

1952



This is the third in a series of letters to Dr. J. A. Myers and the readers of the JOURNAL-LANCET from Dr. Ansel Keys, director of the laboratory of physiological hygiene at the University of Minnesota, during a year of study and travel abroad. Other letters will follow in subsequent issues.

Notes from a Medical Journey

November 20, 1951, Oxford, England

Dear Jay:

Spanish hospitality is not to be taken lightly; for its proper appreciation the official visitor should be endowed with a hyperactive digestive apparatus and an indifference about sleep. An oversized urinary bladder is also recommended.

Such was the nature of my thoughts as I put out the light at three o'clock of the mornings in Madrid. And then how to get to sleep, with the flavor of cigars and old brandy persisting and the pylorus obviously determined to give no passage to the french-fried squid, and suckling pig and the baked alaska. Supper -- with three wines -- at ten-thirty is only the latest gastronomic problem; the main meal began at two and, by hurrying, we were almost on time for the 5 o'clock conference of three hours. But breakfast arrives at seven-thirty, the cars with our hosts will be waiting at nine, and symptoms of acute hypoglycemia will develop midway in the long morning session. I wonder whether the sensations after subtotal gastrectomy are similar. I should have kept a chart for the five days.

The occasion was a conference on nutrition organized by Carlos Jimenez Diaz, professor of medicine and director of the Institute of Experimental Medicine. Besides the Spaniards and Portuguese, there were five foreign guests: Sinclair of England, Tremolieres of France, van Eekelen of Holland, Latsky of South Africa and United Nations, and myself. The discussions -- in English, Spanish and French -- were on familiar ground and many points of agreement were the same as reached last spring in Rome by the United Nations FAO/WHO Committee of which I was chairman. Here are a few of them, not in official form:

(1) Nutrition surveys must be basically medical and not merely a comparison of what people eat in contrast to what some pundits think they ought to eat.

(2) Pellagra is still pretty puzzling, in spite of nicotinic acid, tryptophane and Tom Spies.

(3) The U. S. National Research Council's recommended daily allowance of 75 mg. of ascorbic acid is far higher than any evidence will warrant.

(4) The world over, medical schools and schools of public health are neglecting teaching and research in nutrition as a basic aspect of preventive medicine.

Our meetings were held at the University City, now almost rebuilt after its demolition in the Civil War. On the hill behind the medical buildings the great new hospital is rising; from it patients and staff will look out over one of the world's largest and handsomest campuses. To the south are great student dormitories; to the east large blocks of elegant flats are being completed for the professors. But, contemplating those stately avenues I suspected that the students, and many ill-paid professors and staff, will be footsore from the great distances to be covered. The clinical professors have their big cars and chauffeurs, but that means all the strains of a fashionable practice and precious little leisure for quiet scholarship.

Spain is a land of great contrasts. Bread and olive oil are still rationed but the meat portion of an upper class meal would feed a British family for a month. The amount of the bread ration is inversely proportional to one's economic station; if you are rich you have to worry along on meats and cakes! The facts of the national economy are dismal, but in Madrid I saw more new Cadillacs than since leaving New York. Their owners have paid 100 per cent customs duties -- in U. S. dollars -- as well as high excise taxes, but they have enough left over to assure that their ladies are bejeweled as Tiffany and Cartier would recommend.

It is grist to my mill that coronary disease is a problem among wealthy people of Spain but, apparently, scarcely exists in the general population. I hope to return in May for data and observations on diet and serum cholesterol.

Since returning to England I have been digging into British vital statistics and find that the coronary disease problem has increased enormously in the past few decades; the rise continues through 1949. This seemed at variance with my ideas about dietary fat in the etiology of atherosclerosis, but now I discover that the average British diet has steadily moved to become a high fat diet like our own. Even in the war years and after the proportion of calories from fats seems to have been far higher than fifty years ago. But the cholesterol intake has probably gone down -- and you know I believe that the dietary cholesterol is unimportant.

So far, so good. But this means I must get data on other countries besides Britain. Hence my interest in Spain, Italy, and the Orient, where fat intakes are reputed to be very low and the local physicians disclaim the existence of real coronary problems. But I am vexed about the Orient. Facilities and some small financial aid are offered for studies in Formosa, Calcutta, and Ceylon but I have had to decline. My time is too short this year and the expense of travel is too great.

This whole field of the epidemiology of metabolic disorders and "degenerative" diseases and the research approach through the study of samples of populations who live very differently greatly appeals to me. But it is all very difficult because of the limitations of time and money. Give me Ah, well! Anyway this is a great area of research for a new public health of the future.

With best wishes to you all, I am as ever,





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Notes from a Medical Journey

20 December 1951, Oxford, England

Dear Jay,

Frost lies thick outside the window and I can picture the white land of Minnesota and the Dakotas, with the thermometer shivering at twenty below - while it is apt to be eighty in the houses. None of these shocks of thermal change for us here; walking out of doors is warmer than sitting inside and if I had my Minnesota stormcoat here I should use it as a house jacket. But it is colder in Scotland as I discovered last week. Several sessions of a Combined Conference, of which I may not speak more fully, were held at Aberdeen where the gray granite buildings and houses properly match the climate and the Scots are more chary with fuel than the Britons.

A main interest for the quizzical participant in such inter-governmental conferences is the association with officialdom. The delegates, at least the conscientious (or tame?) ones, desperately flounder about in an effort to find a "formula" to conceal the disagreement which descends from their official instructions. High policy and the particular road to heaven to insist on where long ago decided by their superiors in Cabinet or Ministry. Plain medicos and scientists must never examine big issues with only technical knowledge, common sense and goodwill at their disposal. Perhaps the main difficulty is that crucial facts are usually missing so by default the technical expert must go along with the compromises beloved of politicians.

But between things there are always other interests to cultivate in such conferences. For instance, a responsible official who is well placed to judge things here, confided to me his belief that the medical service to the British middle classes has worsened though for most of the people the National Health Act is a real blessing. The plain fact is that there are not enough doctors and if there were it would mean a new crisis to find the money to pay them and the costs of all the services they would demand to provide the best practice of medicine.

I suppose I should not speak about the practice of medicine since my own contacts are with the academic medical scientists. The standards in the medical schools are as high as anywhere at home and the students are a superior lot, to judge from Oxford and Cambridge where they have every opportunity to develop independence of thought. Among other things, this means they go to such lectures as they think fit and this

explains my satisfaction with the outcome of my three lectures at the close of term. With an audience including Professors R. A. Peters, Liddell and C. G. Douglas, as well as Dr. H. M. Sinclair and Sir Robert McCarrison, I did not primarily aim at interesting the students. But even the last lecture was well attended though I had been warned that students rarely attend more than the first of a special series.

Now to prepare lectures for Edinburgh, Aberdeen and Glasgow next month. These are to be formal affairs - the Edinburgh one is the Macarthur Memorial (not the General) - and in alternate lectures I shall talk on the gross composition of the body and on cholesterol, lipoproteins and atherosclerosis. Neither of these subjects has had much attention here except for Professor R. A. McCance at Cambridge who is working on body composition. McCance has a very big name here but I think he is behind us at Minnesota on the subject of the composition of the body and its physiological significance. Anyway, Dr. Brozek and I had better get busy and publish more of our own findings if we are to keep ahead of a field that is rapidly creating interest.

In the meantime, the children are home for the Christmas holidays of four weeks and there is a problem to keep them busy and out of my way at work. Until now I have been working mostly at home but I may have to abandon these small quarters for a more dismal spot in a frigid laboratory. The children, incidentally, thrive exceedingly. So far they have picked up fewer British mannerisms of speech than of deportment - they are so polite I inquire anxiously about their health. Caroline, aged eleven, is making some progress with French so she readily becomes a foil for her mother's efforts to turn her own twenty-year-old recollections of the language into something that will carry us through France. At nine (last month) Henry is just starting Latin without visible success or pleasure. I ought to get busy too as there seems to be some ill-founded expectation that I will come up with the right answers as needed in German, Spanish, Italian and the Scandinavian languages. The great disillusionment will begin when we set off to work in Italy in February.

We propose to drive in our new Hillman, a prospect which would be more inviting if there were no such problems as customs, permits, currency and language. The latter one could cope with, but the complications man has created for himself, through his governments, passeth understanding. And when it comes to complications, our own government is right up there competing for top honors, we must admit. Taxes and customs duties are bad enough in themselves but why do they have to involve such endless rigamarole?

This letter wasn't meant to end on a note of ill humor and we must forthwith cease talk of governments and think of the holidays at hand and all the good wishes for the New Year I send to you and our friends at home.

Sincerely yours,





This is the fifth in a series of letters to Dr. J. A. Myers and the readers of the JOURNAL-LANCET from Dr. Ancel Keys, director of the laboratory of physiological hygiene at the University of Minnesota, during a year of study and travel abroad. Other letters will follow in subsequent issues.

Notes from a Medical Journey

12 February 1952, Naples, Italy

Dear Jay:

This letter was started in Aberdeen and I tried to finish it in Rheims but, as you see, here we are in Naples and the letter is still not done. At the moment, I am typing this in the laboratory which the Istituto di Fisiologia has prepared for our use; Margaret is running some trials of the cholesterol method a few feet away and there are three Italian doctors leaning over her shoulder to see the procedure. Tomorrow we are to have our first Italian subjects, so there is much work to make sure all is ready for them.

In the past three weeks we have covered a lot of ground. It all began on the 23rd of January when I gave a lecture at Oxford and then dashed off to London for a few conferences before leaving for Scotland. Our Scottish friends arranged to make us feel at home by treating us to Minnesota weather; when we stepped off the Flying Scotsman at Edinburgh in the morning it seemed like a January blizzard at home. And the next day the local newspapers made much of the fact that we were experiencing the coldest weather since 1872 -- thirty degrees of frost. It did seem a bit chilly sitting on the train first to Stirling and then to Aberdeen, with no heat at all. For this there were offered several explanations. Why bother about heat for the run to Stirling of only an hour and a half? And from Stirling to Aberdeen (four hours) we traveled on Sunday when it is not customary to provide heat in the Scottish trains, we are told. Finally, I don't think there was much choice about the provision of heat because the steam pipes were frozen.

In Edinburgh, Dr. A. P. Meicklejohn kept us warm by rushing us about at a tremendous pace with refreshments at every pause; Margaret counted eight occasions for coffee, tea, cakes, etc., on the way to my first afternoon lecture. At Stirling, Dr. Magnus Pyke whisked us off to spend the night at his home and at Aberdeen, Professor and Mrs. Dugald Baird met us at the station with an honest-to-goodness warm car. We stayed in Dr. Isabella Leitch's home in Aberdeen where the profusion of coal fires, electric heaters and hot water bottles (four of the latter) made us forget the chill we had accumulated in Oxford and on the trip. By the time we got to Glasgow, Professor R. C. Garry's beds with "stane piggies," plus hot water bottles, were almost too warm for our thick blood.

In the meantime, I delivered the Macarthur Postgraduate lecture for the Edinburgh Medical faculty (on cholesterol and coronary disease) and another for the School of Public Health (on the Minnesota Experiment). At Aberdeen and at Glasgow I lectured on different aspects of the composition of the body and managed to use one of the latter lectures for a repeat performance at Strasbourg a few days later. I am glad I have no lectures scheduled for here in Italy.

Anyway, we are having a grand time, even though impressions of people and places are blurred by the speed of transit. Edinburgh's Castle and other external glories were but dimly visible through the snow and I could not really sort out all the people whom "Peter" Meicklejohn arranged for us to see. Edinburgh is a big school, with two hundred medical students in a class, a twelve-hundred bed teaching hospital, and a great air of activity about. Every second person is writing a book -- Professor Stanley Davidson and colleagues in the department of medicine have four books in preparation, one being a new general textbook of medicine.

At Edinburgh several of the departments are engaged in active programs of research on coronary disease. And there, as in the United States, they find that their coronary patients are differentiated from the clinically healthy controls by a distinct tendency towards elevated levels of cholesterol in the serum.

At Aberdeen the stay with Dr. Leitch provided opportunities for good talk. Before her long association with Lord Boyd Orr, Dr. Leitch worked for several years in Copenhagen and we had a fine time exchanging reminiscences of August Krogh who will always be, for both of us, the Professor. She saw the beginnings (1915-1919) of Krogh's great work on the capillaries and I saw its tag ends (1930-1931). At Aberdeen I was impressed by the work of Professor Dugald Baird, Dr. Angus Thompson, and their associates on the problems of pregnancy, childbirth, and infant health. To my way of thinking, this is an outstanding example of research in what I call physiological hygiene; using the resources, in this case, of the obstetrician, the physiologist, the public health worker and other specialists in a joint effort -- which is a lot more than mere cooperation -- to discover the factors and their interplay in the health problems of pregnancy and its fruit. Anyway, Aberdeen, which seems rather remote, is showing the way in several fields of research.

We were sorry to have only a night and less than one day in Glasgow, particularly as Professor Garry's department of physiology is one of the few places in Britain where physiological experiments on man are actively prosecuted; Cathcart's influence is still evident. But we had to hurry on back to Oxford to get our car and start on the southern trip which brought us to Naples. After a hectic eighteen hours in Oxford we were packed and racing for the night auto ferry from Dover to Dunkerque.

The wide, straight roads of France were a relief after the winding lanes of England, but we could not make very good time because all of that part of the world was blanketed in snow; anyway, the little Hillman is not built to cruise at seventy miles an hour. Still, the sun came out to show us

the Cathedral at Reims, and a magnificent dinner, with a bottle of champagne "nature" (Blanc de Blanc, Cramant, not sparkling and very dry) eased the strain of driving on icy roads. And so on to Strasbourg where my former student, Dr. Bernard Metz, had arranged a lecture and an endless series of elegant meals -- of which we ate too much, to the detriment of our digestive apparatus. The Alsations are a happy blend of German and French in customs but, politically, they have no use for Germany; for that matter, they seem to feel a little distant about the France of Paris.

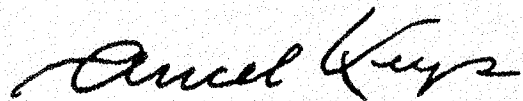
The Medical School of the University of Strasbourg continues to be outstanding, as it has for many years, and it was exciting to visit department after department and find the staff keen and the facilities good, with the unifying spirit of research pervading the whole place. Dr. Metz is doing nice work on diurnal rhythms in man and there is every prospect that he and his colleagues will develop an outstanding center for human (sic!) physiology. In the department of medicine I was most interested to see excellent studies in progress on cirrhosis of the liver. Among the reasons for my delight was the fact they have been able to show that the old simple Starling theory of edema formation does not explain the edema of cirrhosis any more than it does that of starvation. On this score, no one quarrels with me any more, though it was only about five years ago that most of my colleagues were either scornful or downright disbelieving when I challenged the theory on the basis of our findings in the starvation studies.

Reluctantly, we had to leave Strasbourg in another snowstorm and head for the Alps with much misgiving. It was a tough drive until we crossed over to the Swiss side where snow clearance is as well organized as in Minnesota. Even so, we were glad to roll the Hillman onto a flat car for the trip by rail through the Simplon tunnel into Italy. At the border I was worried about getting in with the apparatus -- including an Evelyn photoelectric colorimeter -- but after an hour's palaver and inspection of the whole briefcase of documents, letters, affidavits, bonds, and "Carnet" I had to support my plea, they let us go Scot-free and off we went roaring through the countryside with the horn in constant action, all in the best Italian manner. With some persuasion, the Hillman got up to seventy and then a succession of Italian cars screamed by as though we were backing up.

So here we are, more than a little bewildered and tired. The arrangements seem excellent and I hope to report our progress in my next letter. Vesuvius and the Sorrento peninsula are white with snow but the Bay sparkles and this crowded city is bathed in warm Italian sunshine.

With all best wishes,

As ever,





This is the sixth in a series of letters to Dr. J. A. Myers and the readers of the JOURNAL-LANCET from Dr. Ancel Keys, director of the laboratory of physiological hygiene at the University of Minnesota, during a year of study and travel abroad. Other letters will follow in subsequent issues.

Notes from a Medical Journey

26 February 1952, Naples, Italy

Dear Jay:

Naples is a far cry from Minneapolis - or Oxford, for that matter. Like much of Italy, the steep mountains come tumbling down to the sea, with the slopes covered either with tightly packed buildings or elaborately terraced to use every foot for cultivation of olives, grapes, lemons and oranges, with vegetables planted between and under the trees. In the towns the sea edge is fringed with palms and the blue (really blue) Mediterranean makes a lovely foil for the pink, yellow, and white houses. The narrow streets teem with people through which automobiles miraculously find a way only to be blocked by wagons, donkeys, and pushcarts. The autos honk, the donkeys bray, people shout and sing and all is good-humored confusion.

I wish we could sit in the sun or go strolling along the water front, but mostly we are hard at work - we start before nine in the mornings and we rarely stop before seven-thirty in the evening. In the laboratory we find it chilly at this time of the year; the marble walls and tiled floors make it feel colder than the 55 to 59 degrees, Fahrenheit, which is the indoor temperature range we have recorded in our two weeks here. We shall probably collapse from the heat when we return to the hot-house atmosphere of the University of Minnesota.

The work here goes very well. So far we have studied sixty men between the ages of 25 and 55 and by the time we leave next week we hope to have extended the age range and to have completed the work on about 95 men in all. Half of the men are firemen and the others are "vigili anonari" - municipal employees who act as auxiliary policemen, watchmen, and the like. All of these men are ill paid and subsist on a very simple diet, mostly bread, spaghetti and vegetables. Fats, almost wholly vegetable in origin, provide some 20 per cent of the total calories in contrast with the 30 to 40 per cent in Minnesota and England. Meat or fish gets on the table once or twice a week and only the well-to-do have butter or cream. The average weekly intake of our men includes about a pint of milk, one egg, and two or three ounces of skim-milk cheese. All of this makes a diet below the low-fat, low-cholesterol diets now popularly prescribed at home. What generations of such subsistence does to the serum cholesterol level is our immediate problem and soon we hope to have a pretty fair answer.

We are getting splendid cooperation. Doctors Flaminio Fidanza and Vincenzo Scardi, of the Biochemical Institute, are at work with us day and night and several other young doctors fetch and carry and help wash the glassware - of which we use astonishing amounts in the blood analyses. The subjects come to the laboratory after they have had a general clinical examination in the Naples Department of Health. Here we make the anthropometric measurements, draw blood, check the diet histories and give a "once-over-lightly" check-up, including six leads of the electrocardiogram. The men are good-natured and anxious to oblige, including trying to understand my rudimentary Italian which I constantly mix up with Spanish.

The University of Naples is rather like the University of Minnesota in that it is the academic center for a large area and has close to 25,000 students. The Medical School is the largest single faculty and has over 2,000 students enrolled. Fees are low and the general idea is that anybody who is not impossibly stupid and insists on enrolling manages to get in. Perhaps the worst feature is the custom of allowing students to repeat examinations year after year until, eventually, even the poor students slip through. Of course, all this is bad for the good students and one result is that there is a large number of medical graduates who do not practice medicine because they cannot make a living at a profession for which they have neither talent nor abiding interest.

Shortly after arrival here I came down with a severe, but short-lived, case of influenza and Margaret followed in my unhappy footsteps a few days later. One recompense for the aches and malaise was the opportunity afforded to get acquainted with Dr. Marotta, Professor of Clinical Medicine, who was most kind and attentive and seems to be an excellent physician. He, like all his colleagues in the Medical School, has a big practice and works very hard to keep abreast of the needs of both students and patients. In spite of the low salaries, competition for the professorships is very keen here, partly because of the prestige and the usual academic values, partly because the professors are at the top of the consulting ladder and command commensurate fees. The junior academic people are still more overworked and grossly underpaid. An assistant professor on the full-time staff gets less than 100 dollars a month - and life in Naples is not cheap. In the markets and in the restaurants food here runs about two-thirds as much as at home, with the exceptions of bread, vegetables and wine which are less than half what they are at home. Clothes and all manufactured goods are just as costly as with us and some things - cigarettes and gasoline - cost twice what they do in the States. So life is not easy except for the rich who worry, as at home, about keeping up with each other and making over last year's mink coats for the new season.

All thoughtful people here are agreed that Italy is too poor in natural resources to support a population now crowding on fifty millions, but what is to be done? There is very little more that can be done to increase the agricultural production and there are no minerals or natural fuels to be developed. Much has been done to develop hydroelectric power and now practically all the railroads are electrified and use no coal or

oil. These were the reasons why, in the days of Mussolini, the population eagerly turned to the dream of a great African empire. Anyway, the scenery is grand and the people are as gay and friendly as may be; poverty never seems as bad in a climate and an atmosphere like this as it would be in the grimmer north.

Letters from home tell us that Doctors Taylor, Brozek, Simonson and Joseph Anderson are doing a good job of running the program under the Stadium, that Gaylord Anderson is busy running the American Public Health Association, and that Dean Diehl has hopes the Mayo Memorial will be built some day. Our small Martha blooms in California and the other children are having a fine time in Oxford. If it were not for the imminent deadline for income tax we should be very content.

With all the best to you and our friends at home,

As ever,



Meet Our Contributors . . .

HOWARD A. ANDERSON was graduated from the University of Minnesota medical school in 1947, after which he held a fellowship in internal medicine at the Mayo Foundation. He is now associated with the division of medicine at Mayo Clinic in Rochester.

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ROBERT J. ANDERSON is a graduate of the University of Minnesota medical school, holds an M.S. in public health from Columbia University, and has been a commissioned officer of the U. S. Public Health Service since 1940. He is medical director and chief of the division of chronic diseases and tuberculosis of the Public Health Service.

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ROBERT M. FAWCETT was graduated from the University of Pennsylvania medical school in 1940, practices internal medicine at Devil's Lake, North Dakota.

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SYDNEY JACOBS was graduated from Tulane University school of medicine in 1930, where he is now assistant clinical professor of medicine.

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MICHAEL F. KOSZALKA was graduated from Georgetown University school of medicine in 1938, is an internist and chief of the medical service at the V. A. hospital, Fargo, North Dakota.

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JULIUS B. NOVAK was graduated from the University of Illinois college of medicine in 1926, now specializes in chest diseases. He is associate professor of medicine at Chicago medical school, medical director of the Tuberculosis Institute of Chicago and Cook County, and attending physician at University hospital.

WILLIAM T. PALCHANIS was graduated from Jefferson medical college in 1916, is now with the college health service at Ohio State university.

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FORREST W. PITTS was graduated from the medical college of Virginia in 1947, specializes in internal medicine and chest diseases at Fitzsimmons Army hospital, Denver, where he is associated with the tuberculosis division of the medical service.

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WALTER J. PUDERBACH was graduated from Long Island college of medicine in 1931, specializes in surgery at Brooklyn, New York where he is on the staffs of Kings County and Lutheran and Swedish hospitals.

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CARL W. TEMPEL was graduated from St. Louis university medical school in 1929, is chief of the medical service at Fitzsimmons Army hospital, Denver, specializing in internal medicine and chest diseases. He is a consultant in tuberculosis to the Surgeon General.

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HARRY A. WILMER was graduated from the University of Minnesota medical school in 1941, did graduate work at Johns Hopkins university and the Mayo Foundation, now specializes in psychiatry in California. He is instructor in neuropsychiatry at Stanford university, and is on the staffs of Palo Alto, Sequoia, San Mateo Community and Stanford hospitals.



This is the seventh in a series of letters to Dr. J. A. Myers and the readers of the JOURNAL-LANCET from Dr. Auerl Keys, director of the laboratory of physiological hygiene at the University of Minnesota, during a year of study and travel abroad. Other letters will follow in subsequent issues.

Notes from a Medical Journey

28 March 1952, Oxford, England

Dear Jay:

Full spring was just coming on when we headed north from Naples two weeks ago but here it seems as chilly as it did in January, in spite of blossoms coming out and the daffodils thick in woods and gardens. The wintry feeling, I suppose, means only that we lost our tolerance for cold in Italy. Probably an aftermath of the 'flu which hung on and on, with all the tiresome sequence of bronchitis, sinusitis and plain malaise which sometimes follows. Now we are in reasonable shape but there seems to be a lot of 'flu in Europe and it is a rather mean type; I have even heard of a few deaths in a couple of days -- unpleasantly reminiscent of 1918.

We had a very successful month in Italy in spite of the 'flu and the fact we had the spare tire and our kit of auto parts stolen from the Hillman. Our Neapolitan friends, and the crowd that gathered when the theft was discovered were more indignant than we and there was quite an uproar. The general idea seemed to be that the honor of Naples -- and that of Italy in general -- had been besmirched; there were even remarks that such things did not happen in Mussolini's time but now everything was going to the dogs.

Anyway, the final score for Naples was an unforgettable memory of blue skies and sea, rugged mountains and throngs of people everywhere. And 87 clinically healthy men studied, nicely covering the age range from 20 to 55 years. This meant some 200 serum cholesterol analyses besides the other tests and measurements. The cholesterol work was technically good but the absolute values will not be known for certain until I get the checks on our standards sent by air mail to the Stadium for comparison with our Minnesota standards. Perhaps the main accomplishment will prove to be the arrangements we made for continued collaboration between Naples and Minneapolis -- if we can get a little financial help.

Speaking of money, I feel sorry for our Italian colleagues and, for that matter our academic colleagues in many parts of Europe. Salaries have woefully failed to keep pace with inflation and some other sources of income have dried up. In the old days an important addition to the professor's income in Italy came from the fees for student examinations. At 15 lire per student, and the lire worth some 19 cents, the result was

something; with the lire now worth 1/6th of a cent and the fee still 15 lire, it is a different story. Twenty of these oral examinations of half an hour or more each will buy a package of good (but not the best) cigarettes or, to be more frugal, a couple of loaves of bread and a bit of cheese. In Naples I found not a single faculty member who lived -- or could live -- on his salary. But the universities keep on growing in numbers of students if not in finance. Last year the enrollment at Naples was 31,178, the majority being in the professional faculties -- 4,622 in medicine (six years, including some of what we call pre-medical work), and 7,180 in the law school.

On the way back from Naples we stopped for a while in Paris, long enough to see that the university problem of too many students and too little money is almost as bad there as in Italy. Teaching in clinical medicine in Paris attracts able men because, as in other regions, the prestige of a professorship carries various rewards, including big private fees. But the pre-clinical subjects, and all research, have a rough time. The national laboratories and institutes have better support but they involve few workers. It is all too bad because there are many Frenchmen who, with their analytical minds and fertile imaginations, could make first-rate contributions to the advance of knowledge if they had the time and facilities for systematic work. As one discerning Swede said to me, the French medical journals are full of bright ideas and no facts -- while in the States the reverse may be true. Or, as a Dutch friend said, the typical French paper attempts to develop significant ideas from statistically insignificant data and the American counterpart is occupied with showing statistical significance where there is only biological triviality. Nevertheless, it is generally agreed over here that American research is leading the world in a number of fields, including biochemistry, applied pharmacology, some branches of psychology and, probably, clinical physiology.

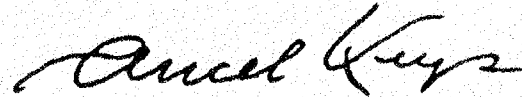
Here in Oxford all types of research and scholarship are represented, though there is some reluctance to admit that medical scientists are true scholars. But Dons, students and townsmen alike are currently united in several interests: the outcome of the Oxford-Cambridge boat race (Saturday), the new National Budget, and the contest between Taft and Eisenhower for the Presidency. Minnesota's performance in the Republican primary, I find, has made a lot of people rush to their atlases to find out where Minnesota is; I even detect a new interest when I am introduced as the professor from Minnesota.

As for me, I have two lectures coming up in London and another in Belfast before we set off, on May second, for another go at field research, this time in Madrid. The children are home today for the Easter vacation from their schools and they are busy challenging one another -- and their parents -- with newly learned Latin and French words, interspersed with long tales of hockey matches and dramatic competitions. This does not help me in my efforts to find out about the adjudication of increased funds for the payment of doctors in the general panels. I gather that this last means there will be some tidy payments going out to the general practitioners who have been howling about unfair treatment. I shall learn more tomorrow at the meeting of the Physiological Society. Incidentally, most

of the professional societies meet once a month here, except in summer, so people get to know one another pretty well. And I, being interested in several fields, could spend all my time at meetings if I did not watch out.

With all the best to our friends in the area reached by The Journal-Lancet,

As ever,



Meet Our Contributors . . .

SPENCER F. BROWN was graduated from the University of Minnesota in 1946, took advanced training in pediatrics at Johns Hopkins and Minnesota, is now instructor in pediatrics at the latter school. He is chief of pediatrics at Minneapolis General hospital and Elizabeth Kenny Institute; consultant in speech pathology, Minneapolis Veterans hospital.

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ANGUS L. CAMERON was graduated from Rush Medical college in 1916, has practiced surgery at the Northwest Clinic, Minot, North Dakota for 27 years. He is a consultant in general surgery at the North Dakota State Tuberculosis sanatorium and the Veterans Administration hospital in Minot. He serves as first vice president of the Western Surgical Association.

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HAROLD W. DARGEON was graduated from Albany Medical college in 1922, practices as a pediatrician in New York City, is attending pediatrician at St. Luke's hospital. He has taught pediatrics at Columbia and Cornell University medical colleges.

★
RUDOLF ENCEL received medical degrees from the University of Bonn and from the University of Minnesota, is now medical director of the Minnesota Home and School for Epileptics at Cambridge, Minnesota. He holds membership in the American Branch of the International League Against Epilepsy, the Northwest Pediatric Society, and the Association of Electroencephalographers.

★
FRANZ HALBERG was graduated from the University of Klausenburg in 1943, took graduate work at Harvard, is now on the staff of the department of physiology of the University of Minnesota, and serves as consultant to the Cambridge State School and Hospital.

★
WARREN LOWELL MACAULAY was graduated from the University of Minnesota medical school in 1942, serves on the staff of Fargo Clinic, St. Luke's and St. John's hospitals in Fargo, North Dakota, where he specializes in dermatology.

★
ROBERT C. LAM is a graduate of Peiping Union Medical College in 1949, took surgical residencies at Asbury hospital in Minneapolis and St. Mary's hospital, Grand Rapids, Michigan, is chief of surgery and medical officer in charge of the Pine Ridge Hospital at Pine Ridge, South Dakota.

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★
BERNARD A. MAZER is a graduate of the University of Buffalo medical school, specializes in pediatrics at the Dakota Clinic, Fargo, North Dakota. He is a fellow of the American Academy of Pediatrics, a member of the Northwest Pediatric Society and president of the North Dakota Pediatric Society. He is on the staff of St. John's and St. Luke's hospitals at Fargo.

★
JAMES W. MCGILL was graduated from the medical school of St. Louis University in 1925, specializes in obstetrics and gynecology in Superior, Wisconsin where he is chief of staff at St. Francis hospital and chief of obstetrics department at St. Mary's hospital. He holds memberships in the American College of Surgeons, Wisconsin Surgical Society, and several specialist groups.

★
IRVINE McQUANNE was graduated from Johns Hopkins medical school, now heads the department of pediatrics at the University of Minnesota. He is a member of the American Pediatrics Society, American Academy of Pediatrics, Northwestern Pediatrics Society, American Society for Clinical Investigation, and others.

★
DAVID A. SHER, a graduate of the University of Minnesota medical school, specializes in pediatrics, is associated with the Lenox-Peterson Clinic in Virginia, Minnesota, and serves as chief of the pediatric service at the Virginia Municipal hospital. He is an associate member of the Northwest Pediatric Society.

★
ROBERT BRUCE TENOR, a graduate of the University of Minnesota medical school in 1938, specializes in pediatrics in Bismarck, North Dakota, where he practices at the Quain and Ramstad Clinic, and serves on the staffs of the Bismarck and St. Alexis hospitals. He is a member of state and national medical associations, North Dakota Diabetes Society, North Dakota Pediatric Society and Northwest Pediatric Society.

★
MILDRED R. ZIEGLER received her Ph.D. from Yale in 1923, specializes in biochemistry, serves as assistant professor of pediatrics at the University of Minnesota. She is a member of the Northwest Pediatric Society and Society for Experimental Biology and Medicine. She is the recipient of several research awards, and is the author of numerous scientific papers.



This is the eighth in a series of letters to Dr. J. A. Myers and the readers of the JOURNAL-LANCET from Dr. Ansel Keys, director of the laboratory of physiological hygiene at the University of Minnesota, during a year of study and travel abroad. Other letters will follow in subsequent issues.

Notes from a Medical Journey

27 April 1952, Shrewsbury, Salop

Dear Jay:

Here in Shrewsbury we are stopping overnight at the Lion Hotel where Disraeli stayed at election time in June, 1841; where Jenny Lind sang in the ballroom on several visits; and where King William IV, Paganini, and Charles Dickens stopped, fiddled, and wrote, respectively, in times past. In the hall there is mounted a piece of a fourteenth-century tomb found in a seventeenth-century chimney recently pulled down, but all this is recent stuff compared with the twelfth-century nave of Hereford Cathedral which we visited briefly a couple of hours ago. We have a growing sense of satisfaction in the continuity of history on every hand here; the ancient farmhouse and the historic abbey alike contribute to a feeling that our culture is not so ephemeral after all, in spite of wars, Russians, and even atom bombs.

We are driving up to Liverpool from whence we embark for Belfast where, on Tuesday, I am to lecture at the Medical School. Tomorrow we have time to divert through North Wales and perhaps to seek out Coed-y-Foel. It was from there that one of Margaret's ancestors, Edward Ffoulke, set out for America one hundred and sixty years ago, slightly encumbered with a wife and nine children. After the Belfast lecture we must dash back to Oxford to change bags and pile the Hillman high with apparatus for our work in Madrid. Friday I give the Holme Lecture at University College, London, and that night, if we successfully break all traffic laws, we should be on the Southampton-Le Havre car ferry en route to Spain.

For the past month spring, in all its English beauty and atmospheric delight, has tempted and beckoned. Alas! I have withstood these soft blandishments; the nose has been firmly pressed to the grindstone of laboratory, library, and typewriter. How stupid are researchers, always setting out on self-imposed schedules far more onerous than would be accepted under dictation from others! But it has been fun seeing the Naples' results emerge from calculation and it was pleasant, on April 9th, to have my Burlington House (London) lecture over-praised. The real sweat was caused by the task of making a study of the blood cholesterol in 48 middle-aged men at Slough (near London). I had given up hope of getting a sample of middle-aged Englishmen when the Ministry of Health and the Industrial Health Clinic of Slough finally decided to get busy. So I burned up the road running back and forth between Oxford and Slough and of nights Margaret and I labored until the small hours until all was done -- in duplicate, with a dozen dried extracts sent by air to Minneapolis for

checks. Fortunately, the Ministry provided a careful dietary study or we should have been in a proper mess with the Madrid work coming up.

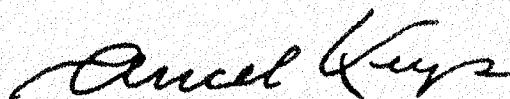
In spite of rationing, the English diet contains almost as much fat as our Minnesota average, so it is a great contrast to Naples where the percentage of calories supplied by fats is far lower. The Naples diet assumes great interest in view of our serum cholesterol findings there. The essential point of the latter is that the age trend is very different from that in Minnesota. At home -- and apparently the same is true of other parts of the United States -- we found the average serum cholesterol level in clinically healthy men rises steadily from age 18 to the mid-fifties, the yearly increase being about 2.2 mg. per 100 ml. of serum. In our Naples subjects we found much the same from age 18 to the early thirties but thereafter there was no further change, at least into the fifties, which was as far as our age range extended. In this respect, at least, the Neapolitans do not "age" like the Minnesotans. May we connect this fact with the unanimous opinion of the Neapolitan physicians that, except in rich people, they rarely see coronary disease? Well, Madrid should provide more evidence on these problems and I hope we can find means of continuing the work in southern Italy.

Interest in coronary disease and possible etiological factors is mounting here in Britain. I suspect the recently issued vital statistics have more to do with this than my lectures and perhaps more personal considerations are most influential among the doctors. There is a lot of talk about the recent paper in the British Medical Journal, by Dr. J. N. Morris and associates, showing the very high mortality from coronary disease in doctors. The most startling feature of this admirable study is the finding that general practitioners are considerably more susceptible than specialists. We had dinner with the Morrises the other night and debated this long and hard. There are two intriguing possibilities for explanation and each is good for a heated argument in any medical gathering: Perhaps GPs work a lot harder than specialists -- this is proclaimed by the GPs and admitted by all but the die-hard consultants. Or perhaps GPs eat more and fatter food -- and here the specialists nod sagely!

I wish I had time to calculate the results from Slough, but this will have to wait for after hours in Madrid. We already know that young men in London are, in regard to serum cholesterol, much the same as men of the same ages in Minnesota; the recent data of Dr. J. Tanner show a yearly rise of about 1.9 mg. of cholesterol per 100 ml. of serum from age 18 through 30.

Well, there are heaps of things to do, as you can see, but the main job right now is to get to bed and try to repair some accumulated fatigue. I should write to all our friends at home but I hope you will give them my greetings. Congratulations for important new jobs go to Dick Ebert, George Aagaard and Charlie May, but I am sorry that George and Charley are leaving Minneapolis.

As ever,





This is the ninth in a series of letters to Dr. J. A. Myers and the readers of the JOURNAL LANCET from Dr. Ansel Keys, director of the laboratory of physiological hygiene at the University of Minnesota, during a year of study and travel abroad. Other letters will follow in subsequent issues.

Notes from a Medical Journey

16 May 1952

Instituto de Investigaciones Medicas, Facultad de Medicina
Ciudad Universitaria, Madrid, Spain

Dear Jay:

What a contrast between Spain and England -- and between laboratories in Madrid and in Oxford! Spain is angular and sunny while England is gentle and moist. Here in the "University City" all is new since the Spanish Civil War and many of the handsome buildings are not yet finished. In the Institute of Medical Research, where we are, the big tile-walled laboratories are well fitted with modern benches and cupboards and all is spotless. The windows look out on the sun-drenched plain and the Guadarama Mountains, still snow-capped in May, and there is a pervading sense of space and even emptiness. In Oxford the laboratories, inside and out, are mostly a jumble of antiquity with random additions of all ages, and every bench and corner is crowded with a litter of past and current research and, I must report, a great deal of dirt. Madrid could use many more researchers and Oxford could stand a lot of laboratory reorganization and housecleaning.

Madrid has tripled its population (now over 1,600,000) in the last 50 years but the city is laid out on a grand scale. There are many streets wider than Michigan Boulevard in Chicago and most of the side streets are as wide as the main thoroughfares in the Twin Cities. But in Oxford, as in all England, the narrow streets twist and wind about to the despair of drivers in a hurry who, nevertheless, scrupulously observe every injunction of traffic signs and police. In Madrid there seem to be more traffic cops and other police than automobiles but everyone drives all over the streets without signalling, U-turns are standard, and the cops blow whistles which are mostly ignored. Fortunately, there are really very few cars and therefore traffic jams are rare. We have our subjects in the workers' quarter of Vallejas, some eight miles from the lab through the heart of Madrid but I make it in twenty-minutes with a few drops of cold sweat.

We have been here only nine days but we are quite well settled and today we have the third lot of blood samples on hand. Our home is in the Residency of the "Consejo Superior de Investigaciones Cientificas (High Council of Scientific Research)" which has space for some eighty visitors who get full board and room and excellent service for about half what a

hotel would charge. We have a suite with a nice study, a big bedroom and bath, and our balcony looks out over the city and the distant countryside sharply etched in the clear air. Since I must do quite a bit of writing, it is good to have a pleasant place to work in quiet.

As elsewhere, including the United States, there is some problem in getting clinically healthy subjects, especially in the age range of 30 to 60 which interests me most. But the Institute has lined up 100 families on whom full dietary data are being obtained by a team of visiting nurses and dietitians. Only when we know the dietary data are at hand do we call the families in to the local city clinic for examinations and blood sampling. Like most people elsewhere, at first there was some hesitation about venipunctures but I hope that word is getting around that these are neither painful or dangerous. Once the subjects get in the clinic they are friendly and cooperative. These are poor people but they have the traditional dignity and courtesy of the Spaniard. To get another side of the picture we shall study a series of medical students and members of the University staff.

The diet of the common people here is pretty plain -- bread and potatoes, with very small amounts of fish, meat, vegetables and fruits. Butter, eggs, and cheese are real luxuries and the milk supply is small and not very good. But there are few signs of "specific nutritional deficiencies," about which I have more and more doubt anyway. The only real troubles we can spot are inadequacies of calories and, in the children, of calcium.

Since we eat almost all of our meals in the Residency -- less than ten minutes from the University by automobile -- our own diet is presumably representative of that of the middle-class and professional people in general. We find it quite good but not very interesting. I suppose it is some kind of a tribute that neither of us has, as yet, had an attack of the traveler's disease -- dysentery; I have experienced the latter in Chile, Panama, Mexico, France and Italy. But there is plenty of dysentery in Spain and the mortality attributed, in the vital statistics, to "enteritis and dysentery" shows that there is a real public health problem involved, particularly in the more southern regions.

Madrid seems to be booming at present, reflecting the improving state of affairs in the country as a whole. Last year the crops were the best of the century and so far this year promises equally well. Fine new buildings are in construction in all parts of the city -- great blocks of flats, hotels and government buildings of great size and handsome proportions. The throngs of people on the streets are decently dressed, except in the poorest quarters, and they all seem cheerful. There is political quiet, though the diverse philosophies of the Church, the Falange and the Liberals are by no means reconciled. Of course the land is under a strict dictatorship and one of the most disturbing sights is the ubiquitous presence of soldiers and police wherever one looks. It is like pre-war Germany and Italy in this respect.

Last Sunday we went to the bull ring to find our seats with difficulty in the 28,000-capacity crowd. Franco and entourage appeared in the royal box with much fanfare and applause but no wild enthusiasm. The

bulls were magnificent, and the toreadors brave and often amazingly skillful and graceful in the ritualistic contest, and the whole should have made a satisfactory afternoon. However, we came away with a rather bad taste in the mouth, unlike my recollection of bull fights in Mexico many years ago. The final kills were overly slow with most of the six bulls and we were annoyed by the incessant chatter of some obviously rich and very vulgar people behind us. Or, perhaps it is merely that age, as in some other respects, robs us of enthusiasm for some things that appeal to our younger years. I am reminded of my decreasing enjoyment of scientific and medical congresses. Twenty years ago a congress was apt to be the high point of the year; now I go out of my way to avoid a congress if possible. Next week there will be, here in Madrid, the Congress of the International Surgical Society but I doubt that I shall attend any of the sessions.

Anyway, we are very fit and young in heart. Or maybe I should say "spirit," since I am only too aware that I cannot testify to the state of our coronaries. If there were some means of determining the latter my research would be vastly easier. The weak point in all my current work is my inability to guarantee that my "clinically healthy" subjects are actually free from any major development of atherosclerosis. All of us who are working on the problem of coronary disease are in the same boat at present.

As ever,

Armed Keys

Meet Our Contributors . . .

HOWARD A. ANDERSON was graduated from the University of Minnesota, specializes in internal medicine at the Mayo Clinic, Rochester, Minnesota.

CLARENCE V. BATEMAN, a graduate of Northwestern University in 1925, practices at Wahpeton, North Dakota, serves on the staff of St. Francis Hospital, Breckenridge.

MELVIN E. BELTZ was graduated from the College of Medical Evangelists, practices in Wahpeton, North Dakota, serves on the staffs of St. Francis Hospital in Breckenridge and St. Mary's Hospital in Wahpeton.

ORONDES J. BIZZONTO was graduated from the University of Vermont in 1927, specializes in internal medicine in Waterbury, Connecticut.

OSWEE JULIAN HARRIS was graduated from Tufts College medical school in 1940, is assistant physician at the Boston Dispensary and dermatologist at Boston Regional office of the Veterans Administration.

LOUIS NELSON KATZ was graduated from Western Reserve University in 1921, is director of the cardiovascular department, Michael Reese Hospital, Chicago.

ROBERT W. KOURSKY was graduated from the University of Buffalo medical school, class of 1929, serves as pathologist with Fairview Hospital, Minneapolis.

ARNOLD J. KRAMER was graduated from the University of Minnesota in 1938, is associate professor of surgery at the University of Minnesota Hospitals.

RAYMOND S. MARLIN, JR., M.D., was graduated from Vanderbilt Medical school in 1945, specializes in surgery at Jackson, Mississippi.

OSCAR F. NOEL was graduated from Vanderbilt medical school in 1942, practices surgery in Nashville and teaches at Vanderbilt.

RUTH PICK was graduated from German University medical school in Prague, is now a research associate, cardiovascular department, Michael Reese Hospital, Chicago.

SIMON ROBBARD was graduated from the University of Illinois, 1951, is assistant director, cardiovascular department, Michael Reese Hospital, Chicago.

JEREMIAH STAMLER was graduated from the Long Island College of Medicine in 1943, is a research associate, cardiovascular department, Michael Reese Hospital, Chicago.

FRANCIS M. THURMON was graduated from Harvard University in 1926, serves as physician in chief of the clinic of dermatology of the Boston Dispensary.

E. R. WASEMULLER was graduated from the College of Medical Evangelists in 1945, practices at Wahpeton, where he is on the staff of St. Mary's hospital.

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This is the tenth in a series of letters to Dr. J. A. Myers and the readers of the JOURNAL-LANCET from Dr. Ansel Keys, director of the laboratory of physiological hygiene at the University of Minnesota, during a year of study and travel abroad. Other letters will follow in subsequent issues.

Notes from a Medical Journey

20 June 1952

Instituto de Investigaciones Medicas, Facultad de Medicina
Ciudad Universitaria, Madrid, Espana

Dear Jay:

The past month has gone in the unaccountable way of time in a busy and agreeable life. Mondays, Wednesdays and Fridays with subjects at the Municipal Clinic of Vallecas (a poor district of Madrid), getting back to the Institute of Medical Research at nine p.m. to separate serum and get ready for the analytical work of Tuesdays, Thursdays and Saturdays. And most of the evenings -- if you can call it that after sitting down to supper at ten p.m. or later -- are devoted to calculation or writing. We have learned to be reasonably fast at complex statistical analyses without a computing machine; we code everything and fortunately Margaret is pretty accurate in arithmetic.

In between things we manage to appreciate briefly the brilliant sunshine, the balmy nights and the fresh breezes that characterize Madrid at this time of the year. Now and then we take a random drive or walk and stop for an hour over a glass of sherry at one of the innumerable sidewalk and parkside cafes. We made one break of a week, touring through Andalusia -- Cordova, Seville, Jerez (where all the sherry comes from), Cadiz, Malaga and Granada. I vaguely thought of visiting people in several medical schools along the way but the countryside, the towns and the people in the streets were too absorbing to allow thoughts of serious business and professional calls. We did look up my friend Dr. Jose Villar who gave us a grand time in Cadiz where he is both professor of physiology and one of the city's leading internists.

Cadiz is not one of the best of the nine medical schools in Spain but it is typical in the common handicaps of an over-large and ill-prepared student body, a faculty almost wholly dependent for personal income on private practice, no modern library and only microscopic research funds. It is too bad, but I fear the above description might apply to almost all of the medical schools of Spain, Italy, Portugal, and France. The marvel is that some of the professors are very good at their over-burdened jobs and that they turn out a fair number of able practitioners. Like almost everything else in Spain, the extremes in doctors are far apart and there are not enough men here like Dr. Jimenez Diaz (professor of medicine and

director of the Institute) and his associates Drs. Vivanco, Grande, Minon and the others I see daily. Aside from Madrid and Barcelona, there is very little real research activity in Spain.

Anyway, we have gotten through a great deal of work on the cholesterol problem and the final laboratory work, completed day before yesterday, brought the total to 165 persons studied. We had 54 men and 55 women at Vallecas, all clinically healthy in the ordinary sense but most of them definitely underfed and all on diets low in fats and animal proteins. For comparison we had 55 doctors and medical students who covered the same age range as the Vallecas group -- 18 to 55 years. Of course a lot of statistical work remains to be done but it is already clear that the findings are of great interest; you may even share my view that they are highly important.

To begin with, in regard to serum cholesterol the men of the professional class here (i.e. the doctors) are substantially the same as their counterparts in Minnesota; they have the same general level at equal age and the same marked increase with advancing age. Their diets also seem to be similar in total fats and proteins. They use much less milk and cream but olive oil replaces the customary fats consumed at home (i.e. in Minnesota). The Vallecas diets are greatly different, of course, and real caloric inadequacy is common. However, the younger Vallecas men -- 20 to 35 years of age -- are not greatly different in regard to serum cholesterol, the average values being slightly lower but the age trend is just as marked as in the doctors or in our Minnesota men. But this is only to the middle thirties and at older ages the serum cholesterol falls steadily. At age 35 the average for Vallecas is roughly 5 mg. (per 100 ml. of serum) lower than in the doctors, but at age 45 the difference is 36 mg. and at age 50 it is about 55 mg.! These Vallecas men show, in more marked degree, the same peculiarity we found in the poor men in Naples -- no great difference from the Minnesota "normals" until the thirties but thereafter an increasing difference.

I have no doubt at all that these differences in cholesterol metabolism are associated with important differences in the incidence of coronary disease but again, as at Naples, we have no real data on morbidity and mortality to document the argument. Here, as in Naples, general opinion has it that coronary disease is much more common among the rich than the poor people. In any case, here is a solid set of facts showing a marked difference in the age trend of something we can measure and it is unquestionably associated with differences in diet which we also can measure. I think this is something new in the embryonic science of the quantitative study of later ontogeny of man.

You will understand that I am properly elated and that I shall emphasize these results in my address at Amsterdam on July 9th. I have just received the final programs of the Dutch meetings and I find that I am allotted an hour and a half before the Joint Session of the International Congresses on Diabetes and on Dietetics. So I must get busy to prepare for the occasion. Some of the slides can be used for forthcoming lectures this fall in Chicago and New York as well as in Minneapolis.

Next week we set off in the car for a long detour through Galicia and the Basque country before heading for Holland where we shall see many old friends and, I imagine, lose a lot of sleep. Then across to England, where Caroline and Henry still flourish, apparently, and only a couple of weeks later we start on the long-promised tour to Scandinavia with the children. And no more lectures to prepare and deliver until we are back home in September! So you may expect my next from England. In the meantime, all the best to you and our good friends at home!

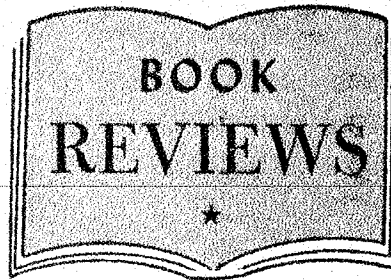
As ever,

Armed Keys

Help Yourself Get Well. A Guide for TB Patients and Their Families. by MARJORIE McDONALD PYLE, M.D. Foreword by H. CONWIN HINSHAW, M.D., 1951. 235 pages. New York: Appleton-Century-Crofts, Inc. \$3.00.

A physician's ability to treat a chronic disease and advise others is tremendously enhanced when he has been ill from the disease and has overcome it. No amount of schooling or medical practice can substitute for the knowledge thus gained. A physician who has had such an experience investigates deeper into the disease, makes keener observations and acquires a better store of information than others. He knows the patient's psychology and discusses procedures so understandingly that confidence is nearly always assured and that all-important physician-patient-family relationship, is established. This often means the winning of half or more of the patient's battle against the disease.

These are some of the reasons that Dr. Marjorie Pyle was the perfect author for *Help Yourself Get Well*. While writing this volume she herself was well on the road to recovery from her third bout with clinical tuberculosis. She has also been a close student of tuberculosis in its various aspects for a decade. Scholarastically she headed her medical school class, proceeded with a post-graduate fellowship in internal medicine, and served as assistant medical director in an outstanding tuberculosis sanatorium. She did a large volume of scientific research in experimental tuberculosis and cooperated in the publication of numerous medical articles on such subjects as chemotherapy in tuberculosis.



Help Yourself Get Well was written primarily for tuberculous patients and their families. No matter how expert the attending physician, there is much that the patient and the family must do to insure recovery. Dr. Pyle has helped many persons get well from tuberculosis; she knows how essential it is for the patient and the family to cooperate with the physician in every detail. Her book contains all the fundamental information that any patient and family needs to do their part in achieving the goal.

J.A.M.

Special Vector Electrocardiography: Clinical Electrocardiographic Interpretation, by ROBERT P. GRANT, M.D., National Heart Institute, Bethesda, Maryland and E. HATEVEY ESTES, JR., M.D., U. S. Naval Hospital, Bethesda, Maryland, 1951. Philadelphia: The Blakiston Company. 149 pages, \$4.50.

The use of vector methods in electrocardiography is not new although it is only in the last decade that a renewed interest has been taken in the subject of vectorcardiography.

The authors' object in this volume is to indicate how vector principles can be applied in the clinical interpretation of the electrocardiogram.

The book is divided into two parts: Part I discusses the spatial vector method of interpretation; Part II takes up the clinical application of the spatial vector method. It is not a textbook of clinical electrocardiography as only the ventricular electrocardiogram is considered. For those interested in learning more about vector methods in electrocardiography the work should be of popular interest.

T.Z.

CEREBRAL MECHANISMS IN BEHAVIOR, The Hixon Symposium, edited by LLOYD A. JEFFRESS. New York: John Wiley and Sons, Inc., 1951. 309 pages. \$6.50.

This book is composed of a compilation of papers given at a symposium held at the California Institute of Technology under the auspices of the Hixon Fund Committee. The papers included were presented by some of the foremost leaders in the fields of psychology, philosophy, biology, physiology, and mathematics. The material in this small volume is highly speculative, but very challenging to anyone interested in the study of the nervous system. Because of the nature of the material which deals primarily with certain phases of neurophysiology, this book is very difficult to read. The material must be considered carefully, and many parts will have to be reread many times before completely comprehended.

This volume is recommended only to the specialist in the field of the nervous system who should peruse its pages when adequate leisure time is available for meditation.

A.B.B.



This is the eleventh in a series of letters to Dr. J. A. Myers and the readers of the JOURNAL-LANCET from Dr. Ancel Keys, director of the laboratory of physiological hygiene at the University of Minnesota, during a year of study and travel abroad. Other letters will follow until Dr. Keys' return to the university.

Notes from a Medical Journey

20 July 1952
Oxford, England

Dear Jay:

As expected, we did lose a lot of sleep in Holland and we are still tired back here in England. Not only our Dutch friends conspired to keep us up late of nights in Amsterdam. We had the pleasure, and all that goes with it, including fatigue, of foregathering there with some of my hosts and research collaborators of the past months -- Gino Bergami and Flaminio Fidanza of Naples, Hugh Sinclair and Bryan Lloyd of Oxford, Francisco Vivanco and Rodriguez Minon of Madrid, A. P. Meickeljohn of Edinburgh, and J. Tremolieres of Paris. Two international congresses were going on at the same time -- Diabetes and Dietetics -- and several of us, including Charlie Best of Toronto and Tremolieres, addressed the combined Congresses.

My address, "The Cholesterol Problem," was well received; too well, in fact, because the Dutch want to publish it in full and are demanding a manuscript. I am going to swear off lectures unless I can get sponsors to promise, in writing beforehand, that they will not ask for manuscripts for publication. A lecture prepared for oral delivery, even if written out in full, is by no means ready for the printers. Besides rewriting, there is all the tiresome business of providing references, as well as tables and figures -- which are not the same as slides. It is not only Amsterdam that bothers me now; I have not yet complied with the demands for the mss. of four lectures I gave in Edinburgh and London!

I had expected to do quite a bit of writing in Madrid but our supply of human subjects was too good and the laboratory results too interesting. We had to take advantage of an unusual opportunity, even though it meant attempting twice as much work as anticipated. The last days in Madrid were pretty frantic and it was no help to have the long-delayed summer heat finally arrive. We should have put in another week of work but time ran out and anyway the cholesterol method is impossible when the air temperature gets up around 100 degrees, with the ether boiling away and the color reaction lasting only five minutes instead of twenty. So off we went in a lather of perspiration, with a bag full of notebooks and half-calculated data, my Amsterdam speech unfinished and the Hillman clattering with two broken shock absorbers and a loose exhaust pipe. By driving hard

we managed to save a day and a half for Santillana del Mar where the speech was finished in the balmy air of the Asturian mountain seacoast.

Here in England the children are excitedly immersed in the final events of the school year -- examinations, sports and all sorts of competitions, from declamation to swimming. Henry is now "third equals" (meaning tied for third place) in his form at New College School and Caroline won the swimming cup for girls under fourteen at Headington School. I take my hat off to the English schools. Somehow they manage to get the youngsters to make a real effort in all their studies as well as in their games and sports. They work hard but enjoy life in an atmosphere of kindly but unbending discipline. I think consistency is the key to training children as it is in training dogs or horses; they don't mind conforming to rules if the rules are unchanging and strictly applied with no favoritism or caprice. And maybe adults are not much different.

At the end of this week we are all going off to Denmark and Sweden for a few weeks of vacation before it is time to sail for home at the end of August. No fixed schedule; we shall simply drive along and stop when we find places we like, preferably where there is good walking or swimming. Besides getting a rest and seeing some different country, I want to have some time to think. The active pursuit of new facts, the collection of data, the making of measurements -- these are great fun as well as providing the solid stuff from which real knowledge must be built. But they represent, or should in decent research, only the implementation and testing of ideas and from them should come better ideas to explain both the old facts and the new. Well, our intensive field work of the past six months has provided a good crop of new facts and it is time to think about the whole business.

I suppose the main points to be considered are these: (1) In Minnesota and other parts of the U. S., where the diet is abundant (or excessive!) and relatively luxurious (over 30 per cent of the calories from all kinds of fats), the serum cholesterol level tends to rise steadily from adolescence to late middle age (the fifties). Our work over here shows much the same for England. This is the situation where severe atherosclerosis is present in a large proportion of the older population and where coronary artery disease is increasingly the outstanding cause of disability and death among adults. (2) In southern Italy and in Spain, from adolescence to age 30 or 35 the age trend in the serum cholesterol level is similar to that of Minnesota so it seems that the habitual diet has no great effect over this age range. The diet in southern Italy is adequate in calories but low in all fats, the diet of the poor people in Madrid is low in both calories and fats, and the diet of the well-to-do people in Madrid is comparable to diets in the U. S. and in England, but in all of these groups the serum cholesterol behaves in very much the same way until a few years beyond the end of physical growth. (3) The well-to-do people in Madrid, as exemplified by the doctors and university men, conform to the Minnesota pattern of continued rise in the serum cholesterol into the fifties but in the poor Spaniards there is a marked tendency for the serum cholesterol to decline after the early or middle thirties. In the poor Neapolitans the serum cholesterol is more or less constant after the middle

thirties. At age 30 the average serum cholesterol is similar in all groups in Minnesota, in England, in Italy and in Spain, but at age 50 only the Englishmen and the Madrid doctors are like the Minnesotans, the Neapolitans being some 25 mg. per 100 ml. lower while the poor Madrilenos are about 50 mg. lower. (4) The observed differences do not seem to be related to differences in climate or race. Physical activity cannot be ruled out entirely as a factor but analysis by occupational activity does not indicate that it is important. We are left with the diet which we have already shown to be important in short-term (up to a few months) controlled experiments. And the controlling elements in the diet seem to be total fats and calories, the fats being the more influential. (5) Finally, such information as we are able to get about morbidity and mortality -- and it is far from satisfactory -- seems to conform to our expectations from animal experiments and the experience with diabetes, with myxedema, with nephrosis, and with idiopathic hypercholesterolemia. In other words, the higher the average level of cholesterol in the serum, the earlier and the more severe is the atherosclerotic development.

There are many more details to be considered but this is the general picture. I think it is enough to demand a much larger research effort and even to warrant the beginnings of efforts in the direction of preventive medicine and public health. Of one thing I am very sure: this field work in Europe has shown both the value and the practicability of the comparative study of population groups in terms of physiological and biochemical characteristics. I shall have some strong arguments for the forthcoming conference (September 11-14, Chapel Hill) on "Needed Research in Health Care." This is to be a series of discussions, sponsored by the Rockefeller Foundation, to indicate the character of research programs basic to a sociological examination of the broad problem of medical care. There are to be three sections: "Social Physiology," "Social Epidemiology," and "Social Science Research on Health." I am to be chairman of the first section, though I am not entirely sure what it means; my interpretation is that it has to do with "physiological hygiene."

And so thoughts come back to the laboratories under the Stadium and all our good friends at home.

As ever,



Put off your imagination, as you put off your overcoat, when you enter the laboratory. But put it on again, as you put on your overcoat, when you leave.

— Claude Bernard



This is the twelfth and last in a series of letters from Dr. Ancel Keys, director of the laboratory of physiological hygiene at the University of Minnesota, during a year of study and travel abroad.

Notes from a Medical Journey

28 August, 1952
Birmingham, England

Dear Jay:

Tomorrow we sail for New York and even now, I trust, our luggage, grown alarmingly by the accretions of a year, is on the Cunard dock at Liverpool. Here in Birmingham we have stayed two days with the A. C. Frazers, the children making merry with the four young Frazers and I giving the inevitable lecture. Dr. Frazer, who lightly bears the title, "professor of pharmacology," has built up a staff of some sixty people vigorously studying all manner of problems of fat absorption and metabolism.

As usual, the time is too short to take a real look at the manifold research activities of this great medical center and I wish I could spend some time with Zuckerman, the Professor of Anatomy; Lancelot Hozben, the mathematician and biologist, and Elkers, the newly installed professor of experimental psychiatry. Birmingham is rather like the University of Minnesota Medical School at present -- young, full of action and ideas, already accomplishing greatly and promising greater things to come.

I had hoped to write from Denmark but there things were upset by an acute lumbago which put me in the Skodsborg Sanatorium for three days. Massage, heat, wet packs and more massage put things right and allowed me to see the inner workings of one of the world's first centers of physical therapy. Dr. Fritz Buchthal, the neurophysiologist, lives in Skodsborg (near Copenhagen) and is influential with the Sanatorium directors so I was at once installed (in spite of hundreds on the waiting list) in a fine old room with a balcony looking over the oresund to Sweden. On that same balcony, over 100 years ago, sat the Kings of Denmark and of Sweden, drinking their healths and toasting their promise of perpetual peace between their countries. The royal villa, as it then was, later became a part of the Sanatorium where, sad to relate, the still-persisting non-alcoholic regimen was introduced.

Denmark, last visited before the war, has changed little and the Danes are still both gay and hard-headed, outspoken and hard-working.

The children swam at the Skaw, in the Kattegat, and in the Oresund, and we all ate vast amounts of the rich fare offered by the Scandinavian table in the homes of friends and in restaurants. From old friends like P. Brandt-Rehberg (August Krogh's successor as professor of zoophysiology), I learned that the University of Copenhagen (and the other Scandinavian Universities) is cramped for space, beset with new financial problems, and concerned about the increasing demands made upon them. But they continue to maintain their old standards -- probably the highest in the world -- and they still manage to avoid the short-time research project grant which is such a curse to serious research in the United States.

From Denmark we drove on through Germany to the Austrian Tyrol and a couple of days on the Italian slope of the Alps. Seven years after the end of the war the unending succession of ruins in Germany must be seen to be believed. Lubeck, Hamburg, Hannover, Munich and on the northward return several weeks later, Freiburg, Worms, Mainz, Coblenz, Cologne were scarcely more than names on some new and deceitful map, unrelated to memories of my wanderings on a bicycle twenty years ago. An occasional scarred edifice seemed oddly familiar but grotesquely out of place in a jumble of surroundings desolation and new make-shifts. But there is bustling activity everywhere, the Germans are obviously working hard (more so than any other Europeans one saw except the Italians), and I suppose that twenty years from now the rawness will be covered and there will be new cohesion and structure instead of the present formlessness of communities. Much is lost beyond repair -- I am thinking of more than buildings -- and we can only hope that more of bad than of good has been destroyed.

A week of loafing in the Tyrol was a great delight. For me, at least, there is no better mental and moral, if not physical, hygiene, than the majesty of mountains and a stiff climb, the sweat running free and almost out of breath for hours at a time. Then a pause on some high outlook, with a loaf of bread and a chunk of cheese for refreshment.

And so, finally, back to England and a scramble of visits and packing and the incomprehensible fact that the last hours of a year are slipping by. I wish I could add it all up, summarize and give conclusions for myself as well as for your and our mutual friends. I can give a chronology of days and places, of distance and of recorded events. Let's see, eighteen lectures in twelve cities, subjects studied in Oxford, in Naples, in Madrid, and so on. But beyond such elementary points I can't yet sort out the significant facts in a welter of impressions and remembered incidents. The more important things are the hardest to put down in words and I'd have to write more letters to make sense out of what seems to me the significance in scientific work and medical problems in this part of the world. Now I can do no more than insist that all this side of the Atlantic -- meaning the British Isles and northern and western Europe, including Italy -- is part and parcel of our own culture and tradition and future. We not only have the same problems; we react to them in the same way and must solve them in parallel if not in concert. It seems to me to be nonsense to ask questions like, "Shall we cooperate with Europe?" It is as though we asked, "Will the Far

West cooperate with the Middle West?" We must -- and will, I trust -- build on the fact that we are (even though we may not like it!) irrevocably tied to the Swedes and Scots, the Frenchmen and the Italians, the Portugese and the Dutchmen by our common culture and our unique view of the place of man in the universe. I could get more specific and I could put this in terms of simple things like caring for the sick, but perhaps I am only stressing what is obvious to us all.

Anyway, it is time to get home and to take my more accustomed place among our friends. The near prospect is wonderful and I hurry to greet you all personally, material hand-on-hand, instead of with these remoter letters. Until a short while, then, I am

As ever,

Armed Keys

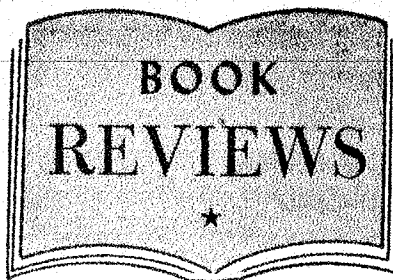
A Textbook of Orthopedics, with a section on Neurology in Orthopedics, by M. BECKETT HOWORTH, M.D. Philadelphia: W. B. Saunders Co. 1,110 pages. \$16.00.

This attractive book of 1,110 pages evidently represents a lifetime of work. As the author says, it is based on twenty years of experience. Every type of orthopedic problem is well discussed. In addition, there is a fine section on neurology in relation to orthopedic practice, written by Fritz Gramer. This addition is doubtless a good one because neurologic injuries commonly result in orthopedic problems, and often a neurologist and an orthopedist must work together.

All medical readers, and certainly all orthopedists will be grateful to Dr. Howorth for the remarkable first chapter on the history of orthopedics. There one finds pictures of the men who in the past contributed so much to the knowledge of this subject. There is also a very fine bibliography on the history of orthopedics. W.C.A.

The Treatment of Injuries to the Nervous System, by DONALD MUNRO, M.D., 1952. Philadelphia: W. B. Saunders Company. 284 pages.

In these days when so many hundreds of badly injured soldiers are being flown quickly from the front to a base hospital, neurosurgeons are having to develop new skills in



the handling of persons with severe brain and cord and nerve injuries. The book has been written, however, for the use of the general surgeon and the use of the general practitioner because they often have to deal with these cases. They may have to inherit and take care of some paraplegics. Oftentimes the general surgeon or the general practitioner is the first to see the boy who gets a broken back. Up till now these non-specialists have been greatly handicapped in their work by the lack of any concise book dealing with these problems.

Current methods in use in the author's neurosurgical clinic in the Boston City Hospital are described. There is a fine chapter on the cost of the medical care of paraplegics, and how it may be modified by rehabilitation services.

Every medical man who has to deal with the badly injured man will be tremendously helped by the information supplied by this book. It will help him in carrying the patient from the first shock of injury

up to the rehabilitation, and the getting around on artificial limbs.

W.C.A.

Advances in Medicine and Surgery, from the Graduate School of Medicine of the University of Pennsylvania and London: W. B. Saunders Company. 441 pages.

The volume "Advances in Medicine and Surgery" is a collection of papers presented in a series of symposia by the Graduate School of Medicine of the University of Pennsylvania. The symposia are on the following subjects: The Present Status of Adrenal Cortical Hormones, The Role of Potassium in Health and Disease, Hypertension; Newer Aspects of Medical and Surgical Treatment, Newer Concepts in Preoperative Evaluation and Preparation of Patients, Thromboembolism, Pulmonary Infections, The Relief of Pain, Current Status of the Cancer Problem, Recent Developments in Viral Diseases and Functional Disorders. The material is presented in 53 papers by 53 contributors.

The material in these symposia is well organized and the current advances in our medical knowledge are presented. The subjects are documented from the fundamental and clinical approach.

This book presents a good basic education in the subjects of the ten symposia selected by the Faculty of the Graduate School of Medicine. E.R.A.