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PROFESSIONAL PROSPECTS*

A COMPARISON OF THE POSITION OF DOCTORS WITH THAT OF OTHER PROFESSIONAL PEOPLE

BY

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Struggling with the problems precipitated by the National Health Scheme, the doctor may often be tempted to think that his difficulties are unique. Lawyers, architects, engineers, accountants, schoolmasters, and artists, he may concede, all have their troubles—but, whatever they are, they are not likely to have much bearing on medical professional problems, whose solution can be sought only by doctors wrestling alone with their professional consciences or collectively with the Ministry of Health. But though it is no doubt true that only doctors can solve the problems and resolve the dilemmas which face their profession, a study of the contemporary difficulties of all the professions suggests that doctors share many of their perplexities with lawyers, accountants, engineers, and so on; and that in shaping their course for the future all the professions can gain greatly from a common awareness of each other's position. For the same social tendencies which have made a national health service inevitable have been changing the status and prospects of the other professions. The basic objectives of nearly all professions are the same. May they not have a good deal that is useful, when planning action, to learn from each other? May they not have, even, interests that they should defend together rather than separately?

Industrial Revolution in Medicine

The National Health Service is the latest development in the long social history of medicine. In the past hundred years medicine has undergone an industrial revolution analogous to that undergone by other techniques and callings. The general practitioner has survived, as the hand-loom weaver has not (except in Harris), but a large part of the functions he discharged a century ago have been taken over by the organized medical factory—that is, the hospital and clinic—where specialists of many sorts, not all of them doctors, co-operate to bring any part of the whole range of medical science to bear on every single patient, which would now be impossible for one practitioner alone. In these circumstances the G.P. tends to become a sort of preliminary first-aid casualty-clearing station, plus an organizing and educational centre; anything “big” goes to the “health factory.” The G.P.'s function, however, remains a key one—but it has demonstrably changed.

*This paper, which was read before the Hertford Hospital Medical Society, is based on material for a forthcoming book, *Professional People*, by Roy Lewis and Angus Maude, M.P., to be published by Phoenix House, Ltd., next autumn.

That is, broadly, the picture of a hundred years of medical organization, brought about by profound changes in technique and a galactic expansion of scientific knowledge. But one important factor is left out of this equation—and that is the growth of the idea that every citizen in a modern scientific welfare state has a *right* to enjoy the very *best* service that the current state of medical science makes possible.

The idea of the right to health is part and parcel of the idea of equality of opportunity, equal shares (or fair shares), full participation in the material benefits of a scientific civilization. The Labour Party manifesto in the 1950 election stated explicitly: “Labour has set out to convert into practical reality the Socialist ideal that the best shall be available to all.” The illogicality of the statement is significant, but it is sufficient to note here that any such idea would have seemed nonsense in fact as well as in wording a hundred years ago. Then, it was thought reasonable that you could have as much medical attention as you could pay for—that you could have just as much of *any* professional service as you could pay for. Almost all professional men worked, like doctors, as individual practitioners and fee-takers. The State hardly even “laid on” defence—even Army officers purchased their commissions under an archaic conception that the Army should somehow pay for itself. Community doctoring—“public health”—was in its veriest infancy: something Edwin Chadwick was still fighting to make effective.

Expansion of State Services

What has happened since to medicine has happened, to a greater or less degree, to every other profession as the result of these two forces—namely, scientific advances and the idea that every citizen ought to have the benefit of them. The obvious case is teaching; the Education Acts of 1870 to 1902 began the process of providing everybody first with a minimum education and then working towards the idea of giving everybody a maximum education—a full training for his or her trade and profession—laid on free. But every profession has been affected. State health and State education have between them swept many other professions into State service, and even created several new ones—the obvious cases are the dentists, pharmacists, opticians, nurses, medical auxiliaries of all kinds, and the social workers. Something similar is happening to

the scientists, whether industrial chemists, physicists, botanists, or biologists. In the mid-nineteenth century, scientists either taught in universities or worked in their own laboratories in moneyed seclusion. For the public to get the advantages of their services they had to be pulled into the light of day and organized—first, of course, by industrial firms who put money into research, but increasingly by the State, which is to-day probably by far the largest buyer of scientific talent. The State “lays on” science—whether in defence, in food production, in hygiene, in agriculture (home and colonial), or in State industry. The Government operates about 600 research establishments, and in 1945 formally created the “Scientific Civil Service”: science as a public service, in short, like medicine or education.

In law we find the same process at work. The first attempt to give “fair shares” in law, as in medicine, finds its expression in the legal aid scheme. The idea of a State legal service is being applied cautiously; it was because every man paid for his own law that an independent judiciary arose in Britain. The dangers of free State professional services reveal themselves most nakedly in law. None the less, the present half-way house is not in line with the spirit of the age—there is a means test, for example. The pressure for more free legal aid, and certainly free legal advice, is increasing.

Rise in Cost of Professional Services

The reciprocal of State-paid professional services is that the cost of professional services has steadily risen, and continues to rise. This is not a matter of fees (most legal fees have not risen since the 'eighties) but of the cost of organized professional services, and the greater scope of them: innumerable regulations compel the citizen to call in, or make use of, the services of medical officers of health, borough surveyors, accountants, and engineers and scientists of every kind. The fact that the salaries of these experts are paid from rates and taxes does not make them less expensive or less active; and, indeed, their education and training, also increasingly paid from taxes, gets steadily more expensive. This is an important contributory cause to high taxation, which has wiped out the upper classes and is eating into the status and the slender but widely distributed capital reserves of the middle classes. The consequence is that not only has the cost of professional services risen above the ability of the average citizen to buy them, but even the better-to-do can no longer find the money for professional fees. At one time both lawyers and doctors could aid the poor freely or cheaply because they could charge the rich or middle-class client “what the traffic would bear.” To-day the voluntary hospital system would have broken down in any case, because the public has no longer a sufficient margin of income for “voluntary contributions.”

The result is a steady growth in the proportion of professional people in direct State employ, in local government employ, or in the service of indirect State organizations such as the Health Service; the corollary is the ever-smaller proportion of each profession in private practice as it is traditionally understood. Before the war, 40% of the average income of a general practitioner came from panel patients; to-day the average proportion of medical income from purely private patients is tiny—there are some 600 private practices outside the Service, and an unspecified number of private patients going to doctors in the Service. If the income of medical men from outside the Service were 10% of the total it would surprise most of us. But to-day only 52% of registered architects are in private practice; and over a third of the membership of the Society of Incorporated Accountants and Auditors are in public service, a proportion which may not be untypical of the

other accounting institutions. Moreover, the dependence of private practitioners (lawyers, architects, consulting engineers, and consultants of all kinds) everywhere on Government or local government work is well known. How can it be otherwise when the State spends nearly half the national income? In professions where the State does not, in fact, buy much of the professional services offered, a very difficult position exists: only a handful of writers and authors can make a living by their literary work, and hardly a painter or sculptor can live by his art alone; the great majority must find subsidiary incomes, by teaching, by commercial work, and so on. The death of artistic patronage is only one symptom of the general condition which is driving the professions slowly into State employment.

What, then, does State employment imply, and by what means can it be made tolerable to professional ideals? We may examine three important ways in which State employment—and strengthened State control—affects the professions: first, freedom and ethics; secondly, administration and organization; thirdly, remuneration. All professions are affected to a greater or less degree.

State Employment: Freedom and Ethics

The basic professional relationship is between practitioner and client: it is ethical and fiduciary.* It emerges most clearly in the medical profession, because the most precious thing a man has—his life and health—is commonly the subject of the contract between him and his medical adviser. Hence the professional ethic is most highly developed in medicine, and with it is achieved a degree of altruism (however far short of the ideal some, or even many, doctors may fall) not approached in any other profession. Perhaps for this reason the medical code has profoundly influenced the professional conduct of other professions which developed later. The legal ethic is most nearly comparable to that of the medical. The interest of the client comes first; indeed, as Anthony Trollope remarked in *Orley Farm*: “No amount of eloquence will make an English lawyer think that loyalty to truth should come before loyalty to his client.” Among barristers there exists the obligation to serve; in the Law Society and the Bar Council there exist well-developed disciplinary bodies to deal with any practitioner offending against the code, and for maintaining the profession's standards.

It may be argued that the altruism of doctors is not found among lawyers; but in fact the history of law is that of the upholding of individual rights and the maintenance of the independence of the judiciary; the benefits conferred by the English legal profession upon the community have been immense. In other professions the ethical relationship narrows in content, but it is preserved in the relations between client and practitioner. The most important element in the codes of other professions is the guardianship of the client's financial and material interests—for example, the architect, because he must supervise his client's outlays upon building, has a circumspect attitude to observe in his behaviour towards the contractor. An architect working for a contractor may no longer describe himself as an architect. Like a consulting engineer, chemist, accountant, or chartered estate agent, he can be remunerated only by his fees, accepting no commissions, indulging in no advertising.

Many professional people, however, have no individual clients—they are in salaried employment. Their clients are a firm or a Government department. Does this not change the ethical basis of professional service? The question becomes of importance when doctors or lawyers are employed by the State, for a clash of interest may occur—and in fact sometimes does occur—between the employer and the

*There are some possible exceptions to this rule, though the Royal Commission on the Press, for example, considered it held good even for journalists; in the case of the artist, too, the professional services given are such that “the professional must be trusted to give what he cannot be compelled or contractually bound to give” (T. H. Marshall, *Citizenship and Social Class*, p. 135).

individual for whom the employer is laying on the service. Ultimately the patient or client is the employer—through the part he plays in representative Government—but in fact Departmental policy and the machinery of administration put a huge barrier between the citizen as consumer of some social service and the citizen as employer of the man who dispenses it to him. Some people have taken the view that the old ethic which existed between client and practitioner is in some way “sublimated” by professional people in Government employ to a general obligation of self-abnegating service to the community at large. It was Lord Dawson of Penn who remarked: “A doctor’s vision, hitherto focused on the individual, will extend its range so as to embrace the community. Professions, like individuals, have their phases of development. In the medical profession to-day we see the dawn of the civic conscience.”*

The Professional Conscience

All professions should have a civic conscience—in proportion as they receive, by Act of Parliament or Royal Charter, special privileges and protection; they are under the obligation to maintain the standard of their service and to advance in the public interest their science or their art. Obviously true of medicine, this is no less true of engineering, law, applied science, or even architecture and art. Professional institutions and individual professional men must play an ever-increasing part in shaping social policy—through representative organs of Government. But this is far from superseding the basic ethic—which is the fiduciary and confidential relationship towards the client, whose true interests are paramount. From this it should follow that, whatever the duties of medical officers of health, or medical advisers in Government departments, what really matters to the doctor—G.P. or specialist—is the patient, not the paymaster. The lawyers have taken care that payment under the legal aid scheme shall be disbursed by the Law Society, though it comes from the Treasury; this arrangement emphasizes the fact that the practitioner must not be influenced by any loyalties other than those to the client. It should certainly not be assumed that “among reasonable men,” such as Civil Servants and other professional people account themselves, no clash of loyalties may be anticipated. Anyone with experience of working with large organizations knows they do take place; all professions find it so. And what starts with small matters goes on to major points of principle. An interesting but by no means isolated example is that of the probation officer, a servant of the Court, who comes to think of himself inevitably as “treating” the offender in a confidential capacity, and often finds a conflict between his instructions from the Court and what he sincerely considers are his “client’s” best interests.†

Professional people in salaried positions should feel that they belong not to their immediate paymaster in matters of conduct but to their profession, but what makes this profession, and its code, is the tradition of private practice. The danger is that, if private practice should dwindle below a certain critical point, that tradition may lose its power over new generations of students and graduates. The tendency to think more of the employer’s interests and less of the client’s may be speeded up as the “expert” finds himself in charge of an ever more complex machine for doing good generally, instead of looking after Mr. Brown and Mrs. Smith and Master Robinson in particular. For this reason the present position of the general medical practitioner is of special importance. In the Health Service the doctor-patient relationship will remain, while some private practice in the old tradition will survive outside it and in competition with it; and in medicine, therefore, the true professional conscience can be kept alive, and can set the tone, not only for the rest of the medical profession, but for all the professions which try to take their tone from the medical ideal. The general practitioner who insists on

acting as the patient’s servant first and foremost is performing a first-class service not only to the medical profession but to all the others in which the State is gaining power at the expense of the private practitioner.

Organization

The second effect of growing State power is upon organization. Professions should be self-governing, whatever stipulations the State may make regarding the nature of qualifications or of conduct: this follows from the practitioner-client relationship, for only the profession knows how best to preserve trust in itself. It demands independence. Where there is no independence there is trouble. Teachers suffer from a lack of true professional organization: bossed by the Ministry of Education and local authorities to an unreasonable degree, humiliated in pay and status—even inspected to make sure they are not scamping their professional duties—they have taken refuge in trade unionism. That is the danger which faces all professions to-day, and many are alive to it. It is interesting to note that the nationalization of mines has been followed by the development, on the part of mining engineers, of the Institution of Mining Engineers as a fully examining and qualifying body. Now that the State controls the mines, besides setting the standard of the certificate for colliery managers, the profession instinctively feels it must develop its independence through a body free from the State and capable of maintaining higher standards. The gas engineers have reacted to gas nationalization from similar professional instincts. When there were 1,000 gasworks as separate employers, the Institution of Gas Engineers accepted a subsidy from the gas companies to act as an examining and professional body. To-day that subsidy comes entirely from one source—the State—and the gas engineers have reacted by handing the control of examinations and qualifications over to the completely independent Institution of Civil Engineers.

The State has an inveterate tendency to do things on the cheap; to do things on the cheap it is necessary to lower standards. The proposals to introduce a new series of qualifications for engineering, technology, and commerce, based not on the training and examinations of the existing senior engineering, scientific, and accountancy institutions but upon an entirely new system of State technological education, is being strenuously opposed by the older professional bodies, who see in it a threat both to their independence and to the educational standards in their professions. They anticipate that it would not be long before State-certificated engineers, accountants, and technologists would be employed in Whitehall departments, in local government, and in nationalized industries in preference to properly qualified men and women; cheap engineers, in fact, to match cheap teachers. There may appear at present to be little danger of State production of cheap doctors—but this tendency should be watched and fought.

The Threat of Administration

The other threat from the State to the independence and integrity of the professions comes from the growing importance of administration. When all professions consisted of private practitioners there was no administration. The only administered professions were the Army and Navy, where an interesting mixture of anarchy and red tape was the rule. The introduction of social services, the socialization of professional work, bigness, centralization on Whitehall, technical advances, have completely changed the picture. Doctors found themselves faced with the choice either of getting their hospitals managed by laymen, and devoting themselves to their patients, or of reducing their professional work in order to find time for administrative duties. The engineer has to decide, likewise, at what stage to cease designing machines and become a manager or an administrative officer; the scientist must also forsake research in response to the same call, or acquiesce in the “co-ordina-

*Francis Watson, *Dawson of Penn*, 1950, p. 171.

†Cf. *Social Case Work*, edited by Cherry Morris, 1950, pp. 127 et seq.

tion" of his and his colleagues' work by a layman and perhaps even an accountant. Administration is gobbling up professional talent at a phenomenal speed.

There are two schools of thought about this. One school holds that an entirely distinct profession of administrators should be created to enable the technical people—doctors, nurses, medical auxiliaries, engineers, teachers, scientists—to get on with their "real job": selected, trained, and examined for management, these administrators should "run" the technicians efficiently and expertly. The second school holds, on the contrary, that professional people must themselves do the administration of their professional services to the community; whatever the cost in personal frustration, they must never relinquish control, for they alone can understand or discover how to organize themselves. This school avers that the conception of a distinct profession of managers and administrators is vague and illogical. The universities have firmly kept out the professional manager; the scholars run themselves—and thereby preserve a large measure of independence despite State finance of university teaching and research.* In medicine, while there is still much administration by doctors, and always will be, a new administrative profession is being allowed to grow up. In big business, it is still being argued whether managers should be trained to administration and then be put in authority over scientists and engineers, or whether the technicians should be advanced to top management if they reveal flair for organization and leadership.† Government and business experience strongly suggests that where you have administrators organizing the work and conditions of service of professional people you have among the professional people a strong sense of frustration, and a conviction that the administrators are inefficient, fussily tyrannical, and grossly overpaid in relation to professional earnings. The administrators in these circumstances are often defensive and irritable, or intolerably cocky.

There can be little dispute that one race of trained administrators we must have—the administrative grade of the Civil Service to enforce the laws and regulations with justice and efficiency; although, as the State increasingly enters the field of social services and production, "professional Civil Servants"—doctors, lawyers, accountants, and technologists—must increasingly be advanced to administrative posts otherwise held by departmentally trained administrators. But in local government there is no "heaven-born" administrative grade; and it has not been proved that such a grade or specialist is required anywhere else. On the contrary, there is every evidence that a sound professional training, whether medical, legal, or technological, supplies the best foundation for the development of the personalities and powers of those with gifts for organization and leadership. Only a limited proportion of people with professional or any other training show such a flair for organization and leadership; too few, indeed, to fill the many posts of supermen which the welfare state and the Socialist cult of bigness in organization create. This is the inherent weakness of bigness, however, and the training of administrators will not mend it. On the other hand, it is vital that the professions should retain their own government in their own hands, even if, in the case of medicine, this means losing hundreds of first-class doctors to desk work.

Professional Remuneration

In Mr. Attlee's phrase, we are trying to do too much too soon: that is the reason why almost every profession, except the stage and letters, complains of being undermanned. Our aim is apparently to give the country a higher, more expensive standard of life and welfare, equally shared, than our supply of brains, administrative and professional, will run to. It is important to note that, politically, what matters now is to give everybody *some* sort of service, even if this involves a drop in the standard. Politicians want to be able

to say they have done this and that—that it is on paper, written in the Statute Book. Generally, their attitude to standards is that the masses probably don't know any better, and will take what they are given provided they do not see others getting more. This attitude has important consequences for the remuneration of professional people. What the State wants is enough doctors to run some sort of free health service, enough teachers to run some sort of universal free education, enough lawyers to run some sort of free legal aid scheme, and so forth. There is just so much money for all these welfare services, and to the State quantity matters more than quality. The result is that the State looks with a jealous eye on professional salaries. The traditional desire to save public money is now reinforced by new pressures to lower professional remuneration—one of them being the expense of complex administration, and another being the egalitarian spirit of the times. Moreover, if standards are lowered, it follows, to the official way of thinking, that a cheaper type of "expert" can be employed to supply the service in question.

So long as private practice and forms of alternative professional employment exist, it is possible to resist this tendency. The State is getting inferior scientific and technological talent because it offers salaries inferior to those obtainable in large firms and conditions infinitely irksome when compared with those prevailing either in industry or in the universities. With growing State control of secondary education, we see a narrowing of the wages differential between schoolmasters with university degrees and those with teachers' certificates only. It is rumoured that in gas and electricity, as senior posts become vacant, less well qualified engineers at lower grades of salary are put in charge. When this process reaches the coal mines (and those who have seen the material now being trained as colliery managers for the future are not reassured) and the nationalized steel industry (if it remains nationalized) the nation will feel the effects. Many of the best technologists have deserted coal, and some are thinking of deserting steel; there are, of course, many posts in private industry at home or overseas for them to fill. So long as alternatives exist there will be a limit to what the State can do to earnings in any one profession. If it lowers standards and remuneration too fast, moreover, it is likely in some cases to increase outside competition. The first effect of the 1944 Education Act, which foreshadowed a reduction in the quality of grammar-school education, was to lengthen the waiting-lists for private schools; while the queues for hospital attention in the Health Service seem to be significantly reviving medical private practice outside the Service. This competition, of course, is something the State will smash if it can: it is necessary only to refer to the behaviour of the Road Haulage Executive towards private hauliers, or the State airlines' attitude to charter companies.

Conclusion

It was Babeuf, the French revolutionary, who cried: "If it destroy civilization itself, we must have absolute equality." Absolute equality in professional services might well destroy their humanity with their progressiveness. To retain their humanity, to maintain their progress, each profession must keep its independence so far as it can; and when it is necessary to make difficult choices—the problem of old people, the problem of the school dental service, and so on—it is the profession, not Civil Servants or professional managers, who generally should make them. What money the nation can afford for health services should be spent by doctors, in the way they think best, in the terms of their own professional ideals. That such a decision shall be wise, and be made from good motives, our need of an independent medical profession is second only to our need of an independent judiciary. It is therefore vital, not only in their own but in other professions' interests, that doctors

*D. Veale, "University Administration," *Fortnightly Review*, November, 1951.

†Peter F. Drucker, *The New Society*, 1951, pp. 194 et seq.

should not allow Health Service conditions to undermine their independence or their essential relation to patients.

If my analysis of the professional situation to-day is reasonably accurate, a number of things will be necessary; important among these are:

(a) Medical organizations should spend the money allocated by the State to the National Health Service; doctors should be employed by doctor-administered organizations.

(b) Standards of qualification and performance must be defended.

(c) A stand must be made against the lowering of rewards, but public sympathy for such a stand must be developed by sound public relations.

(d) A realization by specialists and hospital doctors of the true importance to the profession of the general practitioner inside the Service: if the G.P. loses caste the public will tend to think of all medical men as mere purveyors of wrapped-up scientific cures, payable at shop clerks' rates.

(e) A realization by all doctors in the Service of the great benefits to be gained by the whole profession from the survival of private practice outside the scheme. It is a sound insurance policy; the profession should do all it can to extend every possible aid to the private practitioner, and fight the State's attempt to penalize him.

(f) The reconciliation of differences between doctors and medical auxiliaries. The medical auxiliaries' status and standards should be raised; and the State given no chance to drive any wedges between the "health professions."

(g) A new approach to administration. Every profession faces here a problem of unexampled urgency. It is foolish to leave the field to lay administrators. There is certainly need for a staff college for the scientific and technical professions; and probably one for the medical profession and all its auxiliaries as well.* How many hospitals have sent doctors to the administrative staff college at Henley meanwhile?

(h) And, finally, the maintenance by every means, personal and propagandist, of the basic ethical relationship between doctor and patient. People basically do not want official doctors, and they might well learn to prefer a less generous Health Service to losing the sort of doctor they traditionally know, like, and trust.

Let us make no mistake, when all professional people are officials there will be no doctors, no lawyers, no artists, and probably no scientists either. There will be no professions; and no life worth living. George Orwell in his *Nineteen Eighty-Four* depicted the sort of life there will be.

One other thing is needful: greater understanding by the professions of each other's problems, and the making of a common stand when this proves practicable. The leadership of this country is now largely professional. The aristocracy is gone; the propertied classes are dying; business is half-professionalized. The bureaucracy is calling in the professions more and more. Should not, then, professional leadership be consciously professional? Professional training and practice gives a man or woman a maturer outlook on affairs than is possessed by any other section of the community; in understanding the professional ideal (largely shaped by generations of doctors) and in seeking to pass it on to the rest of the community—to the business men, to the traders, to the farmers, to the technicians, to the trade union executives, and so to the operatives, supervisory, skilled, and semi-skilled—we have our best chance of restoring balance and vision to our community, which, packed fifty million on this small island, is so sorely beset.

*Cf. *The Times*, November 7, 1951.

HORMONE ASSAYS IN NORMAL AND ABNORMAL PREGNANCIES*

BY

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The accompanying list (see Table) of hormones of actual or potential interest in pregnancy is a formidable one, and is not necessarily complete. Assay methods for several of them are still imperfectly developed, so that it will not be possible (or necessary) to devote equal attention to each of them. A word of explanation, though scarcely of apology, is perhaps necessary in the

Table of Hormones in Pregnancy

Oestrogens:	
Oestradiol	
Oestrone	
Oestriol	
Progesterone—Pregnanediol	
Chorionic gonadotrophin	
Pituitary hormones:	
Anterior-lobe hormones	<div style="display: inline-block; vertical-align: middle;"> <div style="display: inline-block; vertical-align: middle;"> Prolactin Growth hormone Adrenocorticotrophic hormone Thyrotrophic hormone </div> </div>
Posterior-lobe hormones	
Adrenocortical hormones:	
" Corticoids "	
17-ketosteroids	
Other cortical metabolites	
Thyroid hormone (serum precipitable iodine)	
(Serum histaminase)	
(Serum pitocinase)	

case of the last two items, the enzymes histaminase and pitocinase, included within parentheses. Hormones and enzymes have a good deal in common, so that their presence in the list is perhaps not so surprising, and their presence in blood only during pregnancy entitles them to some consideration in this paper. The plan to be followed will consist of a description of the findings in normal pregnancy first, followed by a survey of what is known of the hormonal findings in abnormal pregnancies.

Oestrogens

Although wholly satisfactory methods for the assay of oestrogens in body fluids still await development, and estimates of their levels in conditions other than pregnancy must be accepted with great caution, there is no doubt that such a plethora exists in pregnancy that even crude methods have yielded highly significant information. The general pattern of oestrogen excretion in the urine during normal pregnancy is now generally well known and needs little comment. As can be seen in Fig. 1, during the first trimester the levels are low, scarcely differing from those of the menstrual cycle, but thereafter a tremendous increase occurs in the oestriol fraction, and a very much smaller increase in the oestrone and oestradiol fractions. During the last two weeks the oestriol fraction decreases rapidly, reaching early pregnancy values by the onset of labour. The oestrogens are excreted almost exclusively in the combined form, as sulphates or glucuronidates, and as such are biologically relatively inactive.

* Paper read at the International Congress of Clinical Pathology, London, July 16-20, 1951.