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Book I introduces a wide variety of topics further examined throughout the following volumes, including the brain, the twelve cranial nerves, and the neuro-muscular-skeletal anatomy of the human body. Also presented in Book I are Raymond Dart's anatomical studies, human ontogeny and evolution, movement, and emotion, which includes an examination of the Whispered 'ah', the startle pattern, and the limbic system. These connections illustrate the concept of the "head leading", and the psycho-physical unity of the human organism.

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Book II presents child development, from birth to age 3, relying heavily on Myrtle McGraw's studies of Johnny and Jimmy. This process, which Raymond Dart argues is usually lost in the adult's "bespectacled decrepitude," is revisited with the Alexander Technique. Also presented is the neuro-muscular-skeletal system,

particularly the spinal and cranial nerves, as they are the underpinnings of this developmental process, and attempts later in life to relearn it.

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Within the context of neuromusculoskeletal anatomy, Book III explores the growth of life, from cell division and segmentation through the complete nervous system which enables movement. Finally, it examines the interrelation of the trunk, shoulder girdle, pelvis, and lower limb before culminating in the fetal spiral and upright posture.

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Book IV focuses primarily on the trunk. It presents the musculature both as separate abdominal and back musculature, as well as a combined spiral musculature. The organization of the nervous system is covered, including dermatomes and the nerve plexuses. This is set in the context of movement, physical development, and respiration.

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Book VII presents aspects of human development as background for Raymond Dart's work and the Murrays' *Dart Procedures*. More specifically, this volume emphasizes both the spiral nature of human anatomy and idea that the "head leads": in, for example, embryological development, cortical development, childbirth, reflex development, development of primary and secondary curves, and locomotion.

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- IX.27 Manual competence development: grasp reflex (Le Winn)
- IX.28 Manual competence development: vital release and prehensile grasp (Le Winn)
- IX.29 Manual competence development: cortical opposition (Le Winn)
- IX.30 Manual competence development: holding an object with the index finger

Book IX discusses the arm from a variety of perspectives. Arm musculature and innervation is detailed, demonstrating the arm's relation to the head, neck, and trunk. Also discussed is the movement of the head, shoulders, and trunk during childbirth, as well as early development of the hand's reflexes and movements. Direct application to teachers/students of the Alexander Technique is presented in Cole's relation of nerve root levels to movement and in Carrington and Macdonald's "hands on the back of a chair."

## **Book X - Legs**

- X.1 Dermatomes: full body (Netter)
- X.2 Dermatomes: lower body (Netter)
- X.3 Dermatomes and movements of lower limbs (Netter)
- X.4 Lower limb movements
- X.5 Musculature of lower leg and foot
- X.6 Flexors of toes and foot
- X.7 Femoral nerve (Netter)
- X.8 Sciatic nerve (Netter)
- X.9 Peroneal nerve (Netter)
- X.10 Tibial nerve (Netter)
- X.11 Obturator nerve (Netter)
- X.12 Iliopsoas (Barlow)
- X.13 Musculature of lower body

- X.14 Diaphragm: abdominal surface (Netter)
- X.15 Abdominal wall: posterior view (Netter)
- X.16 Nerve plexuses: lumbosacral and coccygeal (Netter)
- X.17 Vertebral ligaments: lumbosacral region (Netter)
- X.18 Lower limb bones, with Rugg-Gunn text (knees forward and away)
- X.19 Pelvis and femur (Dimon<sup>3</sup>)
- X.20 Gravity and the skeleton
- X.21 Pelvis
- X.22 Pelvis (Netter)
- X.23 Frog mechanism for saltation
- X.24 Pelvic physiology (Garlick)
- X.25 Muscles attaching front of spine (Dimon<sup>3</sup>)
- X.26 Psoas and diaphragm: interdigitation
- X.27 Spinal nerve root level related to movement, with skeleton (Cole)

Book X presents the legs not only in terms of bones, musculature, nerves, and movement, but also the legs' interdependent relationship with other regions of the body, including the back, diaphragm, and pelvis. The effects of this relationship are also examined, such as the way in which chronic muscle tension and pelvic tilt can affect the lumbar curve and vice versa.

### **Book XI - Torso**

- XI.1 Skeleton: fundamental bones
- XI.2 Back musculature: trapezius and latissimus, layer 5 (Dimon)
- XI.3 Back musculature: layers 3 and 4 (Dimon)
- XI.4 Back musculature: longissimus (layer 2)
- XI.5 Back musculature: interspinal (layer 1, deepest layer)
- XI.6 Skeleton of head, neck, and back: posterior view
- XI.7 Superficial muscles of trunk and shoulder girdle: front view (RAF)
- XI.8 Superficial muscles of trunk and shoulder girdle: back view (RAF)
- XI.9 Relation between spinal nerve root and movements (Cole)
- XI.10 Spinal ligaments
- XI.11 Spine: lumbosacral region and deep muscle layer
- XI.12 Seated yogi
- XI.13 Dermatomes: C2-S4 head/neck/back (Netter)
- XI.14 Lungs: front view
- XI.15 Lungs: back view
- XI.16 Cranial nerves: motor and sensory distribution (Netter)
- XI.17 Cranial nerves (side view)
- XI.18 Cranial and spinal nerves
- XI.19 Suboccipital muscles
- XI.20 Atlanto-occipital joints p1 (Douglas)
- XI.21 Atlanto-occipital joints p2 (Douglas)
- XI.22 Jaw and temporo-mandibular joint (Dimon<sup>2</sup>)
- XI.23 Cervical spinal column
- XI.24 CNS and nerve plexuses (Netter)
- XI.25 Autonomic nervous system (Netter)
- XI.26 Muscles attaching front of spine (Dimon<sup>1</sup>)
- XI.27 Postural Muscles (Ackers)
- XI.28 Postural Muscles (Ackers)
- XI.29 Pelvic physiology (Garlick)
- XI.30 Abdominal muscles
- XI.31 Abdominal muscles: transversus abdominus origin insertion
- XI.32 Hip joints: skeletal anatomy

- XI.33 Hip joint: seated (Dimon<sup>3</sup>)
- XI.34 Knees forward and away (Rugg-Gunn)
- XI.35 Lengthening and shortening of spine (lateral view)
- XI.36 Skeleton: semi-supine
- XI.37 Abdominal and pelvic muscles: recti abdominus and coccygeal connection (McConnel)
- XI.38 Double spiral: abdominal muscles
- XI.39 Abdominal muscle layers
- XI.40 Psoas and iliacus (diaphragmatic connection)
- XI.41 Trunk ligaments
- XI.42 Trunk ligaments

Book XI integrates nerves, bones, muscles, and movement as they relate to the torso. Aspects of the muscular system include muscles connecting the front and back of the torso, muscles connecting the head and tail through the torso, and the anti-gravitational effect of postural muscles. Movements of the bones and muscles are presented in connection to the nerves. Also discussed are the effects of primary control and the equipose of joints on overall use, as well as how angles of joints affect neighboring areas of the body. The role of F.M. Alexander's work in developing optimal functioning of these areas, and the subsequent effects on all intrinsic functions, such as breathing and digestion are presented as well.

### **Book XII Head, Neck, and Jaw**

- XII.1 Changing Stereotyped Response Patterns (F.P. Jones)
- XII.2 X-ray of head and neck (F.P. Jones)
- XII.3 Balance (Goddard) and temporo-mandibular joint (Bridgman)
- XII.4 Jaw and temporo-mandibular joint (Dimon<sup>2</sup>)
- XII.5 Jaw open (Dimon<sup>2</sup>)
- XII.6 Temporo-mandibular joint (Netter)
- XII.7 Bony framework of head and neck (Netter)
- XII.8 Pharynx: lateral view (Netter)
- XII.9 Pharynx: sagittal view (Netter)
- XII.10 Temporal muscle (Bridgman)
- XII.11 Temporalis
- XII.12 Temporalis
- XII.13 Masseter
- XII.14 Pterygoid (medial pterygoid)
- XII.15 Pterygoid (lateral pterygoid)
- XII.16 Mylohyoid
- XII.17 Infrahyoid
- XII.18 Stylohyoid, mylohyoid, sternohyoid (Dimon<sup>2</sup>)
- XII.19 Mouth (sagittal view)
- XII.20 Suboccipital muscles
- XII.21 Suboccipital muscles (Dimon<sup>1</sup>)
- XII.22 Atlanto-Occipital Joints, page 1 (Douglas)
- XII.23 Atlanto-Occipital Joints, page 2 (Douglas)
- XII.24 Cervical spinal column
- XII.25 Spinal cord and nerve roots (Cole)
- XII.26 Dermatomes (quadrupedal), with CNS and skeleton (bone, nerve, skin)
- XII.27 Intervertebral discs (RAF)
- XII.28 Functional Significance of Mastoid Process (Krantz) p1
- XII.29 Functional Significance of Mastoid Process (Krantz) p2
- XII.30 Neck: external features in relation to underlying structures
- XII.31 Dermatomes: quadrupedal position
- XII.32 Vertebral column: three views (Netter)
- XII.33 Head, neck, back (Westfeldt)

- XII.34 Primate crania comparisons (Tobias)
- XII.35 Crania: chimpanzee and human
- XII.36 Startle pattern (F.P. Jones) and sternomastoid (Krantz)
- XII.37 Sternomastoid: Cranial nerve XI
- XII.38 Trapezius: Cranial nerve XI
- XII.39 Head and neck muscles (F.P. Jones)
- XII.40 Diaphragm (C3-5, L1-3, T7-12)
- XII.41 Freedom to Change: Notes on Teaching (F.P. Jones) p1
- XII.42 Freedom to Change: Notes on Teaching (F.P. Jones) p2
- XII.43 Freedom to Change: Notes on Teaching (F.P. Jones) p3
- XII.44 Muscles attaching front of spine (Dimon<sup>1</sup>)
- XII.45 L2-S2: legs and lats
- XII.46 Superficial muscles of trunk and shoulder girdle: back view (RAF)
- XII.47 Dermatomes, C2-S4 head/neck/back (Netter)
- XII.48 Relation between spinal nerve root and movements (Cole)
- XII.49 Central nervous system: spinal nerve plexuses
- XII.50 CNS: plexuses of spinal nerves and parts of body supplied
- XII.51 Muscles: lower spine and legs
- XII.52 Superficial muscles of trunk and shoulder girdle: front view (RAF)

Book XII discusses the head, neck, and jaw, and the dynamic interrelationship of these parts to each other, the rest of the body, and overall balance. Examples are presented throughout the muscular-, skeletal-, and nervous systems, including breathing, emotion, and overall kinaesthetic awareness. These connections, combined with the dynamic nature of the head, neck, and jaw, further emphasize the inconstant nature of the entire psychophysical human organism. Book XII therefore makes clear the importance of learning to operate within what F.P. Jones calls an “expanded field of attention” and relearning our kinaesthetic appreciation.

### **Book XIII Dart: Segmentation - Head Leads**

- XIII.1 *Anatomist's Tribute to F.M. Alexander*, Basic Facts, excerpt (Dart<sup>1</sup>)
- XIII.2 Heterostrachan internal anatomy (Dawkins; Dart; Halstead)
- XIII.3 Chimp and human: head, neck, back (Tobias)
- XIII.4 Crania of 4 primates (Tobias)
- XIII.5 Antagonistic action: head/neck/back (Dimon<sup>2</sup>)
- XIII.6 Balance (Goddard) and the temporo-mandibular joint (Bridgman)
- XIII.7 Cranial somites and embryo segmentation (Dart<sup>3</sup>)
- XIII.8 Segmentation: Its significance
- XIII.9 Facial cavities
- XIII.10 Suboccipital muscles
- XIII.11 Atlas and axis (Dimon<sup>1</sup>)
- XIII.12 Atlanto-Occipital Joints p1 (Douglas)
- XIII.13 Atlanto-Occipital Joints p2 (Douglas)
- XIII.14 Suboccipital Muscles (Dimon<sup>1</sup>)
- XIII.15 Functional Significance of Mastoid Process (Krantz)
- XIII.16 Functional Significance of Mastoid Process (Krantz)
- XIII.17 Sternomastoid
- XIII.18 Head-neck-back (Dimon<sup>1</sup>)
- XIII.19 Infrahyoid Muscles
- XIII.20 Muscles supporting hyoid bone and larynx (Dimon<sup>1</sup>)
- XIII.21 Suprahyoid: muscles of deglutition
- XIII.22 Head and neck: structures affecting height and angle (F.P. Jones)
- XIII.23 X-ray of Head and Neck (F.P. Jones)
- XIII.24 Jaw: position in speech (Dimon<sup>2</sup>)
- XIII.25 Larynx suspended (Dimon<sup>2</sup>)

- XIII.26 *Mlle Lala at the Cirque Fernando* (Degas) with *Anatomist's Tribute* excerpt (Dart<sup>1</sup>)
- XIII.27 Seated yogi: with notes from Murray
- XIII.28 Somites and embryo segmentation: 2 and 5 weeks (Dart<sup>3</sup>)
- XIII.29 Embryo segmentation: 5 weeks (Dart<sup>3</sup>)
- XIII.30 Dermatomes in quadrupedal position
- XIII.31 Segmentation: early maturity and dermatomes (bone, nerve, skin)
- XIII.32 Dermatomes (Kapit and Elson)
- XIII.33 Spinal cord and nerve roots (Cole)
- XIII.34 Cutaneous nerve patterns: head and neck
- XIII.35 Neck: external features in relation to underlying structures
- XIII.36 Cranial nerves: overview
- XIII.37 Embryo, 8 weeks, and Spiral lines of force (Dart<sup>3</sup>)
- XIII.38 Dermatomes: front view (Cole)
- XIII.39 Dermatomes: back view (Cole)
- XIII.40 Central nervous system: spinal cord segments (Cole)
- XIII.41 Spinal cord and nerve roots (Still Lives, Cole)
- XIII.42 Dermatomes front/back view, with text (Cole)
- XIII.43 Pulley mechanism of spinal movement (Grundy)
- XIII.44 Central nervous system: spinal nerve plexuses
- XIII.45 Dermatomes: full body, anterior and posterior (Netter)
- XIII.46 Nerves: skin sensory receptor densities
- XIII.47 Cranial nerves: supply to head and neck muscles
- XIII.48 How the head leads (Dart)
- XIII.49 Ramifications of the cranial nerves (Murray)
- XIII.50 The whispered ah: cranial and spinal nerve involvement (Murray)
- XIII.51 Psycho-physical basic practice (Zahn)
- XIII.52 Autonomic nervous system and functions
- XIII.53 Polyvagal Theory (Porges)

Book XIII examines the significance of the segmental development of the human body, including the creation of an integrated neuro-muscular-skeletal system, which in turn has practical implications for the head-neck relationship. Covered here is the way in which 'the head leads': in movement (e.g., birth, Douglas' "joint equipoise") and in ontogenetic and phylogenetic development (e.g., as Dart writes, that the parts first developed are those for seeing, smelling, food-seeking and seizing, tasting, swallowing, and breathing.)

The mechanisms that allow the head to take the role of 'leading' are also examined. This includes how the head is stabilized and supported (e.g., spinal curves, accessory nerve innervating the sternomastoid and trapezius) and how its balance is affected (e.g., position of jaw, suspensory muscles of the larynx). In connection to all topics covered in this book, the cranial nerves and their ramifications are presented extensively. As is central to all Alexander Technique work, the book concludes with the psychophysical characterization of the human system, using Zahn's discussion of learning to align the intellectual mind with the autonomic nervous system.