right side. In this case too, it was noted that the descending branch of the fourth lumbar nerve was stretched and angulated over the enlarged transverse process of the fifth lumbar vertebra.

In partial sacralisations then it would appear that backache could be due to either the pain of the pseudarthrosis or direct nerve involvement.

Disc degeneration has been adequately described by other workers. However, other soft tissue features were noted.

In fat subjects, intermuscular deposits of fat are found between the muscle segments, around the apophyseal joints and large extra articular deposits on the posterior aspects of the superior articular bearing facets of the sacrum, the fifth and fourth lumbar vertebrae (an accumulation of fat in front of the sacrum, on superior and inferior surfaces of the pelvic diaphragm could be of gynaecological importance).

Degenerations of the interspinous ligaments were frequently noted. These are frequently associated with joint like cavities between closely approximated spinous processes.

The apophyseal joints vary considerably in shape, size and inclination. The articular facets are seldom symmetrical and even in fresh specimens do not articulate accurately. Asymmetry of articular facets is often associated with osteoarthritic changes of vertebral bodies and apophyseal joints.

The apophyseal joint capsules are usually thickened inferiorly and extend backwards to blend with the interspinous ligaments. A meniscoidal intra-articular synovial fringe encompasses the periphery of the intra-articular facets. In osteoarthritis of the apophyseal joints this synovial fringe enlarges so that in severely affected joints it extends as a ragged curtain across the joint. Nipping of this fringe could possibly account for sudden spasms of backache.

Enlargement of the intra- and extra-vertebral venous plexuses is often found at osteo-arthritic levels of the vertebral column as a whole. This may well be related to diminished intervertebral movement. The intervertebral foramen transmits the nerve root, two small arteries and three or more venous connections between intra- and extra-vertebral venous plexuses. Its boundaries consist of intervertebral disc and adjacent vertebral bodies anteriorly, the superior vertebral notch inferiorly, the larger inferior vertebral notch superiorly and the ligamentum flavum covering the apophyseal joint posteriorly. Loose connective tissue and fat surrounds the nerves, arteries and veins. Intervertebral movement affects the size and shape of the intervertebral foramen. In flexion all diameters of the foramen are increased while extension caused a diminution of these diameters. Intervertebral movement obviously subjects the emerging veins to alterations of shape and pressure and conceivably causes a pumping effect assisting venous return.

These features suggest that adequate intervertebral movement is essential for a pain free back. Clinical experience shows that backache is most frequent among office workers, housewives and the less active individuals. In contrast the African population is generally free of backache and in fact only suffer from backache when “Westernised”.

SUGGESTED READING FOR ANTE-AND POSTNATAL TEACHING

By ROSEMARY HARTE, M.C.S.P.

There are so many books available relating to the subject that one is sometimes at a loss to know which will be most helpful. Many I have read, and there must be as many again not readily available in this country with which I am unfamiliar. For the purpose of clarity I have grouped books which I have found most meaningful in my own work into the broad categories of Teaching, Womanhood, Obstetrics, Exercises, Relaxation and General.

It is to be remembered that we are teaching the laywoman and not simply treating her. Depending on our ability to put across our subject follows the measure of our success. Herein lies an answer why so many of our ranks succeed in their work and so many, equally knowledgeable, somehow fail. I am sure that a good book on the technique of teaching is invaluable. There are many on the market and I offer: The Art of Teaching by Gilbert Highet (University Paperbacks), Working With Groups by Josephine Klein (Hutchinson University Library). More specifically: An Approach to Antenatal Teaching by Sheila Kitzinger (National Childbirth Trust). A highly commendable booklet. The approach is largely psychological, an aspect insufficiently stressed in physiotherapy training. Methods of teaching are sound and well explained, and there is an excellent bibliography at the back for those wishing further reading, under specified headings.
By implication the teacher should understand the pupil—Woman. *The Second Sex* by Simone de Beauvoir (Jonathan Cape), is a veritable milestone in the study of womanhood. The perception, analysis and frank commentary by a controversial and courageous character makes this an invaluable work.

A greater knowledge of obstetrics is required than that afforded by most physiotherapy trainings. Berkeley’s *Pictorial Midwifery*, revised by D. M. Stern (Baillière, Tindall & Cox) is text-wise brief and pictorially most informative. *A Pocket Obstetrics* by Arthur C. H. Bell (Churchill).

In order to meet the physical demands put upon a woman in carrying her baby with minimum strain, delivering it with maximum efficiency, and returning to her physiological condition is desirable. This is particularly pertinent in our 20th Century, technological Western civilisation, and specifically in this country. In spite of an increasing tendency overseas not to stress the "number and vigour of the exercises taught" prenatally, it is my experience that only very isolated cases react adversely compared with the vast majority who appear to derive great benefit. However, the question is conjectural and in my opinion a project for further research. The value of postnatal rehabilitation exercise is not held in question. By definition and training, the physiotherapist is highly equipped to evolve exercises suitable for the needs of the individual or group. For this reason I am disinclined to suggest any specific books on exercise techniques, though Ballet, Yoga, Modern Dance Drama etc., all help to augment the repertoire, contingent on pertinent analysis. *The Principles of Exercise Therapy* by M. Dena Gardiner (G. Bell & Sons) is an excellent book for revision, and for further reference: *Human Kinetics and Analysing Body Movements* by T. McClurg Anderson. Strange that mention is not made of the pleasurable and tension and resultant fatigue! 

Relaxation is such a profound and subtle discipline, compounded as it is of the physical and the mental, the sensory and the emotional, that the teaching of it, particularly for use under stress, can be highly problematic, and must, of necessity be very individual. These books are recommended: *Progressive Relaxation* by Edmund Jacobson, M.D. (McGraw-Hill Book Co.). *You Must Relax* by Edmund Jacobson, M.D. (University of Chicago Press). *Release from Nervous Tension* by D. H. Fink, M.D. (Unwin Books). *Physiological Relaxation by Voluntary Control* by Laura Mitchell, M.C.S.P. A gramophone record of a lesson demonstrating this method may be obtained from Recorded Sound Ltd., 27 Bryanston St., London, W.1. *Sense Relaxation* by Bernard Gunther (Macdonald). *A New Way to Relax* by Karin Roon.

Finally we come to the welter of books aimed at informing the laywoman on methods of training for childbirth. The similarity between most of them is often so marked that one wonders what moved each subsequent writer to add yet another volume to the already loaded list. Systems vary various stages of labour; facts are often far from accurate; chiefly only in the types of breathing recommended for the and very little original thought and up to date research seems evident. However! *At Your Best for Birth and Later* by Eileen Montgomery, M.C.S.P. is a little book which I highly recommend. It is packed full of sound information, well tabulated and illustrated. It refrains from the tendency to ooze sickly sentiment, and the thought processes are very much up to the moment. Equally suitable for laywoman or physiotherapist. *The Experience of Childbirth* by Sheila Kitzinger (Penguin Books) is, in my opinion, a valuable contribution. The author is an artist in expressing herself with a lively humour, and a metaphysical awareness. Psychology-orientated, she explores the psycho-sexual implications of pregnancy and birth in the widest sense, and not just as an isolated incident in the life of a woman. She understands the need for a woman to come to terms with her own body before delivery, and to be able to know and feel the responses of her muscles, thereby facilitating the required control. In this era of low incidence of breastfeeding, her chapter on this subject is excellent. If some feel that her idealistic involvement of the husband is a little unrealistic, that must remain their personal opinion. I found a holism in the knowledge derived from this and the previous book. *The Know-How of Pregnancy and Labour* by Sylvia Close (John Wright & Sons Ltd.), a very comprehensive little book written in the question-and-answer form, it covers the ground briefly, fully and efficiently. *Sex Development and Maternity* by Dr. Pierre Vellay (Hutchinson, 1968), a new and interesting publication. *Becoming a Mother* by Theodor R. Seidman, M.D. and Marvin H. Albert (Fawcett Publications Inc.). Clear, concise and straightforward. It does not aim at recommending any particular “system”, but discusses several of them. *Körperschulung Während Schwangerschaft und Rückbildung* by Frau Dr. Dagmar Liechtivon Brasch, Frau Edith Risch and Frau Ines Bitterli is of Swiss origin, written in German pending an English translation. It presents some slight but interesting variations on the usual breathing techniques for labour, and some good and well illustrated exercises.

*Maternal Breathing in Labour* by Dr. R. St.J. Buxton is a very much up to date research booklet put out for the O.A.C.P., and has been reviewed elsewhere in this journal.

In conclusion, it will be noted that most of my recommendations are comparatively recent publications. I am aware of the import of the early contributions of such well known exponents of the discipline under discussion as Lamaze, Grantly Dick Read, Minnie Randall, Helen Heardman and many others. Without their inspiration, research and writings we could not have attained the position enjoyed today. Implicit in present day writing is a knowledge of the works of these men and women, and we owe them a tremendous debt for having prepared the soil for the second generation to analyse and cultivate.

*Recent Advances in Ante- and Prenatal Physiotherapy* by Margaret Williams, M.C.S.P., T.M.A.O.T., and J. Odoni, M.C.S.P.

Also *A Conservative View of Antenatal Training* by P. E. Kennedy, M.C.S.P.