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To Mr Barrett Esq - 2
with kind wishes
T. Wilkinson King

BRIEF ANALYSES OF PAPERS
RELATING TO VARIOUS POINTS OF
PHYSIOLOGY, MEDICINE, AND SURGERY,
PUBLISHED DURING THE LAST TWELVE YEARS.

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PHYSICAL, HUMORAL, AND NERVOUS AGENCIES IN HEALTH AND
DISEASE, AND REMEDIES.

NEXT to the better and rarer sort of treatises, no contributions to medicine are so desirable as clear digests of the scattered views with which the profession abounds and is almost ready to be overwhelmed. It is essential that these analyses should appear under some responsible name. I regard it rather as a matter of casualty that I am the first to appear in the present style instead of the more weary egotism of eight hundred pages; being convinced how self-evident it will be that the interests of useful writers and careful inquirers are equally concerned in the general adoption of such a method. The public is the judge of truthfulness, and posterity the arbiter of originality.

Contents:—A. Of General Principles—Etiology, Therapia. B. Nerve-functions, Disorders—Sympathy. C. Circulatory—Heart, Artery, Aneurism, Vein, Lymphatics. D. Respiratory. E. Assimilations, Thyroid Gland, Cancer, &c. F. Digestion, &c. G. Hernia, &c.—Umbilicus. H. Strictures, &c.—Prostate. I. Ossifications, &c. K. Tension, Tendon, Glandulæ Pacchioni, &c.

OF GENERAL PRINCIPLES.

1. The prime doctrine of medicine appears to be, that health consists in a certain balance of the functions; and, that beyond their salutary oscillations, periodic changes, and mutual correlations and compensations, disturbance arises; first in one organ or element, then in another.

2. Diseases have a very definite course, and mostly tend to spontaneous recovery—which judgment aids or error perverts. (Vide First General Laws, &c. London: Churchill, 1840.)

3. Chronic inflammation is acute disease varying (?).

4. The unsteady course of many affections depends on relapse

from cold, &c.;—one, acute or chronic, alternating with another; with intervals of recovery. Disorganizations, fixed, balanced.

5. *Vis medicatrix* is modified correlation or compensation. Habit is the like, and no otherwise a principle. Metastasis is when one part is less favourably circumstanced than another. (Vide Disorders Variable, and Practical Inferences hence deducible, Guy's Hosp. Rep., No. xi.)

6. The rudimentary idea of Irritation (whether as cause or process of disorder) should vary with the health and constitution,—as when an injured part repairs or inflames, or when *acné* fluctuates. Catarrh, secretory irritation, nutrition, or absorption, occur, according to the state of the blood. Pain, scald, and extravasated *fæces*, cause distinct processes. There are no simple sympathies. Worms are mostly harmless. The tongue, nares, skin, anus, gums, cough, &c., indicate chiefly the dispositions of the blood, for nutritions, &c. Epigastric blows, shocks, brain and spine irritations, vomiting, excito-motion, hysteria, and ischuria, when analysed, are evidently compound processes. (Vide Irritation, Med. Gaz., 1843.)

7. See also, Constitutional Irritation, or General Disturbance, (Ibid. 1843-4.) Introductory considerations—a plan of the relation of the animal functions. Humoral agencies and their advocates. Varieties of assimilation.—all changes in the blood. The influence of the generative functions, of exercise, of the capillaries, and of the arteries, &c., tending to disease and recovery.

8. How to analyse the varieties of irritation, which depend on the blood, as *cachexiæ*, fevers, and repairs; also inflammation; its differences, local and general. (Ibid, May, 1844.)

9. Organizable (?) deposits are but growths.—Symmetry in disease is humoral, &c. We may go far to analyse depression, and sympathies, general and contiguous, &c. (Ibid. June, 1844, two papers.)

10. Local Inflammation not so much a cause as a concomitant of fever; analysis of Louis' morbid anatomy of typhus. There are preparatory deteriorations of the body for fevers in every various grade, as also for inflammations. (Vide Humoralism in Fever, Inflammation, and Irritation, *ibid.*, July, 1844.)

11. The course of foreign bodies shut up in our tissues, or travelling, or being discharged, depends much on the bodily health, the state of the blood, &c. (Vide Story of a Grain of Sand, to illustrate the study of Practical Pathology, Prov. Med. Sur. Journal, Aug., 1844.)*

SEE THE DOCTRINE OF TENSION (INFRA.)

GENERAL ETIOLOGY AND THERAPIA.

12. Besides the admitted effects of Cold on the bodies of animals and vegetables, and in common chemistry, much remains

* A peculiarity in this case was a persistent dry sinus leading to the secluded solid, which was finally cast out by the accumulation of skin-scales in the cell.

to be considered. The heat, the pulse, and the want of safety-valve, seem to maintain pretty equal proportions. Heat depends on many different functions, not on one. We discover five influences from cold which affect the course of health, disease and remedies, specifically. States of the nerves, congestions, delay of functions, reaction (irregular) diathesis, fever, wasting irritation. (Influences of Cold, *Med. Gaz.*, June, 1843.)

13. Five effects of Heat. In delicate health easy play of the functions needful. Exciting the superficial functions of the body tends to lessen nutrition and secretion within. We may dissect the influence of warm-bath, clothing, and the course of sudden relapses. Many cases benefitted by warmth, others oppressed. (Influences of Heat, *ibid.*, July, 1843.)

14. Warmth liberates vital and chemical functions. Warm climates excite the surface most, abstract internal stimulus; hence, internal diseases are less frequent and more rapid, whether fatal or not, and great injuries are better repaired. Infants, the aged, and delicate, and those who have lost half a viscus, much safer in warm countries. (See Climate, with reference to Health and Disease, *Prov. Med. Journ.*, July, 1843.)

15. The Capillaries furnish all nutrition and secretion, the nature of which depends much on the blood, which varies continually, consistently with health, the essence of disease, or the means of recovery. Many nervous fallacies. The blood regulates absorption, or arrests secretion, and balances the functions after perversions. (Vide Humoralism of Therapeutics, *ibid.*, December, 1843.)

16. The nature and treatment of toothache are explained by reference to its causes, the variable state of capillaries, and their correlating and compensatory acts. The effects of drinks, posture, temperatures, inflammatory relapse, the time of digestion, abstinence, depletion, and of remedies,—locally, or through the blood, or through the nerves (?). (Vide Common Toothache, as illustrative of General Principles in Pathology and Therapeutics, *Med. Gaz.*, Jan., 1842.)

NERVE-FUNCTIONS AND DISORDERS. SYMPATHY.

17. The vessels of the Head most delicate, and least distended. The face influenced by exposures. Hence many peculiarities in head diseases. Hæmorrhagies are atrophies, and so variable lupus, &c.; yet all normal nutritions are equal. (Practical Reflections, *ibid.*, Nov., 1844.)

18. The sensibility of viscera little or none. Headache often (? only) external. Lesions of sensitive brain tracts are referred to the peripheral distributions of the several nerves. (Seat and Import of Headache, *ibid.*, December, 1844.)

19. Aura, numbness and pain, in considerable variety, hemiplegic or not, with injury, hysteria, chorea, epilepsy, apoplexy, or palsy, depend on lesions of sensitive nerve-tracts in the hemis-

phere of cerebrum, or in their course from thence. (Med. Times, December, 1844; January, 1845.)

20. The cortex, commissure, and intergyral fibres, remain to intelligence (?).

21. Palsy is compression subalation or division of motor cord.

22. Capillary disorder (hypernutrient ?) of motor brain fibres approaching the pons varolii by crus cerebri or cerebelli, or beginning in the pons, is the cause of convulsions. One nerve or spinal marrow may so convulse parts below. Many examples of disease of cerebrum encroaching on the pons on one side, first causing convulsions of the opposite limbs,* and then of the whole body.

23. The same as to cerebellum.

24. Disorders in the pons, causing general convulsions. (See the Seat of Convulsions, &c., 2 papers; Medical Times, October, November, 1844.)

25. On reflex nervous acts, and their disturbances, and the more probable parts of nervous sympathies. (Ibid., July, 1844.) Physics and humoralism limit nervous theories. Muscles act from distension, or reflex agency or volition. The co-ordinating cords of sympathetic motions are gathered up in the medulla oblongata; and the lower segments of the marrow have no excito-motory power in man.

The generalizers of reflex acts—views of Whytt, Mayo, Hall. Simple and reflex acts—direct or doubtful. Medulla oblongata. Exclusion of spinal cord, whose columns have various functions. (Ibid.)

The reflex centres apart from brain. Whytt, Alison, Hall. General doctrine of excito-motory influences simple; and derangements also. Sympathies not excito-motory. (Ibid.)

Induction quoad old sympathies weak—Mayo's reflex acts in the iris—Bell, Muller. Each part of a reflex arc may err. Proportion needful between causes and effects. Arcs only partially over the body; so should the diseases be—vomiting, asthma—real cause of Convulsions. (Ibid. and Lancet, September, 1844.)

Excito-motion in inverse proportion to the grade and maturity of the animal.

26. I have ventured to show that the sympathies of Hunter and Charles Bell may be referred variously to excito-motion, humoralism, and simple lesion of nerve-cords, in whatever parts of their course. Contiguous capillary sympathy I make to be humoral. I do not deny that some sympathy may yet be established. (Prov. Med. Journ., Dec., 1843. Med. Times, May, 1843.)

27. Lesions of the summit of the spinal marrow retard respiration and the pulse. Excessive safety-valve may cause slow pulse? (Cases, &c., Lancet, March, 1845.)

Causes of paraplegia in intervertebral substance. (Medical Gazette, 1844.)

* The anterior lobe, the leg; the posterior, the arm.

CIRCULATION :—A. PHYSIOLOGY ; B. PATHOLOGY, &c.

28. A. The corded valves of the heart require that the blood should throw back the curtains, and make the cords tense, and even elongate their conic muscles, before the latter can duly contract ; and this action compensates for systolic approximation of the ventricular walls. (Guy's Hospital Reports, No. 10.)

29. Where the valves of the heart are more than equal to the opening they close up, the curtains overlap, and present surfaces of contact, whose extent varies with the energy of circulation, and whose diseases, atrophic or inflammatory, are specific. (Ibid.)

30. The lymphatic system is constructed for rapid circulation. (Ibid.)

31. The veins pulsate : a bristle applied with gum as a lever is visibly raised by a full vein. *Med. Gaz.*, vol. xviii., p. 530.)

32. The tricuspid is a safety-valve. The thin wall of the right ventricle yields to temporary distensions, and the valve is retracted out of place. This effect increases from birth, and varies throughout the series of warm-blooded animals, being greatest in the divers, which also have the greatest reservoir vessels. (Guy's Hos. Rep., No. 4 and 10 ; read before the Royal Society, 1835 & 6.)

33. White patches on the heart indicate points of projection, attrition, and inflammation, &c. (Guy's Hosp. Reports, No. 6.)

34. The ductus arteriosus at birth, may owe its closure to sudden compression over the left bronchus. Analogy in Reptilia. (*Medical Gazette*, July, 1840.)

35. B. Fatal bleedings occur soon after ligature. Late bleeding and tardy ligatures most safe. External formations alone seal the end of tied vessels ; uniting the two ends of a vessel by a cord whose centre first holds the ligature. Collateral circulation, a simple necessary result of obstructing and weakening vessels. Analogies between different cases of dilating arteries, physiological and pathological.

The Hunterian method of tying vessels was not with cutting ligatures, and not the less secure. Great vessels closing spontaneously. Scarpa, Bell, and Crampton, &c., for gentle ligatures.

Mere diminished distension leads aneurisms to subside ;—clot only in the way. Why Brasdor's operation succeeds or fails. How a considerable artery declines with a change of current (clots organizing ?). General doctrine of tensions in health and disease.

Ligatures indispensable, or not ; other resources. (*Medical Gazette*, January, May, 1846.)

36. The open states of the ductus arteriosus after birth are caused by obstructed pulmonary artery, or lungs, and narrowings of the aortic orifice, or arch. (*London and Edinburgh Monthly Journal of Medical Science*, July, 1842.)

37. From similar causes also Communications between the two sides of the heart arise. (Two papers, *Med. Gaz.*, January, 1841.)

38. Cases of Cerebral Aneurism. (Medical Quarterly Review, 1834.) Aorta and Pulmonary Artery Transposed, (London and Edinburgh Monthly Journal, January, 1844.)

39. The left bronchus flattened by dilatation of the left auricle. (Guy's Hospital Reports, No. 6.)

40. The nature and treatment of Angina pectoris illustrated by considering the physiology of violent circulation; the influences of repletion, senile changes of the heart, and of its valves; their surfaces of contact perforated or shrunken. Different states of different parts explain varieties of the disease. The pains shown to be of various kinds, and the distresses.

41. Palpitation of either ventricle alone, or of both—over-full, and labouring, with or without hypertrophy. The cause, fulness, debility, or passing disorder of health, &c. See the treatment of Dyspnœa, infra. (Four papers, Medical Gazette, 1841.)

Simple vascular growths confined to the left auricle? Cases—No capillary formations in the aorta or its ventricle.

Adherent pericardium harmless. Statistics—Rationale of variable cardiac obstruction. (Lancet, 1845.)

RESPIRATORY DISORDERS, &c.

42. The bifurcations of bronchi are kept open by crescent-cartilages. (Dr. Horner and Mr. J. King, Guy's Hospital Reports, No. 11.)

43. Dyspnœa to be analysed. Derangements increasing with age; inspiratory effort and fatigue; *besoin de respirer*; suffocation; causes of dyspnœa various; the base of lungs partly in reserve; the effects of congestion, posture, repletion, exertion, cold, spasm (?), often combined; dyspnœa, with malformed hearts or bronchial obstructions. Here, and in angina, we see the mechanisms, the humours, and the nerves deranged, and remedies must unite a like triple application. Medical Gazette, 1841.

44. Summer Asthma, catarrhus æstivus, or hay-fever—general disturbance, with local obstruction, capillary, &c. Many analogous affections. (Medical Gazette, August, 1843.)

Sources of hæmoptysis, various and special. (Ibid., 1843.)

PERFECTIVE ASSIMILATION, THYROID, CANCER.

45. The thyroid gland, composed of cells, arranged in flat lobules, irregularly compressed on the trachœa in deglutition, &c., secretes albumen, which is seen to pass away by the lymphatics. (Comparative Anatomy, &c., T. W. King, and Sir A. Cooper, Guy's Hospital Reports, 1836.)

The doctrine of perfective assimilation, by spleen, thymus, lymphatic glands, &c. (Ibid.)

Cancers. Of females dying about forty-four, near one half have some cancer. Of males, one eighth. Late in life, still more. Species of cancers—different stages of constitution. Tables, &c. (Medical Gazette, August, 1845. Medical Times, March, 1846.)

STOMACH, &c.

46. There are various effects of gastric juice after death on the œsophagus, as well as on the left end of the stomach, which part is the especial source of the acid and digestive secretion. (Guy's Hospital Reports, 1842, 43 and 46; and Medical Gazette.)

In the stomach, &c., after death, wherever gastric fluid touches, the natural aspect of surfaces declines, decreasingly from left to right, including the adjacent œsophagus and duodenum. Injection, ecchymosis, discoloration, and solution of mucus and tunics, are thus very precisely determined, both in extent and degree. (Guy's Hospital Reports, October, 1846.)

HERNIA, &c.

47. Most Herniæ exist fifteen or thirty years before serious strangulations, which are not attributable to any new state of the sac, but to deteriorated nutritions and powers of vessels, &c., incident to the age (45 the mean). Hence, also, the peculiar course of the disorder, locally and generally. Prompt surgery and gentle measures, locally and generally, are the grand indications. The age of serious strangulations less than that of *fatal* cases. Various statistics prove the like, and the kind of local and visceral changes do also. (Guy's Hospital Reports, October, 1838. Med. Gaz., 1843.)

48. Persistent diverticulum ilii, discharging at the umbilicus, &c. (Guy's Hospital Reports, 1843.) Anal Muscles. (Ibid., No. 11.)

STRICTURES, &c.

49. The spasm of urethral stricture is injection and tumefaction; thickening, contraction, and induration, are results. Mostly there is a combination of these states, one set being essentially variable, the rest *permanent*; and the main treatment should be constitutional.

50. The doctrine of variable diseases explains, as it is illustrated by, old prostate disease, which is catarrhal and recurrent.

The mean length of stricture (fixed) is full an inch and a half. The bulb is the chief centre.

Instruments cause cicatrices, but cannot dilate them permanently—why they cannot seal up the canal; statistics of stricture—age—duration—end—sites, &c. Capillary injection (action, &c.) subsiding spontaneously, or with medicine, physiological. (The Nature and Treatment of Urethral Strictures, and Mischiefs of the Sound, four papers, Lancet, 1843-4.)

Urinary Obstruction in the Fœtus. (Guy's Hos. Reports, No. 5.)

OSSIFICATION, &c.

51. The repair of fracture is like that of grazed bone, or the course of exostosis, or even the mere growth of bone. The main supply of blood is from without, which, in about four or five days, deposits new bone on the old, and finally welds fragments (as distinct bones) together. In the repair of a stump, cancer of bone, or

hydatid, &c., *bone upon bone*, as earth abounds in the blood or not, is the rule quoad new bone.

Pressures and attrition also guide the degree of activity. There may be too little or too much action, deposit, or absorption. Ossific cancer is specific; in the lung, and all parts.

Periostitis begins almost as soon as the injury has been inflicted. The figure of the reuniting bone guided by periosteum, tension, &c. (Cyclopædia of Practical Surgery, "Fracture," Appendix.)

Open fracture (compound) repairs by the simplest modifications of the above process. Peculiarities as to flat bones; cancelli, neck of femur, epiphysal arteries, neck of scapula. (Ibid., and Guy's Hospital Reports, October, 1844.)

The periosteum, original, or derived from granulation, adhesion, or cicatrization, is the chief source of the nutrition and repair of bone; bone upon bone increasing till the fragments are cemented by new bone, and till motion and strain cease to excite activity. Old bone, inflammation and earth in the blood, are the essentials. Absorption removes that which lacks tension, and what is unduly pressed, or too feebly nourished. (Ut supra).

Patella broken across, and united by bone. (Guy's Hospital Reports, No. 13.) Episternal bones. (Ibid., No. 11.)

TENSION; A FUNDAMENTAL OR PRIMARY VITAL AGENT,— PHYSIOLOGICAL, &c.

52. Tension has to do with the growth, excavation, repair, and wasting of bone—with its form, and that of each cancellus. To it I refer the ligamentous reunion of divided muscle, tendon, or ligament, as occasionally of bone. It explains the order of initiative ossifications throughout the fœtal body, and that of the consolidation of the various epiphyses of the bones (excepting the effects of breadth of union-surface, &c). It seems equally to affect the tunics of bones, nerves, vessels, ducts, and organs. Fasciæ, elastic tissues, and diseases. Varix is undue daily tension, and defective nightly repair. Med. Gaz., April, 1844. Med. Chir. Rev., Oct., 1844.)

The decline of tension, or even excessive tension, accounts for isolations of parts of bones. (Prov. Med. Journ., Aug., 1843.)

Calvarian Pits, and Dura Matral Ridges, and fossulæ produce Glandulæ Pacchioni, with peculiar Tensions. Granulation always minus as to tension. (See Physiological and Pathological Tensions, &c., Med. Gaz., July 3, 1846.)

36, Bedford-square, December 1st, 1846.