examples of the os centrale in the adult human carpus, taking equal rank with the normal carpal ossicles. It was clear that, in this case, the os centrale represented a suppressed element in the carpus. How far the suppression had been carried was difficult to decide, for Weidersheim had observed that the axolotl might have two and even three ossa centralia.

Pineal Body.—Among suppressed structures, the pineal body was to be classed. The recent investigations of de Graaf and Spencer showed that it was the rudiment of a median eye, still represented in lizards in miniature. It was probably an organ of functional importance in the extinct amphibia of pre-tertiary periods. So far as mammals were concerned, it was to be regarded as a suppressed organ, and, like such structures in general, might become the seat of aberrant growths. Thus Weigert had described a teratoma of this body, and cysts had been recorded by Virchow and Drs. Wilks, Charlewood Turner, and Silcock. The origin of this body as a hollow diverticulum from the thalam-encephalon led to the expectation that cysts might occasionally be found in its interior.

Third Incisor.—One of the clearest instances of suppression, and, at the same time, one capable of the clearest possible demonstration, was connected with the disappearance and occasional re-appearance of a third incisor tooth in man. The fact was first announced by Albrecht (now of Hamburg), and had been abundantly confirmed by anatomists in this country. On comparing the teeth of mammals with those of a shark, it was at once seen that, whereas in the former the teeth were restricted to certain very definite regions, in the latter they were almost universally distributed in the mouth. It was thus clear that, in the evolution of the human species, a great number of teeth had been suppressed, and the papillae in the neighbourhood of the teeth-territories might be regarded as potentially teeth. The papillae occasionally asserted their ancestry by giving rise to supernumerary teeth, which might vary from a perfect enamel-covered tooth to a tiny conical mass of dentine. There were good reasons for believing that some forms of odontomata, and multilocular cystic growths of the jaws, were to be explained as originating in rudimentary germs of those teeth which had become obsolete during evolution, and that the third incisor was the last in order of suppression.

Mesonephros and Paroöphoron.—The doctrine of rudimentary organs in relation to cysts found a full illustration in the history of the mesonephros (Wolffian body). Mr. Shattock's observations on the congenital form of cystic kidney showed that this affection was due to dilatation of scattered mesonephritic remains in the renal tissue (retention cysts); cysts of the paroöphoron (tissue of the hilum of the ovary) originated in fragments of the same organ, as well as encysted hydrocele and the innocent variety of general cystic disease of the testis. In this instance the chain of events was instructive and suggestive. (1) In fish we had the pronephros and mesonephros (head, kidney and Wolffian body) functional. (2) In amphibia they became suppressed; but the mesonephros was rudimentary, and in relation with the ovary in the female, and the testis in the male, a metanephros or true kidney being the persistent renal organs. In mammals, the mesonephros (Wolffian body) was a temporary structure, but in remnants occasionally remained in connection with the kidney, testis, and ovary, and now and then led to destruction of these organs by developing as cysts.

Urachus.—The urinary bladder was the dilated portion of the allantois which was originally connected with the hind-gut; passing from the summit of the bladder was a band of fibrous tissue, familiar as the urachus; this urachus, or pedicle of the allantois, occasionally retained its patency even to the umbilicus; in other cases it might dilate and retain a communication with the bladder, giving rise to the so-called bifid bladder. Sometimes it dilated unequally, the cysts remaining of very small size. In rarer cases cystic tumours originating in this structure attained a very large size, and proved fatal. The last case to be considered was of interest, inasmuch as it was not only an example of suppression, but the rudimentary organs exhibited a reversion to an ancestral function. The prostate, with its sinus peculiaris and glandular recesses, was developed from that portion of the Müllerian duct, which, in the female, furnished the upper part of the vagina and the cervix uteri. These parts of the female reproductive organs corresponded to that section of the oviduct which secreted, in oviparous vertebrates, the shell. The recesses of the prostate in adult men lodged small bodies formed of animal matter, containing carbonate of lime. Thus, as the prostate, with its glandular alveoli, was developed from the same segment of Müller's duct as the shell-forming section of the oviduct of birds and reptiles, and, as in them it was engaged in depositing carbonate of lime in animal matter, so man had in his prostate a witness testifying to common ancestry with the feathered tribe, low down among oviparous vertebrates.

SUBSTANCE OF SOME REMARKS CONCERNING CASES OF VALVULAR DISEASE OF THE HEART, KNOWN TO HAVE EXISTED FOR OVER FIVE YEARS WITHOUT CAUSING SERIOUS SYMPTOMS.¹

By SIR ANDREW CLARK, BART., M.D., LL.D., F.R.S.,
One of the Teachers of Clinical Medicine in the London Hospital.

AFTER assenting to the request of the Committee that I should open the discussion upon which we are now entering, I found myself much embarrassed in determining the plan which I should follow in dealing with the subject. At least two plans were possible. One was to treat the subject from a historical and literary point of view; the other, from a personal and empirical one. Now, in respect of the former plan, it would have involved an undertaking so large, so varied, and so complex, that, with the time at my disposal, it would have been impossible to carry it to a successful issue. Furthermore, this side of the subject has been already so ably handled by Gairdner, of Glasgow, by Clifford Allbutt, by Broadbent, by Dyce Duckworth, and other observers, that, according to the present state of knowledge, little more remains to be done. It became, therefore, plain that, to deal with this subject in any fresh and useful manner, I could deal with it only from the personal and empirical stand-point; and this, in fact, is the plan which I have pursued in order to collect and collate the information which it will be my privilege to lay before you. Now, for the right understanding and proper use of this information, it is necessary that I should explain the precise steps which I have pursued in acquiring it.

It has always been my habit to enter in case-books a record, more or less complete, of the history, symptoms, signs, and treatment of the great majority of patients who consult me at my own house. Every examination is made upon a uniform plan; and, whatever may be the matter with the patient, every physiological system is interrogated for the discovery of evidences of disorder or of disease. The results of these examinations have been collected into two series of case-books; the former ends in 1872, the latter begins in 1873. For the purpose of this inquiry, I have chosen the second series of case-books, extending from 1873 to 1886; and I have examined each case in the fifty-three volumes to which at present this series extends. From all the cases related therein, I have extracted particulars of the history of patients who, consulting me for some definite complaint, and manifesting no symptom of cardiac disease, were found to have chronic valvular lesions of the heart. Many of those particulars I have arranged, crudely and imperfectly I know, in a tabular form, and printed copies of it are already in your hands.

Before considering further the information thus acquired, it is necessary that I should give you some cautions as to the use of it. The table is, on many points, plainly incomplete, and, in some ways, it is probably inaccurate; and, considering the conditions under which this information is collected, I am unable to see in what manner we may succeed in wholly ridding it of such defects. For, even with a very high sense of duty, there is a necessary limit to the time which can be given to each case; and whilst sometimes the physician may be too hurried and worried for fine and accurate observation, the patient is too irrelevant, garrulous, and inaccurate to supply the facts necessary to a just conclusion. But, making all allowances for inaccuracies and even faults on both sides, a residue of trustworthy facts will remain, sufficient to satisfy you that the table is full of interest and information, and capable of affording help in some of the difficulties of practice.

On the other hand, I must say a word or two in explanation of the care which I have taken to make the table as accurate, as complete, and as useful as I was able. In selecting cases to be placed upon the table, I excluded all instances of mere murmurishness; all inconstant and intermittent murmurs; all murmurs which were doubtfully endocardial; all murmurs occurring within the pulmonary and tricuspid areas; and all murmurs, of whatsoever kind, in patients who, independently of cardiac examination, had subjective or objective symptoms of heart-disease.

Now, out of those fifty-three volumes so examined and sifted, I have discovered, extracted, and tabulated 684 cases in which there existed chronic valvular disease of the heart, the presence of which

¹ Read in the Section of Medicine at the Annual Meeting of the British Medical Association at Brighton.

was not indicated by symptoms, and did not sensibly interfere with health; and, if I were to add to this number the instances which I have not recorded, the instances which I have failed to discover, and the instances which I have met with in consultation with other medical men, the number would be raised to a thousand. As an outcome of the experience of one person, this is a very considerable result; but if we were to add to it the experience of other practitioners, and, more especially, if we were to take into account the probable numbers of persons who, with chronic valvular heart-disease, are too well to come within the scrutiny of the physician, it will conclusively appear that there exist multitudes of persons, with chronic valvular disease of the heart, who not only suffer no inconvenience therefrom, but are also capable of discharging the duties and enjoying the pleasures of life.

Before proceeding further, I will call your attention to the diseases or the disorders for which those 684 persons, having valvular heart-disease, sought medical assistance. Arranged in the order of frequency, they are as follow:

Dyspepsia	275	Gastro-hepatic catarrh ..	4	Exophthalmic goitre. ..	1
Rheumatism	57	Lumbago	3	Diabetes	1
Nervousness	45	Cerebral disease	3	Myxœdema	1
Headaches	35	Nasal catarrh	3	Fatty tumour	1
Bronchitis	23	Gastric ulcer	3	Mammary tumour ..	1
The gouty state ..	22	Colic	3	Epigastric tumour ..	1
Eczema	17	Hepatic congestion ..	3	Phlebitis	1
Vertigo	17	Gall-stones	3	Boils	1
Neuralgia	17	Malaria	3	Urticaria	1
Catarrhal diarrhoea ..	12	Erysipelas	2	Cerebral congestion ..	1
Melancholia	10	Pseudo-hypertrophic ..	2	Diphtheritic paralysis ..	1
Acne	9	paralysis	2	Paralysis agitans ..	1
Albuminuria	8	Apraxia	2	Writers' cramp	1
Anæmia	8	Otitis	2	Renal hæmorrhage ..	1
Pulmonary congestion ..	7	Tinnitus	2	Choroiditis	1
Hepatic catarrh	7	Consolidation of lungs ..	2	Ozena	1
Renal calculus	6	Fibroid phthisis	2	Laryngeal catarrh ..	1
Epilepsy	5	Chr. pharyngitis	2	Chronic pneumonia ..	1
Embolism of arteria ..	4	Pyloric catarrh	2	Dysentery	1
centralis retinæ	4	Renal inadequacy	2	Perityphlitis ch. ..	1
Influenza	4	Vesical catarrh	2	Jaundice	1
Phthisis	4	Chill	1	Capsular hepatitis ..	1
Constipation	4	Osteo-arthritis	1	Dysmenorrhœa	1
Colonic catarrh	4	Struma	1	Menorrhagia	1

Arranged according to physiological systems, and in the order of frequency, it will be seen that, of those 684 persons, 326 were suffering from disorders or diseases of the digestive system; 134 were suffering from disorders or diseases of the nervous system; 61 were suffering from rheumatic affections; 47 were suffering from disorders or diseases of the respiratory system; 30 were suffering from affections of the skin; and 23 were suffering from gout.

And now I venture to say that, with all their drawbacks, known and unknown, the facts which I have laid before you, and the facts which have been laid before you by other observers, are sufficient, not only to justify, but to require, in the interests of practical medicine, a systematic, critical, and exhaustive study of the whole subject. To make this inquiry fruitful in practical issues, we need information which cannot be accurately supplied by consulting practitioners; we need the detailed facts of family and personal histories, of personal peculiarities and habits, and of the general conditions of health and occupation. This knowledge, and much more knowledge of incalculable value to medicine, is in the possession of the general practitioner, and he must be urged to still greater acts of self-denial, in order that this knowledge may be placed at our command.¹

ON THE PROGNOSIS OF CERTAIN CASES OF VALVULAR DISEASE OF THE HEART.

Remarks made after the Reading of the above Paper,

By W. T. GAIRDNER, M.D., LL.D.,

Professor of Medicine in the University of Glasgow.

HAVING been asked to take a part in this very important discussion, and having the advantage of following an elaborate statement by such a distinguished authority as Sir Andrew Clark, I may as well save the time of the meeting by recognising the distinction which he has drawn between "impressions" and positive facts. As the latter are of much greater relative importance where time is necessarily limited, I may also, perhaps, with advantage, state in general terms that, as regards his "impressions," my experience in general, not, perhaps, in every detail, but still sufficiently for the present purpose, may be taken as at one with that of Sir Andrew Clark. I must not, however, omit to state that I am not less than overwhelmed and

amazed at the extent, and even the minute detail, of the record he has submitted to us, out of the abounding treasury of his case-books. I believe there are very few men who, having only a fractional part of his vast experience to go upon, would have been able to produce the details of that experience in a such a well-ordered fashion. I cannot deal with these details on the present occasion. They require careful and deliberate study. Moreover, I sympathise entirely with a remark he has made upon them, that, after all is done, it is to the general practitioner that we must look for further progress in knowledge as to the prognosis of long-drawn-out cases of cardiac disease. With whatever amount of attention he may note, or even record, the facts, the consultant is in a position which deprives his record of much of its value. He cannot follow up his cases. Of those that die soon, he often knows something to the end. Of those that live long, and especially of those that get apparently well, he commonly knows nothing except by the merest accident. Hence, his experience is biased, as it were, by circumstances over which he has absolutely no control, and which tend to familiarise him with the unfavourable side of the question. The same, or nearly the same, applies to the hospital physician. It is only the general practitioner who is the lifelong friend of his patients, and can give us the facts of which we are at present in search. But my experience happens to present at least one feature of some importance, in respect of which it is, perhaps, not too much to say that I am probably alone in this room. I doubt if there is anyone else now present, and perhaps not many even beyond this meeting, who can say that he wrote down his opinions on this subject twenty-five years ago, and produced cases in support of them; and further, who is able now to take up the parable as regards some of these very same cases, and to give some sort of account of them to this meeting. And as I have this very peculiar, if not unique, position in reference to the subject of our debate, perhaps I had better confine myself, in what remains of my time, to dealing with these comparatively few, but really most important, hard facts, leaving "impressions," for the most part, out of the statement. One sentence, however, I should like to quote from what I wrote in 1861, because it is to this, or something like it, that Sir Andrew Clark must have alluded in his kindly and far too complimentary remark, that I had treated the subject more fully and completely than he could attempt to do. This I would entirely and emphatically disclaim; but it is, nevertheless, true that I used these words, which I think now to be quite as fully borne out by a more lengthened experience as they were at the time they were written. "The tendency of half-instructed auscultators is to over-estimate the importance of the murmur as a fact, and to under-estimate it as a means of investigation; to pay too much attention to the mere existence of the sound, and too little to the circumstances in which it occurs. And from this springs another tendency, which is, to take too grave and sombre a view of cardiac murmurs generally, and especially of such as are loud and obtrusive." (*Clinical Medicine*, Edinburgh, 1862, p. 561.) The instances I adduced at that time, with a few others closely related to them, will afford me the materials for what remains to be said now.

CASE I. (*Clin. Med.*, p. 562).—To this case I have nothing to add. It was that of a physician of some distinction, who, while attending Laennec's clinique, had discovered a cardiac murmur in himself, referable, as the event proved, to the aortic valve. He made himself very unhappy about it for a time, until he got by habit to disregard it, and even, perhaps, to be unconscious of its existence, although it was known as a tradition to all his intimate friends at the time of his death. He died, between 60 and 70 years of age, of tubercular peritonitis, and I (then a young man) was asked to open his body. The aortic valves were glued together, and their segments firmly incorporated for about a third of an inch, near their insertions, still leaving a sufficient current for the blood (in one never plethoric), but amply accounting for the murmur. The heart was not even enlarged, nor was there anything to show that the disease had in any way shortened life.

CASE II. (*Ibid.*, p. 562).—This also is the case of a medical practitioner, who, in 1861, had been for "half a life-time," in all probability, the subject of a mitral regurgitation. He had, in early adult life, an attack of acute pulmonary œdema, which he himself considered to have been, so far as observation goes, the starting-point of the cardiac lesion. At this time (1861), he was what might be fairly called a middle-aged man, in very active practice in a country town and extensive district; holding also a hospital appointment, and doing much medico-legal and other duty, as well as general and surgical practice. Several very threatening attacks (one or more of them of angina-like character) occurred after my account of him in 1861 was written; but he still survives; still, in a modified way, practises his profession; and, according to his last statement to me personally, and all the in-

¹ The elaborate tables by which the paper was illustrated, together with the conclusion of Sir Andrew Clark's remarks, will be published next week.