sport just for personal satisfaction; there must often be a competition, a medal, a State, Empire or Olympic award hanging to it. Expression through music, art, craft, drama and natural history is also not receiving adequate attention in our primary or secondary schools. Such forms of expression have great value in stabilizing personality and in occupying leisure hours. Experience in these fields is also the basis of appreciation, and appreciation is the basis of aesthetic standards, of problems of design in industry, in housing and in all other fields of human endeavour.

The innate impulses which we have described are often accompanied by emotions or feelings of a positive or a negative kind, that is, the individual feels exhilarated, as in the case of joy, or he feels depressed, as in the case of frustration or sorrow.

There is, too, a distinct relationship between physical health and the emotional life of an individual. This is due to the fact that an emotion is in itself an intellectual or cognitive state accompanied by a physiological response. In almost every emotional state—joy, anger, sorrow, frustration—there is an accompanying physical change. With some emotions there are marked physical changes such as an increased beating of the heart, and in emotions such as fear and anger, there is a tendency for blood to be withdrawn from surface capillaries to increase the supply to deeper organs and muscles; hence the "goose flesh" or the trembling that sometimes occurs in certain emotions. Breathing may be quickened, the digestion may be upset and other reactions may occur. These examples illustrate clearly the relationship between emotional states and physical health.

Bertha, aged 10 years, was migrating to another country many hundreds of miles away. It meant leaving behind her pets, leaving her school, her friends, and a home to which she was very attached. Three months before the sailing date Bertha developed peculiar internal pains which recurred consistently during part of every day. A period of rest was tried without result, and after minor treatments, a thorough physical examination, including radiographs of the digestive organs, was carried out. No organic weakness or focus of infection was discovered. And yet the pains continued.

A week after making the final break, when partings had begun to dim, when new associations began to form and new interests to quicken, the pains began to decrease. The worry connected with departure had been resolved and within a fortnight the pains, which had been severe and continuous, had stopped altogether. Without doubt they had been functional in origin and had been produced by the constant worry of leaving behind so many things and situations dear to her.

People who are inclined to be anxious and apprehensive about all sorts of things often draw upon reserve supplies of energy in the body and may, if the anxiety

continues, have a physical illness due largely to emotional tension.

Environmental influences determine in no small degree what kind of emotional attitudes a person will reveal in particular situations. Exactly what objects, persons, situations, activities will provoke these feelings or emotions is very largely determined by the kind of environment in which we are brought up.

Emotions may exert a very powerful influence not only upon our physical health but also upon our intellectual expression. Thus an individual who has applied himself in adjusting to a new situation or a new job because it has been a challenge to his self-assertion to do better than his friend, and who has in consequence been successful, experiences a feeling of pleasure. This satisfying emotional accompaniment may be one of the strongest factors in impelling him to continue with the new activity: the feeling from a sense of achievement and success is without doubt an important element in determining further efforts in many situations. On the other hand, an individual who fails in a certain activity, and whose failure is linked with a feeling of frustration and later with loss of self-confidence, may develop such feelings of depression and inadequacy as to interfere with the effective expression of what intellectual power he possesses.

THERAPEUTIC IMPLICATIONS

Importance of Positive Emotional Attitudes

We now realize the immense emotional force which lies behind praise and encouragement and evidence of improvement and success. This basic principle is important in all dealings with human beings. Positive emotional feelings take us further than negative feelings such as those produced by criticism, sarcasm, failure, inadequacy. This is most important in healing, teaching and in all forms of therapy.

Physician or teacher, physiotherapist or social worker, speech therapist, play therapist, or occupational therapist, for all these the vital need is to take note of the

emotional attitudes of those with whom they deal. This is doubly vital where the individual has sustained both a physical and mental setback.

Rapport

We know that for effort to be put forward by pupil or patient there should be rapport between teachers and pupils and between therapists and patients. We may note in passing that this principle of rapport holds good also in the family situation as between parents and children. When there are real bonds between father and mother and between their children, then the most effective basis of character formation has been laid.

It is obvious that if therapy is to be effective it is not simply a matter of applying techniques. Effective treatment is essentially a human relationship. Therapists should be not only technically competent persons but interesting persons, with a good background of general knowledge and interests. They should be aesthetically pleasing people with an outward outlook and with some degree of humour. A therapist should have a calm, soothing voice and a relaxed and friendly personality.

Lay therapists who work under the Institute of Psycho-Analysis all have to undergo a period of psychoanalysis before they are allowed to practise. One of these days we may be treating teachers, not quite in the same way, but at least we may ensure that they are stable people. Some weak teaching is the result of teachers projecting their own tensions and personal shortcomings into the teaching-learning situations of their pupils. It might be a good plan if all therapists got rid of their own tensions and complexes before they attempted to treat people.

CONCLUSION

Finally, let us consider where we stand in regard to these forces which go to make up personality and which enter into mental health and adjustment. Mental health, based on a knowledge of individual differences, is the concern of every human being, and enters into every

ordinary relationship between individuals and into every phase of human conduct. While the basis of our behaviour is laid down to some extent as a result of innate factors, it is also determined by experiences in childhood and adolescence, and determined also, to some extent, by unconscious motives as well as by conscious ones. But this does not mean that we cannot make adjustments, and some of us continue to do so throughout our lives. The art of adjustment depends, to some extent, upon our willingness to face change; to readjust ourselves involves effort and adventure and it may demand sacrifice. Often we are so loaded with self-esteem that we find it difficult to face the change that is necessary. We are at times "reluctant to give up our belief in our own importance", even if we realize intellectually and rationally that it is important to do so. In this respect I would emphasize that we need to work out for ourselves a philosophy of life into which self-evaluation and self-control play a part. But, in addition to any scientific explanation of the facts of our conduct, there is always something that lies beyond and ahead of us, beyond what

we have discovered. In other words, ideals play their part in helping us to make adequate adjustment both as individuals and as members of society. It is for this reason that service in the community is so valuable in adjustment; both self-pity and resentment are lost in pursuing service to others. It may be that in our attempts to understand ourselves, to understand others and to pursue ideals we come to understand more of our own minds, and in so doing we are getting closer in touch with spiritual factors. In other words, I believe that spiritual and realistic factors both play a part in adjustment towards effective mental health.

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