THIRD ANNUAL COUNCIL MEETING—

Presidential Address

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President of the South African Society of Physiotherapy

This year 1961 is another momentous one in human history. As we enter the second decade in the second half of the twentieth century some men are venturing out into space, yet return to the earth's atmosphere safe and sound. This new era, towards which man has been approaching since the forces of steam, electricity and atoms have been to some extent harnessed, is one in which fears of many new kinds are being faced and overcome and in which Physiotherapy to my mind has particular significance. So I am pleased and proud to occupy your presidential chair at this eventful moment in human progress.

In these spatial adventures, like those of scaling earth's highest mountain or plumbing her deepest sea, those few are chosen who, as far as human tests and judgments can foretell, are the fittest both physically and mentally. The production of innumerable such fit and courageous men and women is, I take it, the objective of Physiotherapy although today, as physiotherapists, we are preponderantly concerned with the re-establishment of function in those temporarily disabled by sickness or accident. This can only be a foretaste of the widespread role physiotherapists will discharge amongst future generations of mankind.

Just as the objective of Medicine is the prevention rather than the cure of disease, so the objective of Physiotherapy must be the prevention rather than the cure of the wounds, dysfunctions and deformities with which human beings are presently confronted and assailed.

All of us therefore, will have been deeply impressed by the splendid mechanism Dr. A. L. Lomey, the Head of the Department of Physical Medicine in the University of the Witwatersrand has been building up in the Johannesburg General Hospital for the specific purpose of Rehabilitation: for putting the hospital patient back into employment and maintaining his fitness there. Such mechanisms are a long overdue recognition of the fact that the task of Medicine is not complete when the patient is cured physically. He must be restored to society: an integrated, productively functioning element in his old or a new occupation. It is the particular responsibility of Physiotherapy in human society to enable its members to discharge their chosen functions with maximum physical efficiency. Otherwise they experience anxiety and fear.

I spoke of men in space! Why? Because of weightlessness: the complete removal, even if only temporarily, of the embarrassment of gravity. "It is easy to sleep in outer space" was the comment yesterday of Gherman Titov, as reported in *Pravda* according to the *Rand Daily Mail* of August 23, 1961, "there is nothing to turn over on. Limbs do not become numb. You feel as though you are on top of a sea wave."

None of us can readily understand what possibilities this new type of situation, the state of weightlessness, opens up for Physiotherapy. You will remember what remedial work early air trips in open planes did for whooping cough cases. An inkling of course, is provided by the supportive effect of water, as in swimming and skin-diving and the numberless aquatic pursuits and pleasures it has brought to mankind, along with the assistance rendered by its buoyancy to weak muscles in the process of recovery and regaining strength. Other inklings are afforded to us when we dream; or venture on swings, switchback railways, aeroplanes or other precarious adventures, that at first flush thrust our hearts into our mouths; but, subsequently, as we become accustomed thereto, give us all something of the thrills of speed, or of rocking up and down, or of gyrational movement as in dances, or on toboggans, skates, or skis. Yet another inkling, and to my mind a vastly important one—and interestingly enough it emerged from a decompression chamber—has been provided for parturient women, and also for people, female or male, with slipped discs and other backaches, by Professor O. S. Heyn's application of reduced atmospheric pressure to their bodies.

The history of medicine, as of all other branches of knowledge, is progressive. Man's outstanding mental characteristic is his consciousness of weakness or fear because of his defenceless body, his lack of built-in defences and weapons. In infancy he is utterly dependent on others and fears any lack of support; as soon as he is ill he becomes again the subject of fear and anxiety. So, at first, human beings attributed unaccountable illnesses—as still in Biblical times—to malevolent spirits who had to be appeased or liberated from the body. The external spirits of mankind's pre-scientific theory that the earth consisted of four essences or elements: earth, air, fire and water; and human bodies were supposed to be composed of four "humours" or liquids: blood, phlegm, black bile (melancholy) and yellow bile (cholera). Disease was then explained as being due to excess or defect of one of these liquids.

By Galen's time (A.D.130-200) the internal liquids or spirits had become three: the *natural spirits* formed in the liver and carried by the veins, the *vital spirits* elaborated in the heart and transformed by the arteries and the *animal spirits* formed in the brain and distributed by the nerves. This working concept dominated intelligent medical practice for the following 1,200 years until, with the Renaissance of Learning and the discovery of the New World and of the Cape route to the eastern half of the Old World, increasing knowledge of other people's sicknesses and healing drugs revolutionised these old Roman medical ideas.

Vesalius and his anatomical followers brought to surgeons an increasingly detailed knowledge of human structure. Harvey and his experimental followers opened up to physicians an accurate understanding of blood circulation and other bodily functions during the 16th and 17th centuries. Then the chemical discoveries of the 17th and 18th centuries and the cellular and bacteriological discoveries of the 18th and 19th centuries led to our modern knowledge of infection by germs and viruses and their control by sanitation, water purification, isolation of patients, immunisation and the rest of today's preventive medicine's armamentarium.

But the 19th and 20th centuries have also brought us neurologists, psychiatrists and neurosurgeons to demonstrate that each human being consists not only of a body, the plaything of the dreaded germs in its physical environment but also of an anxious mind, the arena of his or her ambitions and frustrations, of their objectives and passions, of their collaborations and oppositions arising from each individual's environment in which each has been reared. With the candid recognition of the importance in medical analysis and treatment of the patient's resultant fear-full attitude to his own life and those of his fellows in his daily environment has come what we have learned to call the

psychosomatic outlook.

Pavlov and Sherrington, Freud, Jung and Adler, conditioned reflexes and integration of the nervous system, psychoanalysis and inferiority complex, extrovert and introvert: these and numerous other masses of scientists and the terms to which they have given meaning are topics of current world-wide conversation as well as of medical investigation. What average well-informed person is ignorant of shell-shock; or the fact that anxiety and worry produce ulcers and other alimentary disorders, and cause circulatory troubles as well as mental disturbances?

Medical practitioners vary in their estimates of what proportion of the ills they treat are produced by mental anxieties and fears as opposed to germs and other purely physical or chemical factors. Some say fifty per cent; others have told me that they estimate eighty per cent or even more. So I have been particularly interested recently in reading *Body and Mature Behaviour: A Study of Anxiety, Sex, Gravitation and Learning* by M. Feldenkrais (1949) whose purpose has been to show that however much may be done by doctors to improve the functioning of human minds, "radical changes cannot be expected without reforming muscular and postural habits". It is only through bodily movements that minds can express themselves.

This book was first published twelve years ago and no book is perfect. Nor am I advocating all that is found in this one; but it relates to my topic. Its substance was presented before the Association of Scientific Workers in a series of lectures given at Fairlie, Scotland in 1943-1944 and the text was submitted for criticism to some distinguished authorities before publication. Any information desired, more detailed than it gives, can easily be found in the numerous classical works cited therein and brought up to date by any of you, who care to delve into the matter further.

The chapters that interested me most for their relevance to physiotherapists in producing well-balanced people were the four consecutive ones dealing with anti-gravity mechanisms, erect posture and action, sensation and the vestibular apparatus, and the body pattern of anxiety. My interest was seized by the applicability of the author's viewpoint to the technique of avoiding fear and anxiety, that I had attempted to outline for dentists in *The Postural Aspect of Malocclusion* (1946) and for my medical colleagues in *The Attainment of Poise* (1947).

I had outlined there a method of dealing with the postural twists of the body caused by the double-spiralled arrangement of the voluntary musculature (Dart 1950) through our unilateral habits, that destroy our equilibrium. I would have found much, that I desired to say then, expressed more interestingly and, at greater length in the lectures Feldenkrais had already given, had they been published at the time of my earlier writings.

For, as he says (op cit. p. 83), "McDougall distinguishes fourteen different instincts: parental, sex, food-seeking, fear or escape, combat, constructiveness, curiosity, repugnance, acquisitiveness, appeal (reciprocal of parental instinct), herd instinct (gregariousness), self-assertion, self-submission and laughter. Pavlov thinks that there is an instinct for freedom, that an animal objects to being tied up or enclosed in a confined space limiting its movements. However, even if we accept for a moment the above classification, we observe a remarkable thing—*that only one of the instincts inhibits motion*, namely fear or escape" (italics mine).

Then Feldenkrais comments on the remarkable similarity of physical and mental reactions between those of a newborn babe to withdrawal of support, and those of fright or terror in an adult: violent contraction of all flexors with halted breath, followed in the infant by crying, accelerated pulse and vasomotor disturbance; or in the adult by the inhibited diaphragm, pounding heart and sensation of intense anxiety.

From that dramatic and exact comparison he proceeds to Freud's contention that *anxiety is the central problem of neuroses;* and to Paul Schilder's claim that "*dizziness is as important* from the psychoanalytic point of view *as anxiety;* and his expectation that "study of the vestibular apparatus would have great importance for understanding psychotic and neurotic states" (my italics). Man's perpetual fear in short is that of falling: he cannot trust his body balance everywhere. This fear of falling means that we do not trust our vestibular organs in what should be their automatic or reflex discharge of their balancing functions.

Feldenkrais then goes into these questions more fully than I can go here and rightly indicates the successive stages passed through in the development of the normal human individual's adjustment by vestibular balance to gravitation. The test of completing its potential perfection which he applies (p. 113) is: "he must learn to balance easily and serenely on one leg, to jump, to turn himself around, and finally perform all these movements *with the eyes shut*".

He also points out that "with every phase of this development *the breathing mechanism is altered* as different parts of the trunk become rigid, and the parts that are left free to contract and expand are different . . . In fact, *there are as many breathing mechanisms as distinct attitudes of the body.* In proper development, breathing follows a definite rhythm, unhampered by the position of the body (italics mine).

Now it would be a waste of your time to tell you about the incidence of the postural defects in humanity that result from this imbalance. If you want these figures you can find them in my papers and in those of the authors to whose works I have referred. I estimated then that barely 10 per cent of humanity ever came to experience what *poise* of the sort Feldenkrais describes really was physically and mentally. Nor do I feel today that that low estimate was incorrect because I read that "one out of every two young Americans trying to join up (in the rush of volunteers for the United States forces to meet the Berlin crisis) is turned down because of illhealth. Heart disease, hypertension, digestion disorders, mental illness and physical ability are rife. Teenage girls are not much better. Health authorities are appalled at the widespread lack of fitness. President Kennedy's youthfitness adviser, Mr. Bud Wilkinson says 'it is incredible but there are a great many American girls who have not the strength to hold and swing a racket long enough to play a game of tennis'."

This is the present state of affairs in the most favoured country on earth; but I did not include in my earlier estimate of the malpostured, as Feldenkrais has, all mental cases as well as the physical. However, you yourselves know from the part that physiotherapy, occupational therapy and physical education, generally play in mental therapy the extent to which his claim is justified. One thing of which we can rest assured is that for generations to come there will be plenty of employment for physiotherapists.

So far so good but it is when he comes to the corrective side that we are left in the air. The alteration of habitually faulty, erect carriage is, as we are all aware, a difficult enterprise because, whatever technique aiming at balance they are taught, people fall back into the one-sided postural habits contracted during infancy, childhood and adolescence.

To break this vicious circle Feldenkrais finds different suggestions have been made. One theory advocates educating the feet first because they carry the body; another, more sensible, starts with head movements; but however one proceeds the problem is to cause the unlearned pattern of being balanced to feel right and conscious control of it superfluous.

Now I have as little idea as any of you what the future will reveal as the best technique to adopt for enabling people to become physically balanced and to achieve equanimity—the Romans called it that: aequanimitas—and so to overcome their psychophysical (or psycho-somatic) fears; but I have no doubt that re-educative physical procedures are always an essential and that physiotherapists have an onerous and splendid part to play in this process of humanity's rehabilitation. I am confident too that the main objective is this acquisition of poise: of establishing vestibular balance in the performance of all our activities. That is why I con-

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Post-Graduate Course on Therapeutic Movement

UNIVERSITY OF CAPE TOWN — DEPARTMENT OF PHYSIOTHERAPY
for S.A. SOCIETY OF PHYSIOTHERAPY

On Friday and Saturday October 6th and 7th 1961, a very successful and stimulating course was held at the Physiotherapy School, University of Cape Town.

Both the University Staff members and the Branch members are to be congratulated on organisation and subject matter of the lectures and demonstrations provided for those attending.

The Welcome was given by the Dean of the Faculty of Medicine, Prof. Bromilow Downing, President of the Western Province Branch, S.A.S.P., who showed that he is a very good friend to Physiotherapists at the University of Cape Town and to all Physiotherapists wherever they may be.

Lectures

It is hoped to publish most of the lectures given at the Course in this Journal within the next few months.

(a) *Some Aspects of the Physiology of Movement*, by Prof. A. D. Stammers, Acting Professor of Physiology, University of Cape Town.

(b) *Some points on the Anatomical Background of Movement*, by Prof. L. H. Wells, Professor of Anatomy, University of Cape Town.

(c) *The Importance of Therapeutic Movement*, by Prof. C. Allen, Professor of Orthopaedics, University of Cape Town.

These learned and extremely interesting and entertaining lectures were followed by lectures and demonstrations by Physiotherapists which were all of the same high standard.

(d) *Introduction to some aspects of Therapeutic Movement*, by Miss M. H. S. Roper, Senior Lecturer in Physiotherapy, University of Cape Town.

(e) *Movement in Water*, by Mr. K. Nicol, M.C.S.P., M.S.A.S.P.

This lecture was followed up next day by an excellent demonstration in the Therapeutic Pool at the Princess Alice Hospital, Retreat. Patients of various types were presented, showing the versatility of pool therapy.

(f) *Proprioceptive N.M.F.T.*

Mrs. R. Lewingdon, M.C.S.P., Branch Member from Durban gave a vivid account of her recent tour of Canada and U.S.A., and especially the three months she spent at the Vallejo centre (California) learning P.N.F.T. Unfortunately the film demonstrated by Miss Margaret Knott did not arrive, but next morning Mrs. Lewingdon showed the practical application of these techniques emphasising the most important facts and pointing out the difficulties to be mastered, to achieve success.

(g) *Demonstrations on Therapeutic Movement*

During Saturday, other demonstrations were given:

(i) *Mechanical Aids and Special Techniques*, by Miss Roper and Students of School of Physiotherapy, University of Cape Town.

(ii) *Group Movement* demonstration by Miss C. Junak and Students assisted by patients attending the clinic:
(1) Hemiplegic Patients;
(2) Non-weight bearing fractured femora.

These were delightful to watch as well as most instructive. The patients all entered into the spirit of the class and enjoyed themselves tremendously vieing with each other in games and competitions in a particularly happy manner.

Those attending this Course were entertained at a Cocktail Party on Friday evening to which the lecturing Professors and their wives were invited. This was a grand "get-together" and many valuable contacts were made.

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gratulate the Johannesburg teachers on their collaboration in the work being done by Professor Heyns and in familiarising themselves with the physiotherpeutic applications of his apparatus.

One of its basic importances is that it forces into our thinking the floating aquatic environment of the human foetus and the shock of its transition from a warm liquid to cold air; from dependence on the maternal bloodstream to breathing in one's own oxygen from the atmosphere. But what of that buoyancy in space, that Titov described, where "a few drops of currant juice escaped from its toothpaste tube and hung before his face like berries. He scooped them up in the cap of the tube and swallowed them."

Strapped to his couch during his 435,000 mile journey for 25 hours 18 minutes round the earth he slept but woke three times, once to find his arms floating in the air by his side. To keep them under control he tucked them under the straps. Even he found some difficulty in orientating his movements because of the unpleasant sensations due to disturbances in his inner ear.

Our muscular mechanisms were elaborated by nature over a thousand million years not to be the types of static painful machines into which human society and its machines have so far transformed the vast majority of them. They were built up against the forces of gravity specifically to make us capable of such perfection in balancing as to float as it were in space over the surface of the earth, joyfully, painlessly. We will not be able to produce that future generation of properly adjusted humanity, until the factors that cause the reflex and conscious aspects of body movement to conflict, instead of to collaborate with one another during intra- and extra-embryonic growth become more generally understood; and thus capable of being reproduced correctly.

Those who wish to understand the origin of some of these conflicting factors found in adults will find Wilfred Barlow's (1959) article on *Anxiety and Muscle-Tension Pain* and a number of the writings to which he has referred there relevant. Those who wish to delve more deeply into the developmental aspect and understand how vital it is that each human being should pass through every phase of his muscular growth pattern successfully will be impressed by the logical classificatory procedures based on the early movement of children that Robert J. Domen and his team of assistants (J.A.M.A. 174:257-262) adopted to deal with children with severe brain injuries.

It is not my intention, to cover, however briefly, these vast fields of physical education and rehabilitation. They are major concerns of every civilised country and thousands of people the world over. My aim has been simply to draw your attention to the primary part that balance plays in the whole process. I have stressed this vestibular aspect of all fear because I feel it should dominate our outlook; and that if it does, it will lead progressively to the removal of many fears by your daily activities; and so, through the future of your profession, equanimity will be promoted beyond measure within the Republic of South Africa.

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