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Editorial Correspondence :

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MEDICAL EDUCATION

Editorial Perspective

What Ails Medical Education?

GRIEVANCES are being voiced from various platforms against medical education in India for quite some time. Its products, the doctors, are alleged to be found wanting while serving in the rural milieu. The medical curriculum is being blamed for such deficiencies in medical graduates and erudite schemes are being prescribed from time to time. But curiously, the role of medical teachers has eluded the attention of the commentators. That teachers have a profound role on the nature and quality of education goes without saying. This role has been discussed and analysed from various aspects in different forums. The role of medical teachers in medical education, however, has escaped such analysis, presumably because it is taken for granted that there is nothing special to discuss. On the other hand, in the general debate on pay and service conditions of teachers, even during the All India Teachers' strike in 1987, medical teachers were kept, by an apparent consensus, outside the purview of the exercise on the assumption that they are something special. Political authority and officials look upon medical teachers not primarily as teachers, but as doctors first—taking the job of teaching as a secondary one and medical graduates as by products of health care system. Here we will explore the elements which might clarify the role of teachers in medical education. The prevailing picture in West Bengal has served as a model which may differ in many respects from state to state but shares their essential characteristics.

The world of medical education is small. Teachers and students soon become known to each other. An intimate relationship develops between the teacher and the taught in many instances. Thus teachers influence the students not only in their academic life but also in other spheres of life by their personality and behaviour.

The subject of medical education is composed of a number of disciplines each of which being a speciality by itself has its own conclave of functioning. Teachers of each discpline have their separate associations, journals and/or academic forums. At the same time, all disciplines are integrated at the under-graduate level into medicine (MBBS) where teachers of different disciplines have to interact with each other. However, any integrated method of teaching at the under-graduate level has not been evolved as yet. In the post-graduate education, each discipline functions separately.

In the clinical discipline, teachers also act as specialist doctors and consultants, ie they are engaged in treating patients in hospitals attached to the colleges. This has been instrumental in the development of a sustained relationship between the teachers and students. The young doctors with graduate and post-graduate qualifications, enter the world of medical practice and retain their link and relationship with their teachers which is often life-long— the implication being that the teacher-student relationship is extended beyond the boundaries of Alma Mater.

In the earlier days, doctors were inducted into the teaching job in various ways. In government institutions, doctors were appointed as teachers in medical colleges at a ripe age after they had served their due period in non-teaching hospitals spread all over the state. A good number of doctors who acquired post-graduate qualifications, were also offered teaching posts on an honorary basis. In the non-government medical colleges, almost all teachers were on honorary terms or managed to secure a token salary. This honorary system, though advantageous to the employer, had not been resented by the employees. Appointment to a teaching job in a medical college is a very prestigeous position in the medical profession. It brings renown, uplifts status and quickly establishes the teacher in the field of private practice. People look upon medical teachers as the most learned, accomplished and skilful among the doctors; such an attitude works as a one-way ticket to success in private practice. There are, of course, certain grounds for such belief. Medical teachers belonging to clinical disciplines, are daily engaged in the treatment of patients in indoor and outdoor services. They are in a position to experiment with different curative technologies on the hospital patients, perfect them in hospital practice and then apply those technologies profitably in their private practice. Hospital job not only trains the doctor to be a skilful one but also keeps him abreast of continuing developments in the curative technology.

State of Medical Education

Western medicine was imported in India and initially the curriculum and contents of education were necessarily borrowed. Over the years the curriculum underwent many changes and the teaching methods steadily adopted themselves to the Indian reality. A look at this Indian reality will reveal that production of doctors was stepped up rapidly, after independence with a view to expanding the facilities of curative medicine to the largest sections of the people. To employ the increasing number of doctors, state health services underwent rapid expansion; employees state insurance (medical benefit) scheme was launched, and private industrial sector opened up medicare facilities for the employees. In the seventies, the rate of expansion stabilised and a paradoxical situation emerged. It was found that the employment market for doctors was squeezed, opportunities abroad were reduced, the field of private practice turned tremendously competitive, doctors' list in the employment exchange started swelling and junior doctors resorted to agitation for employment. Paripassu, the

cology, biochemistry etc, do not deal with patients and hence are treated as unavoidable nuisances. Para-clinical subjects eg pathology and radiology, though do not make direct interventions in treatment, have nevertheless to come in contact with patients and hence, are given some importance. PSM comes nowhere amongst these divisions and hence, ignored like the non-clinical ones. In the practice of medical care also, doctors (and teachers) belonging to clinical disciplines are looked upon by the entire society as the real persons of importance. Policy-makers, planners and administrators are concerned with clinical subjects only. Progressive commentators on health leave out non-clinical and para-clinical subjects from their deliberations, people at large do not even recognise the teachers dealing with these disciplines as doctors. Students search for ideals among the clinical teachers. In West Bengal, only teachers of clinical discipline and radiology are allowed the privilege of private practice so that these all-important persons do not suffer from financial deprivation. These privileged teachers thus can live as members of the upper economic class of the society and pose as role models for the students.

A look at the remuneration enjoyed by the medical teachers is relevant here. On the salary scale, medical teachers are situated below the level enjoyed by general college and university teachers. General teachers have been enjoying UGC pay scale since 1973, whereas medical teachers in West Bengal were given the benefit of UGC scale only in 1981. General teachers now enjoy a much higher pay-scale as recommended by the Mehrotra commission while medical teachers are still lagging behind in the old UGC scale. In the report of the second Pay Commission (1977-80) of the government of West Bengal, the member-secretary observed

> It is doubtful whether conditions of service of the teaching posts on the UGC pay-scale are exactly the same as those teaching posts in West Bengal Health Service. The teachers in the other academic institutions who are in receipt of UGC pay-scale have a limited number of instructional periods in a week. They enjoy vacation and holidays which are not similarly available to the teaching posts in the medical line. This difference apart, the holders of teaching posts in West Bengal Health Service have to do hospital duties which are onerous in nature. The tremendous pressure of population on hospital services has made their duties all the more onerous. There exists a good case for distinguishing the teachers in the medical institutions from their counterpart in the other academic institutions.

The points for distinction are as in the table:

	Average age of eligibility for lecturership.	UGC pay scale granted in	Duty period	Job requirement.	Age of superannuation.	Pay-scale
College Teachers	25 Years	1973	18 hrs/ week.	Teaching	60 yrs.	Rs.2200 -5700
Medical Teachers	38 Years	1981	30 hrs/ week & 24 hrs a day on-call.	Teaching & whole-time medical service in the hospital	58 yrs.	Rs. 700 -2500

In West Bengal, the clinical teachers have been given the option of private practice in lieu of a 30 percent cut in their salary; in addition—they are debarred from the highest pay-scale (ie their pay-scale is limited to Rs. 700—1900). Consequently, the amount of gratuity and pension also is small. The clinical teacher, therefore, is asked to perform the whole-time job of teaching, whole-time job of a clinician in the hospital and then a whole-time engagement in private practice— a task obviously impossible for a human being. The teacher, in reality, is confronted with a choice to prefer one whole-time job among these three and he, like the average citizen, opts for the profitable one ie private practice. It is a somewhat universal picture that the clinical teachers are accustomed to look upon their salary as a sort of fringe benefit and concentrate on private practice with a fierce dedication to earn as much as they can while the opportunity exists. No wonder, when the state governments in Bihar, Orissa, Andhra Pradesh, Assam etc, withdrew the privilege of private practice, clinical teachers fought at every stage to retain it. In West Bengal, private practice for medical teachers was prohibited in 1982. A case was instituted at the high court and the order was stayed. Soon after, the health portfolio which was under RSP—a constituent of the Left Front, was taken away by the major partner of the Front—CPI(M). The new health minister showed reluctance in implementing the order and the merry atmosphere of private practice continues. Needless to mention, private practice not only offers a return of several times more than the salary figure but also demands a sincere and engaging attention from the clinician. It is simply not possible for a clinician successful in private practice to do justice to the job of teaching and hospital tasks. He has to make a choice, set up a priority.

Then again, among the medical teachers, non-clinical teachers, deprived of status and respect and envious onlooker of their clinical colleagues, fortunes are a frustrated lot who have lost interest both in teaching and in their subject. A good number of them find solace in unauthor-

ised clandestine private practice while others lament. West Bengal has two post-graduate medical colleges where all teachers are forbidden private practice. Their conduct follows the line of the under-graduate non-clinical teachers, ie either clandestine private practice or disinterest in job.

This system of private practice to compensate the clinical teachers has given rise to the following problems:

i) Practising teachers are inclined to settle in Calcutta where the market for private practice is lucrative and are reluctant to accept transfer to another medical college, particularly a distant rural one as it would disrupt the practising network which they have diligently built up with years of effort. The rural medical colleges (there are three in West Bengal) therefore, suffer from a perpetual shortage of teachers.

ii) There is always a long waiting list of doctors possessing eligibility for a teaching post in clinical disciplines and under the unavoidable influence of the law of demand and supply, this situation has resulted in rampant corruption in the matter of teaching appointments. The competition for a teaching post in clinical disciplines has further intensified due to preference for a Calcutta posting. Consequently, clinical teachers try their utmost to retain their Calcutta-posts and resort to questionable means including inciting students to launch agitation demanding the retention of their favourite teachers.

iii) Non-clinical disciplines perpetually suffer from dearth of teachers, not to speak of competent teachers. Aspiring teachers vie for a teaching post in the clinical discipline and barring a few, opt for the non-clinical discipline only when they fail in their endeavour. They accept such postings reluctantly and then try somehow to live with it.

iv) Appointments in the post-graduate colleges are likewise resisted as these are compulsorily non-practising. Teachers in these institutions being non-practising not only suffer financially but also are placed on a lower level of social recognition than the practising ones. Thus they become frustrated and reluctant. Standard of post-graduate medical education has, therefore, deteriorated considerably. In the absence of any incentive, research work, required to be conducted by students, have been turned into paper exercises only. Practical training for students is lopsided. Even among the post-graduate students there is keen competition for the clinical disciplines resulting in corrupt practices in admission and examination, while non-clinical disciplines suffer from dearth of applicants.

What is To Be Done?

The standard of teaching has steadily deteriorated over the years. Zealous attempts to politicise health service has undermined the morale of the doctors including teachers. Non-clinical teachers have little interest in teaching. Teachers of clinical disciplines look upon such appointments as a means of personal aggrandisement and of earning money. Students are merely after the degrees which they would use as capital for their business in medical practice. They have learned the bitter truth that connections in places of influence will fetch them their desired objective—an under-graduate or post-graduate degree/diploma. In such a context, attempts to devise a meaningful methodology of teaching or to revise the curriculum have little relevance. Whatever might be the objective of such an exercise it should not be forgotten that it is the teachers, after all, who are expected to implement the programmes. If objective conditions are not set up so that the teachers participate actively, no programme will succeed.

Another aspect of this messy situation is worth pointing out. The degradation of standards of education makes its own impact on standards of medical practice. Commercialisation apart, scientific excellence in medical care is conspicuous by its absence. Bereft of a rational approach, medicine is being practised as a shot in the dark. Unscientific drugs are being used at random. Modern safer and more effective investigative and operative technologies have not reached even the upper strata of medical practitioners. The less said about clinical research the better. In fact, in the absence of a continuous updating of knowledge, a sort of quackery is rampant even among practitioners holding post-graduate qualifications, not to speak of general practitioners.

Frankly speaking, in the practice of modern medical science, science is the real victim in India. Low levels of scientific knowledge among the medical profession, particularly teachers, have rendered them easy prey to the profiteering campaign of drug and equipment industry. Medical literature, produced mostly by teachers, has not made any positive significant contribution to the development of medical science in the country. An unsavoury example may be cited to give an idea about the hollowness of the medical establishment. Two years ago at the national conference of the orthopaedic surgeons, a paper was presented as a critique of a number of original research articles published during last several years in the orthopaedic journal. Analysing the crucial contents of the articles and citing evidence, this paper revealed that all articles were the products of plagiarism without acknowledgement from the articles published in foreign journals. Scrutiny may show that the picture is no different in other specialities.

Independence or autonomy of teachers, updating of standards and 'check and balance' in career prospect are the areas needing consideration and overhauling. Independence starts with the removal of financial dependence on private practice. The last two Central Pay Commissions

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repeatedly stressed that scientists and technologists ought to be accorded higher status and emoluments. The Shrivastava Committee, MCI and other highly placed authorities unequivocally recommended non-practising terms for the medical teachers. The administration has not taken their recommendations in the right spirit. There has developed a nexus of mutual interest between the political-bureaucratic authority and the teaching community. Politicians of all shades and bureaucrats enjoy the free services of teacher-specialists who also make the costly medicare facilities of the state hospitals available to the former out-of-turn. It is indeed difficult to find a political leader or a high government official who is not personally obliged to a medical teacher. In fact, one of the topmost physicians of Calcutta openly maintained unauthorised private practice throughout the entire length of his service career occupying non-practising posts, which included the topmost posts in the post-graduate medical college and the health service in West Bengal: this enterprising doctor professionally served the chief ministers and ministers during both Congress and Left Front regimes. Unless this pernicious system of private practice is removed, other measures will be infructuous. All discriminations in the matter of pay, promotion and retirement benefits should be resolved. More and more university control should be introduced replacing government control. There should be a declared policy of transfer in transferable services. Lastly and most importantly, there ought to be a system of assessment of performance accompanied by incentives and disincentives. This is perhaps the most controversial area and difficult to operate. Because, credibility of assessment depends upon the credibility and competence of assessors. Still, a structural framework for elements and procedure for assessment could be devised and be given a trial. If this is done, then the present system of examinations based on subjective assessment could be thrown away and be replaced by periodic objective assessment of students at every crucial level of curriculum and training.

The task of updating of knowledge should not be left to individual initiative. Updating includes revision and is dependent on research. It may be emphasised that the teaching community is the most effective force in research and the poor state of medical research in India is actually a reflection of the teaching community.

The Bhore Committee observed in 1946.

"No special facilities are available for the training of teachers in the different subjects of the medical curriculum. . . Broadly speaking medical research receives little or no attention in the medical colleges of India. The authorities responsible for staffing and financing the medical colleges are usually ignorant of the importance of research in relation to the achievement of a correct attitude of mind in the students. . . " The role of teachers in shaping the make-up students is crucial and nowhere is it more pronounced than in the field of medical education. The attitude towards both science and society is involved. The student is influenced not only by the teachings and preachings of the teacher but is influenced most by the teacher's practice. The teacher's admonition against indiscriminate use of antibiotics or random use of steroids cuts little ice with the student when the latter discovers the very teacher's indiscriminate and random prescriptions in private practice. The student thus learns the difference between theory and practice and this influence is intensive and sustained, shaping the professional career and attitude of the student. The teacher's conduct, in its turn, is detemined by his/her position in the society and the profession. Social and economic compulsions dictate terms. In the conflict between pursuit of science and commercial gain, the latter generally prevails. Medical education cannot wait for the development of the intrinsic goodwill of the teachers. Unless measures are taken to ensure job satisfaction, medical colleges will always remain short of dedicated teachers. Unless the standard of teachers is improved, teaching can never improve and consequently medical care cannot improve. However, grandiose or rational might be the curriculum or methodology of teaching. Unfortunately this profound role of teachers in medical education is yet to be recognised in India.

Ajoy Mit
Sujit K. Datu

Appeal to Subscribers/Readers

We regret that the last few issues of the *Radical Journal of Health* have been delayed. This has been because of printing and other difficulties, none of which fortunately are insurmountable. We hope to bring the publication up-to-date in the next couple of months. Please bear with us!

The RJH is for you and is sustained mainly by the support of regular readers like you. So far the journal is being subsidised by donations from concerned individuals. We would not like to pass on the burden of the extra cost to our readers by increasing the subscription rates. The Socialist Health Review Trust, the publisher of RJH has started a campaign for creating a corpus fund which can continue to asborb the extra cost as far as possible.

We appeal to you and your friends to generously contribute to this fund. *All donations may be made payable to the Socialist Health Review Trust and are exempted from Income Tax under Section 80G of the Income Tax Act.*

Medical Education in India: Who Pays?

ravi duggal

It is with the aid of public resources that medical education and the subsequent production of medical humanpower has consolidated itself. Most of this humanpower finds its way into the private sector. Even worse there has been a sustained migration of doctors mostly to developed countries. This we feel is a serious concern. Public resources must be used for public benefit.

MEDICAL education in India is almost entirely the responsibility of the state. Ironically between 2/3rds and 3/4ths of those qualifying from public financed medical schools participate in the private sector. This means for every three allopathic doctors the government trains at the cost to the public exchequer for its own health services, it also trains seven doctors for the private sector at public cost. Besides this a more or less similar pattern exists for non-allopathic medical education (Ayurveda, Unani, Siddha and Homoeopathy) which together accounts for twice the number of allopathic doctors. As though this drain on the public exchequer is not enough, out of every 100 allopathic doctors going to the private sector between 34 and 57 have been migrating out of the country each year, mostly to developed capitalist ones, and recently also to the Gulf countries. This is indeed gross injustice to the poor Indian masses who have contributed their mite in training these doctors in the hope that they will in turn care for them. However, the focus here is not the dynamics of this injustice, which is so openly and unashamedly practised, but to view in a historical perspective the growth and financing of medical education in India.

Prior to the First Five Year Plan there were 28 medical colleges (unless otherwise specified we mean allopathic), all except one being publicly owned, from which about 2500 doctors graduated every year. By the end of the Second Five Year Plan the number of medical colleges had doubled and the doctor outturn increased 2 $^1/_2$ times, and at the start of the Fourth Five Year Plan the number of medical colleges had quadrupled and doctor outturn increased six times (see table 1 and 2). Most of this growth was in the state sector and with the aid of public resources. After the Fourth Five Year Plan the increase in medical education facilities have been very small but expenditure has increased at a galloping pace.

As of present (1987) there are 123 medical colleges in the country with 102 being owned and run by the government or other public bodies like the municipal corporations (four colleges) and universities (three colleges). The remaining 21 colleges are owned and run by private bodies, with most of them getting some financial assistance or subsidies or support from the state in conducting the colleges. Thus, it is largely with the aid of public resources that medical education and the subsequent production of medical human-power has consolidated itself.

This drain of public resources, especially of doctors is only one dimension of the expropriation of medical education, the other is the concentration of the outturns from medical colleges in the urban areas (see table 3), even in the state health sector which can be seen. Between 1952 and 1983 the number of hospital beds had increased 3 1/2 times but as a ratio to the population it had increased barely twice. Thus in the first plan period there was one hospital bed for 2717 population but in 1983 the availability of beds had increased to one bed for 1362 population. But, this aggregate picture is misleading because of the concentration of available facilities in urban areas.

Thus between the first and sixth plan periods the availability of hospital beds changed from one per 706 population to one per 395 in the urban areas in comparison to rural areas where the change was from 9438 population per bed to 5937 population. Since the distribution of medical humanpower data is not available in a disaggregated form the distribution of hospital beds may be assumed as an indirect indicator. Thus in the first plan period only 39 percent of hospitals and 23 percent of beds were in rural areas when 80 percent of the population lived there. In contrast in 1983 when about 76 percent of the population was in rural areas the availability of medical care facilities in comparison to urban areas had declined to 26 percent of hospitals and 17 percent of beds in rural areas. In 1987 the number of hospital beds in rural areas declined further (from 1894 in 1983 to 1633 in 1987) accounting for only 21 percent of all hospitals, the proportion of beds stayed at around 17 percent. In the case of government hospitals the situation is equally bad— in 1983 of all government hospitals a quarter were in rural areas and of all hospital beds in the state sector only 10 percent were in rural areas (CBHI/GOI, 1985). While there is no direct data of medical humanpower available, except 1981 census data — according to the 1981 census of all working (main earners) allopathic doctors only 28 percent worked in rural areas and of all nurses and midwives 38 percent were in rural areas (Census/GOI, 1987).

Besides allopathic services and humanpower there are non-allopathic institutions and humanpower— ayurveda, unani, siddha and homoeopathy. In terms of health care facilities (hospital and dispensaries) in these systems of medicine, the ratio to allopathic facilities is fairly small but humanpower of these systems of medicine is far larger than that of the allopathic (see Tables 3 and 4). Also, in comparison to allopathic doctors, a much larger proportion of non-allopathic doctors are found in rural areas —56 percent according to the 1981 census. Thus in the year

1986-87 there were totally 830, 400 doctors of all systems of medicine, besides 210,000 nurses and over 10,000 dentists (see Table 4). In addition to this in the same year there were 372,140 paramedics (ANMs, MPWs, Midwives and LHVs) (CBHI/GOI, 1988). If we take doctors of all the systems and calculate the ratio of doctors to population we find that in India one doctor exists for every 935 persons, and assuming the rural/urban distribution of the 1981 census we estimate that in 1986-87 for rural areas there is one doctor per 1574 persons (for allopathic one per 6116 persons) and for urban areas there is one doctor per 421 persons (for allopathic one per 793 persons).

Thus it is amply clear that humanpower resources in the health sector as regards the number of doctors is quite adequate, establishing the fact that medical education in terms of supply of doctors has kept pace with the growth of population and is today at a level (or supply) that is sufficient to meet the needs of the country's population. However, the hitch is that it does not meet the needs of the people because a large majority of doctors take up private practice, concentrate in urban areas or migrate abroad — in fact, more allopathic doctors migrate abroad than go to rural areas of India.

As stated earlier, medical education in India has been almost wholly financed by the public exchequer. This money comes mostly from tax revenue collected by the government from the people. Direct payment by students in the form of fees etc is presently very small.

Before we look at the data on medical education expenditure it will be in order to explain in some detail the structure of the state health sector financing.

State health expenditure is divided into three major heads called 'medical', 'public health' and 'family welfare'. 'Medical' is further divided into 'allopathy' and 'other systems of medicine' (non-allopathic). The main sub-heads under allopathy are (a) direction and administration (b) medical relief (c) education, training and research (d) ESIS and CGHS (e) and other sub-heads, and under 'other systems' there are separate sub-heads for ayurveda, unani, siddha and homoeopathy. 'Public Health' is divided into 'Public health and sanitation' and 'sewerage and water supply'— the former being mainly expenditure on communicable diseases prevention programmes and the latter mainly rural and urban water supply schemes. The 'Family Welfare' account includes expenditure on rural and urban family planning services and maternity and child health services.

All the three accounts have a 'capital outlay' section which is mostly construction activity. Thus, under 'medical' the main sub-heads are construction, expansion and improvement of (a) hospitals, dispensaries and health centres and (b) medical colleges. Under 'public health' it includes almost entirely water supply schemes and under 'family welfare' construction of family planning centres.

In this article we are concerned with the sub-head 'medical education' under the medical account section. The data on state expenditure on medical education being analysed here is for the period 1951-52 to 1982-83, a total of 32 years, from the First Five Year Plan to the middle of the Sixth Five Year Plan. The expenditure reported here is 'revenue expenditure'— that is, expenditure incurred out of revenues collected by the state and covers the union government and all state and union territory governments. This expenditure includes only the component spent on medical, dental and nursing colleges. The hospital and other supportive services needed for medical and nursing education are not included in this amount—this component of expenditure is not available separately. Capital expenditure is excluded from 'medical education expenditure'. We will deal with this separately.

Between 1951-52 and 1982-83 the state's expenditure on medical education has been substantial. It has seen a healthy growth of 2.8 percent per year in sharp contrast to 1.4 percent growth rate of total state health expenditure and only 1.24 percent growth of total government expenditure (CAG/GOI, various years).

At this stage we would like to emphasise that it is not possible to calculate how much is spent on training of each medical person because detailed breakups of expenditure on each category of personnel are not available and the supportive, administrative and hospital costs incurred for training are also not known. Performance budget states may provide this information but for macro analysis this information is too voluminous to put together because it is available for each college separately. Even here,

Table 1 : Medical Education Infrastructure 1951-52 to 1986-87 (figures at end of period)

Reference years	Medical Colleges		Nursing institutions	Dental colleges
	Number	Percent Private		
Plan I 1952-56	41	7.3	241	7
Plan II 1957-61	60	5.0	208	12
Plan III 1962-66	87	9.2	254	14
Plan holiday 1967-69	94	9.6	259	15
Plan IV 1970-74	105	8.6	270	15
Plan V 1975-79	106	8.5	283	17
Plan VI 1980-83 @	111	10.8	324	25
1986-87	123	17.0	374	26

@ 4 year period including 1979-80 annual plan and first three years of Sixth Plan.

Source : *Health Information of India* (earlier called *Health Statistics of India* and *Pocket Book of Health Statistics*), CBHI, GOI, various years.

however, the supportive costs cannot be known—only field studies at the teaching hospital level will help in breaking down these costs. For instance, in Maharashtra, of the total expenditure on medical education for the years 1981 to 1989 on an average 84 percent was spent on training of MBBS doctors and the rest on other personnel (see Table 6). If we assume this proportion for India for the year 1983 then the cost per doctor to the state for only the medical college component works out to Rs. 84951.78. In the same year, given the average cost of Rs. 50 million per medical college and teaching hospital (on the basis of data for Maharashtra) the annual cost per qualifying student for the teaching hospital (excluding medical college expenditure indicated above) works out to Rs. 372,312.35. Let us also assume that this entire cost is necessary for training of medical humanpower. Taking the same proportion of 84 percent as expenditure for MBBS doctor training Rs. 312,742.37 becomes the teaching hospital cost per doctor and the total cost per doctor totalling to Rs. 397,694.5 (Please note that we are taking one year's expenditure on medical education and teaching hospitals to be the cost of the $4^{1}/_{2}$ years. This method is perfectly okay because in any one year there are 5 batches of medical students. Thus if we divide the above figure by five we will get per medical student cost per year and if we again multiply by $4\ ^{1}/_{2}$ -we prefer 5 — we come back to the same figure). Whether this approach is correct is debatable but the fact that a supportive structure of a teaching hospital is needed for medical education cannot be discounted. Whether the present type of teaching hospital is the right type is a different question altogether but the inclusion of the entire cost of teaching hospitals as part of medical education, we feel, is perfectly justified — and this cost today (1988) in Maharashtra is Rs. 80 million per teaching hospital (for JJ Hospital and Grant Medical College, Bombay the cost is Rs. 150 million). Besides, administrative and capital costs have not been included.

In the First Plan period the state spent Rs. 66.4 million on medical education. (See Table 5) During this period 12,520 MBBS doctors, 657 postgraduates, 142 dentists and 9345 nurses and general nurses qualified from the 41 medical colleges, 7 dental colleges and 241 nursing schools/centres. (Table 1 and 2). This expenditure working out to Rs. 13.28 million per year, was 5.3 percent of all expenditure on medical services by the state and 3.5 percent of the expenditure on total health care (including FP, public health and water supply) spent by the state. (Table 5). More than one - half of this expenditure was by the union government and the three provinces of Bombay, (Gujarat and Maharashtra) West Bengal and Madras (Tamil Nadu). This concentration of expenditure in these provinces continues even today. (See Table 7).

Table 2 : Outturn of Medical Personnel 1951-52 to 1982-83

Reference years	MBBS Doctors	Dentists	Post-graduates (Medical & Dentist)	Nurses (BSc)	General Nurses	Nurse/ Doctor Outturn Ratio
Plan I	12520	145	657	132	9213	1:1.34
	(2504)	(29)	(131)	(26)	(1843)	
Plan II	16047	579	1708	141	12196	1:1.30
	(3209)	(116)	(342)	(28)	(2439)	
Plan III	24631	1210	4002	286	20355	1:1.19
	(4926)	(242)	(800)	(57)	(4011)	
Plan Holiday	26494	1015	3866	290	16284	1:1.60
	(8831)	(350)	(1289)	(97)	(5428)	
Plan IV	55818	2338	8198	570	28981	1:1.89
	(11164)	(468)	(1640)	(114)	(5796)	
Plan V	63350	2410	15860	976	29891	1:2.05
	(12670)	(482)	(3172)	(195)	(5978)	
Plan VI @	46870	2133	17296	1032	30501	1:1.49
	(11718)	(533)	(4324)	(258)	(7625)	

@ 4 year period including 1979-80 annual plan and 1st three years of Sixth Plan period
Figures are total for period, and parentheses figures are annual average.

Source : *Health Information of India* (earlier called *Health Statistics of India* and *Pocket Book of Health Statistics*). CBHI, GOI, various years.

In the Second Plan period, expenditure on medical education almost tripled in contrast to less than doubling of health expenditure. The average annual expenditure on medical education during this period had increased to Rs. 38.04 million which was 8.3 percent of state health expenditure. (Table 5) This is reflected in the 46 percent increase in the number of medical colleges, a 28 percent increase in outturn of MBBS doctors and over 2 $^1/_2$ times increase in post-graduates.

Between the Second and Third Plan periods state medical expenditure leaped again by 2 $^1/_2$ times averaging Rs. 93.3 million per year during the Third Plan period. The number of medical colleges had more than doubled now in comparison to the First Plan Period, and the outturn too had leaped to 24631 from 16047 in the Second Plan — a 53 percent increase. The post-graduate outturn again increased at a much faster rate of 134 percent between the Second and Third Plans. Medical education expenditure in the Third Plan period, increased to 12 percent of medical services expenditure and 7 percent of health care expenditure. (Table 5).

The pattern of growth continued through the Plan Holiday and Fourth Plan period when state expenditure on medical education was 14.3 percent and 16 percent respectively, of state medical services expenditure (Table 5). By the end of the Fourth Plan there were 105 medical colleges in India (96 owned by public bodies) and the outturn of medical graduates in the Fourth Plan period was 55,818 medical graduates and 8198 post graduates. By this time the production of dentists had picked up and every year about 468 dentists were qualifying. However, the growth in the production of nurses remained slack, as even in the Fourth Plan period only one nurse was being produced for every two MBBS doctors. (Table 2).

The situation in the Fifth and Sixth Plans did not change very drastically. Between the Fourth and Fifth period the production of post graduates almost doubled. The ratio of production of nurses to doctors worsened in the Fifth Plan, though improving slightly in the Sixth Plan (Table 2). The expenditure on medical education in these two Plans stabilized at about 13 percent of medical services expenditure and 7 percent of health care expenditure. The average annual expenditure on medical education in the Fifth and Sixth Plan was Rs. 60.8.94 million and Rs. 1187.43 million, respectively (Table 5). Today (1988) this expenditure is about Rs. 3000 million (estimated by author) and against this about 13,000 medical graduates, 4500 postgraduates, 700 dentists and 10,00 nurses are being produced. Besides this there is capital expenditure incurred every year. This data in the national accounts is available only from 1974. Thus in the 5th and 6th Plan periods if capital expenditure on medical education is added to the medical education expenditure, we see that capital expenditure accounts for 10.5 percent and 19 percent of this combined expenditure, respectively, increasing the 5th and 6th Plan annual expenditure to Rs. 680.17 million and Rs. 1467.07. million, respectively. (Table 5). This is a phenomenal expenditure when we consider the fact that between 80 percent to 85 percent of this goes in production of medical graduates and that 75 percent of these graduates go to the private sector. By any standard this is a phenomenal drain on the resources of the public exchequer.

As if this is not enough there is another aspect of this drain of resources. Since the First Plan period the migration of doctors to other countries, especially developed ones, has been very high. In the First Plan period 810 doctors were migrating every year. In 1986-87 this figure had reached 5304. (Table 8). At this figure in comparison the outturn of medical graduates than in the First Plan, 32.35 percent of doctors migrated abroad and in 1986-87 40.8 percent did so. This high rate of migration is very closely linked to imperialism. Our entire medical

Table 3 : Medical Care Facilities (Public and Private) 1951-52 to 1986-87

Reference years	Hospitals	Dispensaries	PHCs (only rural)	Hospital Beds (excluding PHC)	Population (millio
Plan I	3307 (39.3)	7194 (84.0)	725 (23.0)	145297	379
Plan II	3054 (32.8)	9406 (53.3)	2695 (15.8)	229634	409
Plan III	3971 (32.5)	10231 (78.9)	4631 (18.0)	306518	464
Plan Holiday	4023 (30.7)	10440 (79.1)	4919 (21.0)	328323	506
Plan IV	4014 (25.2)	10200 (71.6)	5283 (21.0)	355361	554
Plan V	6168 (29.1)	15968 (69.8)	5423 (17.4)	476942	620
Plan VI @	7181 (26.4)	21780 (59.4)	7210 (17.4)	53637	687
1986-87	7764 (21.0)	25871 (53.2)	14145	594747 (17.6)	776

@ 4 year period including 1979-80 annual plan and 1st three years of Sixth Plan Period. Figures at end of period.

Figures in brackets are percent rural.

Source : Health Information of India (earlier called *Health Statistics of India* and *Pocket Book of Health Statistics*). CBHI, GOI, various years. *Statistical Abstract of India* —1984, CSD, GOI, 1985.

education curriculum is western oriented. Doctors are trained in a system which best suits the system of developed capitalist countries. This encourages migration. Not only this but international funding and via it policy too plays its role in causing the continuation of the existing system. For instance all the schools of medical excellence (AIIMS, PGIMR etc.) have been set up with assistance of imperialist agencies. As an example, between 1950 and 1974, nearly 99 percent of all health sector assistance by the Rockefeller Foundation to India went to medical education and research, including attractive fellowships for study abroad (Rockefeller Foundation, various years). Thus, not only do doctors go to the private sector but a significantly large number migrate to other countries as well.

This, we, feel is a serious concern. We are not against the investment of medical education; in fact, if necessary, investment must be increased. What is wrong is the drain of public resources for the benefit of the private sector and of imperialism (through migration). To conclude we feel that the outturn of medical education needs to be regulated. Public resources must be used for public benefit only— this should be the principle in regulation. The mix of expenditure also needs to be changed. More resources have to be committed to the production of nursing professionals whose numbers are only one-fourth of what should exist in India today. Thus a drastic change is needed in the investment and expenditure policy for medical education in India to change radically the growth patterns of medical education and expenditure on it. This change is even more urgent presently, given the wave of privatisation. In 1988, for instance, 13 new medical colleges have been sanctioned, bringing the total to 146 medical colleges; and the striking feature of this is that 12 of these colleges were in the private sector. The danger here is that even private colleges are funded through public finances. Like education in general, this is also true of medical education.

Table 4 : Medical Humanpower 1951-52 to 1986-87

Number Registered at End of Period

Reference years	Allopathic Doctors	Dentist	Nurses	Homeopaths	Ayurveds	Unani	Siddha
Plan I	76904	3003	24724	NA	NA	NA	NA
Plan II	85784	4181	39350	27468	73382	NA	NA
Plan III	111580	4731	59914	NA	NA	NA	NA
Plan Holiday	138744	5485	77824	110514	155828	24530	15413
Plan IV	200003	6559	106751	145434	223109	30400	18128
Plan V	255138	8487	154230	112638	233824	28737	18357
Plan VI @	297228	8725	170888	123852	251071	28382	11532
1986-87 *	340000	10000	210000	150000	300000	28800	11600

@ 4 year period including 1979-80 annual plan and 1st three years of Sixth Plan period

* estimated by author.

NA = Not available

Note : The registered data, with the exception of dentists, is not vey reliable.

Source : Same as Table 1.

Table 5: Medical Education Expenditure 1951-52 to 1982-83

Reference Years	Medical education Expenditure		Receipts on a/c of medical education (fees etc)	Percent of expenditure received as fees etc.	Medical Education Expenditure as percent of	
	Revenue a/c	Capital a/c			Medical Service Expenditure	Total Health Expenditure
Plan I	66.4 (13.28)	—	19.05 (3.81)	28.7	5.33	3.47
Plan II	190.2 (38.04)	—	23.9 (4.78)	12.6	8.25	5.20
Plan III	466.5 (93.3)	—	44.85 (8.97)	9.6	11.99	7.01
Plan holiday	486.06 (162.02)	—	40.92 (13.64)	8.4	14.28	7.14
Plan IV	1319.95 (263.99)	—	76.60 (15.32)	5.8	16.06	7.25
Plan V	3044.70 (608.94)	356.15 (71.23)	76.95 (15.39)	2.5	12.79	7.21
Plan VI	4749.72 (1187.43)	1118.56 (279.64)	76.28 (19.07)	1.7	13.33	6.95

Figures are total for period in Rupees million. Figures in brackets are annual average. @ 4 year period including 1979-80 annual plan and 1st three years of Sixth Plan period.

Source: *Combined Finance and Revenue Accounts* 1951-52 to 1982-83, Comptroller and Auditor General of India, GOI, various years.

Table 6 : Medical Education and Teaching Hospital Expenditure in Maharashtra : 1981-1989

Rupees in Millions

Reference Year	Medical Education Expenditure (1)	Medical Colleges Expenditure (2)	Teaching Hospitals Expenditure (3)	Total Medical Education Expenditure (1+3)	Column 2 as percent of column 1
1981-82	112.49	97.71	239.03	351.52	86.9
1982-83	122.21	104.63	241.87	364.08	85.6
1983-84	143.70	121.54	272.46	416.16	84.6
1984-85	150.24	124.96	299.83	450.07	83.2
1985-86	162.11	138.82	334.69	496.80	85.6
1986-87	186.68	158.11	399.41	586.09	84.7
1987-88*	203.48	172.39	447.78	651.26	84.7
1988-89@	244.87	192.32	393.67	638.54	78.5

* Revised estimate
@ Budget estimate

Note: Expenditure only for eight government owned medical colleges, excludes 3 municipal owned colleges of Bombay and 1 private college.

Source : *Performance Budget* of Department of Medical Education and Drugs, Ministry of Health and Family Welfare, Government of Maharashtra, 1983-84 to 1988-89.

Table 7 : Medical Education Expenditure in Selected Major States 1951-51 to 1982-83

State	Plan I 1952-56	Plan II 1957-61	Plan III 1962-66	Plan Holiday 1967-69	Plan IV 1970-74	Plan V 1975-79	Plan VI@ 1980-83
Union Government	0.94	1.27	5.24	12.71	16.62	149.00	295.33
Maharashtra	2.24	7.08	9.22	11.92	23.08	48.92	112.41
Gujarat	(included in Maharashtra)		4.11	8.35	13.80	22.62	47.43
Tamil Nadu	2.51	2.18	6.44	13.18	25.91	46.30	77.00
West Bengal	1.31	1.65	2.91	8.36	13.24	37.73	68.17
Percent share of above govts.	52.7	31.9	30.0	34.0	35.1	50.0	50.1
Andhra Pradesh	0.58	5.36	10.36	14.56	20.63	38.97	75.04
Karnataka	0.02	1.09	4.91	6.56	11.37	29.20	60.15
Kerala	0.30	1.98	5.18	9.76	13.69	26.34	52.94
Goa, Daman & Diu	—	—	1.25	4.10	8.03	4.40	6.32
Uttar Pradesh	0.69	0.81	4.59	8.47	15.25	43.44	59.43
Madhya Pradesh	1.72	2.89	5.82	8.74	11.87	25.73	40.99
Bihar	0.32	2.38	3.58	5.22	9.27	15.96	42.53
Rajasthan	0.21	1.44	4.49	10.59	16.30	25.97	46.11
Orissa	0.35	3.17	8.18	14.00	24.07	16.54	26.22
Assam	0.78	1.59	6.12	12.80	19.34	12.87	20.28
Punjab	0.98	2.39	9.55	7.22	8.98	19.62	36.40
Haryana		(included in Punjab)		1.67	5.13	20.78	38.47
Jammu and Kashmir	—	—	1.16	2.23	3.89	12.84	58.38
Other States & Union territory	0.33	2.76	0.09	1.08	3.52	11.71	23.83
INDIAN TOTAL	13.28	38.04	93.30	162.02	263.99	608.94	1187.43

Figures are Annual Average of Period in Rupees Millions.
@ 4 year period including 1979-80 annual plan and first three years of 6th plan.

Source: Same as Table 5.

Table 8: Migration of Doctors to Other Countries: 1951-52 to 1986-87

Reference Years	No. of Doctors Migrating	Annual Average
Plan I	4050	810
Plan II	5175	1035
Plan III	5950	1190
Plan Holiday	7200	2400
Plan IV	15450	3090
Plan V	21300	4260
Plan VI @	18548	4637
1986-87	5304	5304

@ 4 year period including 1979-80 annual plans and first three years of Sixth Plan.

Source : *Health Information of India*, CBHI, various years
The Brain Drain Study: Phase I — Analysis of ordinary passport issued during 1960-67, IANR, 1970.

[This article has been prepared from data that was collected by the author and other colleagues at the Foundation for Research in Community Health on a research project study on State Financing in India sponsored by the India Council for Medical Research]

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CAG/GOI : *Combined Finance and Revenue Accounts Comptroller and Auditor General of India.* GOI, various years.

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Rockefeller Foundation : *Annual Report,* various years.

Political Economy of International Migration
Indian Physicians to United States

t k ishi

The number of immigrants from India, as well as other Asian countries, to the United States has drastically increased since the passage of the Immigration and Nationality Act of 1964, which overturned a previous restriction on immigration from Asia. Of the limited amount of literature written on the influx of Indian, most have focussed on domestic concerns: how new immigrants have been assimilated or discriminated against in the new place (Saran and Eames 1980, Fisher 1980). There is, however, much evidence to suggest that an international perspective is needed to fully understand this recent movement of Indians to the United States.

The purposes of this paper are 1) to present a theoretical framework to explain this phenomenon within the context of the international political economy, and 2) to apply this framework to the migration of Indian physicians to the United States for the period between the mid-60s to the mid-70s. This study is part of a larger project by the researcher on a comparative study on the international migration of physicians and nurses from Asia, mainly from India, Korea (republic) and the Philippines.[1] (This article has been reprinted from South Asia Bulletin, Vol II, No 1, 1982.)

BEFORE presenting the theoretical framework, previous theories on international migration should be briefly mentioned.[2] The first major theory deals with 'push' and 'pull' factors operating separately at the countries of origin and destination of migration. The weakness of this theory lies in its failure to see the complex relationship between the two sides of migration. Moreover, the theory tends to focus on individual motivations to migrate. The second theory is the 'equilibrium' theory from a neoclassical economic model. This explains international migration as a natural process of the movement of people to reduce existing inequalities in the supply and demand of labour, as well as in the incomes between the countries of origin and destination. However, this approach cannot explain non-economic variables such as immigration laws. Furthermore, this ignores the fact that international migration, on many occasions, resulted in unequal development, as in the case of migration to western Europe (Paine 1974).

Literature is increasingly available on international migration from a new perspective (Bach 1978, Bonacich and Hirata 1980; Castells 1975; Petras 1981; Burawoy 1976; Portes 1978). This perspective tries to see the international migration of labour within the context of 'core-peripheral' relationship. In other words, immigration serves as a deliberate tool to further the economic development of developed countries (DCs), while emigration is caused by the distorted development of less developed countries (LDCs), influenced by the dominance of DCs over LDCs.

The following study is based on the above approach and tries to examine the validity of the approach by applying it to a case study on the migration of physicians from India to the United States.

The basic variables for the proposed theoretical framework are as follows:

1) The labour need for the economic development of DCs;
2) The role of the labour sector in DCs;
3) The role of the governments of DCs;
4) The labour surplus caused by the failure of LDCs in economic development;
5) The role of the governments of LDCs;
6) The role of the labour sector in LDCs;
7) The cultural, economic and technological hegemony of DCs over LDCs.

DCs with successful economic growth up until the early 70s required a larger labour force in construction, services and professional fields. Also, a 'dual labour market' (Piore 1979), which produced a division in the primary and secondary sectors of industries, as well as in occupations, existed. Foreign labour filled the absolute shortage of labour, and the shortage created by the dual labour market as well.

The labour sector in DCs was very sensitive to immigration, particularly when domestic economies were declining. Fears of competition with foreign labour and lowering effects on salaries by foreign labour were aroused. This pressure from the labour sector in relation to the labour needs for economic growth was the concern of DC governments. As a result, from time to time, DC governments accommodated the above counter pressures, and manipulated the import of foreign labour with various legislations and regulations.

In response to the labour needs of DCs, LDCs filled these needs with their labour surpluses. In fact, the emphasis on gross national products for development plans in LDCs, by and large, neglected unemployment problems. Second, the neglect on the economic development of rural areas caused severe problems in urbanisation. Furthermore, the emphasis on the expansion of capital-intensive industries with the assistance of foreign capital and technology resulted in a retreat in the development of indigenous industries. As such, emigration pressure from various segments of the dislocated population rose.

The governments of LDCs either ignored or encouraged the emigration of their own people. Indeed, emigration

served as a safety-valve for the acute unemployment situation in LDCs. Furthermore, remittances sent by emigrants from abroad became indispensable for LDCs to acquire the foreign exchange needed for their development strategies and debts in foreign loans. Generally speaking, however, the labour sector as a collective in LDCs was weak in influencing government policies. Therefore, the labour sector had nearly no influence on emigration itself. Nevertheless, in the administrative and professional sectors (including the medical profession) entrenched personnel successfully maintained their positions by excluding new entrants. In the general context of slow development, these frustrations faced by recent graduates forced many of them to emigrate.

Aside from the above framework, an understanding of the cultural, economic and technological hegemonies of DCs over LDCs which had a tremendous impact on migration from LDCs to DCs should be incorporated. Through these hegemonies, the flow of capital, technology, information and goods from DCs to LDCs apparently contributed to the emigration of people from LDCs to DCs.

The following piece of information is significant in order to grasp the above concept. The US Government recently began to concern itself with international migration in terms of its foreign policy, because most countries with high emigrant populations were major recipients of US foreign assistance, major partners of US trade and targetted areas of US direct investment [US Agency for International Development 1980; Morrison 1980]. Moreover, most countries of emigration were of the more developed countries among LDCs. This fact may suggest that the process of economic development in those countries was much related to the emigration of their own people despite, or because of, their intimate relationship with the United States.

Before concluding this section, two points should be mentioned. First, freedom to leave countries was granted, freedom to enter other countries was not. In this respect, the economic advantage of DCs over that of LDCs greatly influenced the direction of international migration.

Second, the relationship between DCs and LDCs was mutually interdependent, although not under equal terms. DCs had an overwhelming amount of power over LDCs through the movement of various factors such as capital, technology, military and information. Through this, the world economy became more and more systematically integrated into a global unit. In this respect, international migration cannot be comprehended if considered in isolation from the above perspective.

International migration was sought after in DCs as a cheap and substitutable labour source to alleviate the labour shortage. At the same time, multinational corporations left DCs in search of a cheaper labour force in the LDCs. Thus, the concept of an international division of labour is crucial for understanding contemporary immigration in the context of the political economy of DCs and LDCs.

The following is a case study of the migration of Indian physicians to the United States from the mid-60s to the mid-70s. This case could be considered as part of the 'brain drain'. Although the theoretical framework discussed earlier does not specify the migration of high level manpower, such migration can be similarly regarded as a phenomenon of international labour migration due to the role it has played [Portes 1978]. Thus, the framework discussed will be used to analyse the following case study. The reason why physicians are of particular interest is that, more data and literature is available for this group than for other occupational groups, and second, that the number of physicians who came to the United States is remarkable.

The period from the mid-60s to the mid-70s was particularly chosen for study because it was during this time that, in a historical context, the international migration of physicians was most prominent. This means that beginning in the early 60s this migration phenomenon became acute and declined after the mid-70s. This case study, thus, focuses around this period; however, on certain occasions, as needed, the period prior to and after the mid-60s to mid-70s will be touched upon.

Magnitude of Immigration From India

In viewing the immigration of Indian physicians to the United States, it should be understood that this phenomenon is only part of the general trend of the emigration of Asian Indians to other parts of the world during the 60s and 70s. One major trend was the immigration to DCs, mainly the United States, the United Kingdom and Canada.[3] Another trend which became important recently was the immigration to the oil-producing Middle East [McCarthy 1979]. With this in mind, the magnitude of the migration of Asian Indians, particularly of physicians, will be described later.

As Table 1 shows, the number of Indian immigrants to the United States has been considerable since the passage of the Immigration Act of 1965. Prior to 1965, the immigration of Asians in general was severely restricted under the McCarran-Walter Act of 1952. Among various occupational categories, professionals and technical workers were the largest. This was, of course, due to the preference for professional immigrants in the immigration law. As a matter of fact, Table 1 shows that a significant number of Indian immigrants was admitted under the third preference of the immigration law, which includes professionals, scientists and artists, although, since the mid-70s, more non-professionals are tending to immigrate. (See Table 1)

In addition to the immigration statistics, the number of

exchange visitors and students was significant. The reason for this was that physicians who were exchange visitors were, first, potential immigrants, and second, performing duties and work in similar areas as were immigrant physicians. As for students, they were important because many stayed in the United States to seek employment opportunities after completing their studies.[4] Table 2 indeed, indicates the magnitude of the numbers of Indian exchange visitors and students, as well as those who adjusted their statuses to immigrants while remaining in the United States. (See Table 2)

However, as both Tables 1 and 2 clearly show, a declining trend existed in the immigration of professionals and of those adjusting from non-immigrant statuses to permanent residents. This was mainly due to the further influx of relatives of US citizens and immigrants, and partly due to a restriction on the admittance of professional immigrants, particularly physicians, as will be discussed later.

Regarding the Foreign Medical Graduates (FMGs) receiving US licenses for the first time, their proportions to the total number of those receiving licenses rose from 5.1 percent in 1950 to 22.4 percent in 1968 [Kabra 1976:600].

In terms of Indian physicians, unfortunately, no chronological data, except for some fragmented data, is available. For example, a survey of Indians in the New York Metropolitan Area in 1978-79 showed that 16 percent were doctors [Leonhard-Spark and Saran 1980: 154]. New York State was the state which the largest number of new Indian immigrant, 24.1 percent between 1970-76, declared as their destination upon arrival [US Immigration and Naturalitation Service: 1970-76]. This fact implies the existence of a significant number of Indians immigrant physicians in the United States. Also, Table 3, although not of a recent period, shows the magnitude of these numbers. This data, particularly in 1972, illustrates the existence of a significant proportion of Indian physicians to the total number of immigrant and exchange visitor physicians in the United States. (See Table 3).

In short, although accurate data on the number of Indian physicians in the United States is not available, the magnitude of immigrants, as well as exchange visitors apparently increased greatly after 1965. A study in India by the Council of Scientific and Industrial Research also revealed in 1973 the significance of the outflow of Indian doctors, along with scientists and engineers [Kabra 1976:75].

US Need For Foreign Medical Graduates

In 1970, the percent distribution of professionals in the United States was 14.6, while those in 1950 and 1930 were 8.6 and 6.8 respectively [Chen 1980 : 144]. This change in occupational distribution was partly a consequence of the demands for human capital by modern industrial sectors to sustain a high level in economic growth, and of great financial support in research and development from the government [Thomas 1968: 40-43].

In relation to the medical field, as Table 4 illustrates, total expenditure per capita and percent of the gross national product for health and medical care were increasing. What were the factors influencing the increasing expenditures for health care in the United States? Sorkin [1977:2], in answering this, states that the growing expenditures were mostly attributed to the utilisation of health care services and to inflation, but little to population growth because it was proportionately low. [See Table 4].

The most significant reason for the greater utilisation of health care services was the introduction of the centralisation of the health care system in the United States since the second world war. In the public sector, the basic change occured in 1966 with the Social Security Amendments to implement Medicare and Medicaid. Thus, the public expenditures for health care and the rate of total expenditures drastically increased since then, as seen in Table 4 [Sorkin 1977: 2].

In the private sector, total expenditure rose sharply due to a big expansion in health insurance plans, which were sucessfully resisted by the American Medical Association (AMA) before the second world war (Kim 1981: 150)

Another aspect of the demand for physicians was due to a maldistribution of physicians in the health service system in the United States. This meant, for example, that native physicians tended to choose suburban areas as sites for their more profitable private practices. Therefore, it left 4,000 to 6,000 unfilled positions per year in the inner-city hospitals [Mick 1975: 15, 18 and 19].

However, despite the fact that a drastic increase in the demand for physicians existed in the United States, the AMA failed to respond positively. It maintained a restrictive attitude towards the expansion of medical schools, as well as towards the expansion of national health services [Hock 1970: 27]. The physician/population ratio actually declined from 1950 to 1960 as seen in Table 4. In fact, such a 'cartel-like guild' attitude was intended to keep the income of the physicians high [Adams and Dirlam 1968: 260]. As already evident, although the AMA is not a labour group, it played a similar role as the labour sector described in the theoretical framework of this study. In short, the AMA pressured for the maintainance of the prestige and high incomes of US physicians by attempting to retain a monopoly on the labour supply.

Thus, facing a severe shortage of physicians, the import of FMGs (Foreign Medical Graduates) was needed, particularly for intern and residency positions in hospitals. As a matter of fact, during the mid-70s, one third of all the medical graduates in the United States were FMGs, which included many Indians. The result was to divide the physician population of this country, ie the United States, into two classes: natives and FMGs [Mick 1975: 14 and 17].

Moreover, it was natural that the import of FMGs was desired because it was quicker and cheaper than producing native medical graduates [Reddy 1974: 376]. It should be added that FMGs were faced with problems in state licensure and underemployment. This meant that many FMGs failed the state licensure examinations which allowed them to practice their professions, and that many worked in lower-skilled jobs such as technicians and assistants.[5]

Considering the shortage of physicians caused by the expansion of health care services and the reluctance of the AMA to produce physicians according to the proportionate need in the United States, the US government passed various provisions so that foreign professionals, mainly Asians remaining in the United States, could become immigrants, even before 1965.[6] Otherwise, Asian professionals were unable to become immigrants under the McCarran-Walter Act of 1952, which barred the admission of large numbers of Asian immigrants. Consequently, in 1965, despite the reluctance on the part of public opinion to admit non-white immigrants, other pressures from the government and business communities succeeded in changing the McCarran-Walter Act in order to receive more professional immigrants. Interestingly, this change was paralleled with the expansion of higher educational systems in many Third World countries. According to the new immigration law which became fully effective in 1968, professionals were, categorized under the third preference [Public Law 89-236]. It is needless to say that the influx of FMGs, including Indians, into the United States partially relieved the shortage of physicians, particularly in hospitals in this country.

In addition to the major change in immigration laws, other legislation in regard to the migration of physicians should be mentioned. First, the screening test for FMGs in 1958 by the Educational Council for Foreign Medical Graduates (ECFMG) was established. The test was administered in various countries outside of the United States, and FMGs had to pass the tests in order to be employed in the United States. Second, the Mutual Educational and Cultural Exchange Act of 1961, which provided the exchange Visitor Program, was modified in 1970 in a manner so that the two year foreign resident requirement for exchange visitors before they were eligible to become immigrants, was eased. This amendment [Public Law 91-225] offered incentives to exchange visitors to adjust their statuses. In fact, the number of adjusted FMGs became the major group of new immigrant entries, as Table 1 suggests [Stevens, et al 1975: 440].

However, the trend surely changed after the United States tightened the entry of FMGs with the Health Professionals Educational Assistance Act of 1976, under the Congressional assumption that there was no longer a shortage of phyicians in the United States. This act applied to both FMG immigrants and exchange visitors. Behind this legislation, pressure existed from the various bodies of the American medical profession not to rely on foreign physicians. English language ability and the quality of performance in the delivery of health care were reasons given. Thus, the influx of FMGs to the United States were severely interrupted. Of course, this new legislation greatly affected various hospitals in need of FMGs [Stevens et al 1978: 273-275]. It should be added that due to several health legislations after 1963, the rate of increase in the number of US medical graduates switched from 0.8 percent for the 1956-66 period to 4.8 for the 1966-73 period [Sorkin 1977: 87-103]. Therefore, by the late 70s, it was expected that US medical graduates would absorb the shortage. Thus, it can be said that the role of FMGs was temporarily to fill the shortage created by the delay in a sufficient production of US medical graduates.

As already clear, in addition to the US need for FMGs, various legislation and regulations similar to a 'tariff policy' [Thomas 1968: 40] played a significant role in the supply and demand of physicians in the US market. The international migration of FMGs to the United States was manipulated by different interest groups such as hospitals and the AMA (a quasi-labour group), and the government, as well. The next question to be asked, then, is, "Why did many FMGs in the United States come from particular countries such as India?"

Indian Reply To US Need

In India as in the educational expansion of most LDCs, higher education, in particular, was considered very essential for economic development in the face of an increasing importance of human capital. In fact, the annual growth rate in college enrollments and the total expenditures in higher education were 10 to 13 percent in the 50s and 60s [Ilchman 1974: 121]. Any attempts to restrict admissions in higher education was avoided because they were unpopular and politically unwise [Tobias 1968: 39]. Moreover, in addition to the inability of the Indian government to control the output of graduates due to its decentralised system in higher education [Domrese 1970 : 226], several five-year development plans failed to absorb the graduates into the Indian domestic labour market, leaving severe unemployment [Puttaswamaiah 1977: 79-106]. In short, the lack of coordination between education and human power planning caused educated unemployment, which led to the emigration of many educated people from India.

With regard to physicians in India, the situation was the same, although not as severe as for scientists and engineers [Ghosh 1979: 281]. The expansion of medical education in India after the nation's independence was great, particularly during the Third Five-Year Plan between 1961 and 1966. According to Mathur [1971: 76, 77 and 93] actual annual intake of medical students rose from [illegible] in 1951 to 11,106 in 1968, along with a tripling in the number of medical colleges. And, the estimated surplus of

doctors in the future supply and demand of doctors in India, utilising various methods to estimate projected numbers, were 13,000 in 1971, and 32,000 in 1976.[8] Nonetheless, as long as a shortage of physicians in terms of a physician/population ratio existed, the production rate of medical graduates was expected to be larger than the growth rate of the population in India according to Indian planners [Tobias 1968: 140]. How could this contradictory phenomenon be explained?

One explanation lies in the maldistribution of physicians in India. This meant that most physicians refused to work in rural areas or public services because of lower remunerations and the lack of facilities available in those areas. Physicians were concentrated in big cities and developed areas where higher income was expected. [Marthur 1971: 61]. In the economic sense, the purchasing power of medical services in rural areas could not meet the expectations of medical graduates in terms of the expected high incomes and the cost for training these physicians. In addition, the lack of logistical facilities in rural areas and public services created a reluctance among physicians with specialized training to work there. Therefore, a mere consideration of the physician/population ratio in India, as a whole, could not be a sufficient indicator in planning the output of physicians. As Gish [1975: 5-7] describes, the maltraining and malutilisation of physicians should also be regarded as being important in understanding this unequal distribution between city and countryside.

In short, a lack of coordination between the desire to expand the production of medical graduates and an inability on the part of the country to utilise these graduates, along with the maldistribution of physicians caused unemployment problems for physicians, mainly in the major cities of India. Nonetheless, the employment concern of Indian economic development was treated as a minor problem. The emigration of Indian physicians, therefore, could be seen at least, as an alternative to resolve the unemployment problem by individual physicians seeking prospective jobs in other countries.

In terms of the employment structure of professionals in India, particularly that of physicians, it is not clear how the government viewed the emigration of their professionals. However, it should be mentioned that, as Banerjea [1975: 192] notes, favouritism, nepotism and seniority in appointments and promotion affected the younger professionals. Through the use of favouritism and nepotism, only those having political and personal ties with the hiring selection committees and promotion personnel tended to be selected. Thus, the qualifications of those seeking appointments or promotions were of secondary concern. Of course, this type of practice was also common in other United
were the professional structure inherited from a British model also limited the opportunity for juniors, or younger generations, in terms of positions, as well as income [Dandekar 1968: 217-219]. Thus, the conflict between seniors, or established generations, and juniors, was serious, and many young professionals could not better their opportunities in India. In effect, 'elite feudalism' [Khadria 1978: 103] maintained the status quo of established professionals and prevented the incorporation of increasing professionals. Such negative factors, of course, facilitated the emigration of professionals, including physicians.

Upon considering the factors influencing the emigration of professionals, what were the responses of the Indian government? The situation of a brain drain was repeatedly discussed by LDCs. Yet, there was no definite assessment in regard to whether the migration of high-level manpower was a loss to the countries which produced emigrants, and how the LDC governments could prevent their people from leaving their countries.

India was not an exceptional case. Although India tried to discourage the 'brain drain,' it was actually not among the most urgent issues needing to be resolved, as will be described later. There were more acute problems caused by underdevelopment. The government, overall, could not effectively control the exodus of its high-level manpower.

It was only in 1958 that the Indian government took concrete action in establishing the Scientists Pool for qualified Indians abroad. The objective of the pool was to provide temporary placement for persons returning from abroad with high qualifications, mainly in science, technology and medicine, until they could find permanent posts in India [Abraham 1968: 88-90]. However, the pool system proved to be ineffective in encouraging qualified persons abroad to return home because it did not coordinate its efforts with existing employment opportunities and conditions in India [Domrese 1970: 250; Abraham 1968: 105-6; Tobias 1968: 190]. Moreover, although the government tried to bring back high-level manpower from abroad, it did not intend to prevent them from leaving India.

Concerning the medical fields, the government did take some actions against the emigration of physicians. One such action was the government banning of tests given by the Educational Council for Foreign Medical Graduates (ECMFG), which screened FMGs for work in US hospitals as interns and residents. Indian physicians, however, were still able to take the tests in neighbouring countries. Another action required medical graduates from state medical colleges in India to serve the public health system in medical fields for a limited period [Abraham. 1968: 110]. These measures were apparently based on the absolute shortage of physicians in India as earlier mentioned, resulting from the low physician/population ratio, and the maldistribution of physicians in the country.

Although not particular to the case of physicians, the role of the Indian government in the emigration of high-level manpower, including medical manpower, is discussed below. As previously stated, the government did not seri-

ously concern itself with the emigration situation. For example, in a report by the Education Commission for 1964-66, a statement indicated that the 'brain drain' issue was over-exaggerated.[9] What were the underlying reasons behind the neglect on the part of the government concerning this very issue?

It appears that there were two major reasons for the neglect. One was that the government was unable to tackle the problem of unemployment, in general, and of its educated people in particular. This implied that the issue was 'overflow' not 'brain drain' [Baldwin 1970: 358]. Whether or not it is appropriate to use the term 'overflow,' it is definite that the emigration of high-level manpower, including physicians, served as a 'safety-valve' against the acute unemployment situation [Blaug 1969: 161]. It was also true that educated unemployment was a political threat to the state because the educated were influential enough to address their own concerns.

Another reason was related to the foreign exchange reserve. India, as one of the developing countries, received a large amount of foreign capital through foreign assistance and direct foreign investment in order to develop its economy. Nevertheless, in doing so, India became largely reliant on foreign capital historically from the United Kingdom and contemporarily from the United States. It is needless to say that foreign exchange was also required to pay off debts accumulated through foreign loans, and the import of oil, machinery and technology.

In relation to the emigration issue, the governments refusal to grant foreign exchange for the operation of the Association for Service to Indian Scholars and Technicians (ASSIST) in the United States and the United kingdom, which was to coordinate Indian high-level manpower from abroad and provide placement in India, implied a priority set on foreign exchange by the government [Tobias 1968: 192]. Such concerns were reflected in the control of foreign exchange acquired through the Reserve Bank of India. And in the case of medical graduates, they were able to receive foreign exchange conditionally [Domrose 1970: 246 and 247]. In short, as Blaug [1969: 159] states, the 'brain drain' was unfavourable, but the foreign exchange problem was worse.

Along with the decline in foreign exchange reserve, the importance of remittances sent by Indians abroad began to play a significant role in acquiring foreign exchange, as Table 5 illustrates.[10] Various measures taken by the government to encourage the emigration of Indians into the Middle East were such an example [Nadkarni 1978]. In respect to the emigration to the United States, the situation was not clear, but a large amount of remittances to India was, naturally, expected.[11] (See Table 5).

In sum, the overall policy of the government regarding the emigration of professionals consisted in posing few or no obstacles to their leaving the country. There is no doubt that, unlike the Soviet Union, the Indian government did not want to be scrutinised over the human rights of people to leave the country freely by heavily taxing the people [Bhagwati 1976: 13]. To the contrary, as in the case of the emigration to the Middle East, the government even encouraged the emigration of its own people whether they were labourers or professionals due to acute unemployment and the lack of foreign exchange in India.

US Indian Linkage

It has, thus far, been argued that the emigration of Indian physicians to the United States was caused mainly by US demand, and partly by a surplus of physicians in India resulting from the underdevelopment of the country. Also mentioned was that population movement as such was directly promoted by immigration legislation in the United States. However, in the final section of this paper, the linkage between the two perspectives, the United States and India, will be discussed. In fact, the US-Indian political economy is a basis for understanding the migration.

Beginning in 1956 through the Second and Third Five-Year Plans, the Indian government emphasised the expansion of the public sector by introducing heavy industries.[12] As a matter of fact, the development of industires in the production of goods, particularly steel, machinery chemicals, was accelerated during this period. On other hand, this tendency to place an intensive emphasis on the heavy industries of the public sector caused reactions in the Indian economy, as a whole. For example, by ignoring other sectors of the economy, eg agriculture and small enterprises, such problem as stagnant agricultural production and the existence of widespread manual industries were perpetuated. This situation led to an imbalance in trade because India had to import agricultural goods as well as machinery and equipment, and to maintain its investments throughout the Five-Year Plans. In addition, by neglecting light industries, where its strength was, India's exporting powers were weakened. Therefore, Table 6 illustrates the trade deficit expanded from the late 50s to the late 60s. However, the domestic market which was to absorb the output of newly built heavy industries remained weak. This was due to the continuing existence of the widespread poor segments of the Indian economy, which was perpetuated by the industrialisation policy. As a result of this gap between the primary and secondary sectors of the economy, India, lacking the capital to import goods and to maintain its industrialisation policy, began to rely on foreign capital, either in the form of aid or direct investments. (See Table 6).

In looking at Table 6, it is obvious that the proportion of Indian import from the United States increased from 13.1 per cent in 1955-56 to 38.0 per cent in 1965-66, also that the United Kingdom underwent a decline in its influence.

Such a shift in influence from the United Kingdom to the United States was a clear manifestation of the US hegemony over India during this perod, as well as over other Asian countries. Table 7 illustrates the magnitude of US foreign aid throughout the world. To be sure, India was the largest recipient of US foreign aid throughout the mid-50s to the late 60s. Of course, this was due to the economic potential and strategic importance of India as noted by the US agency for International Development [1966: 106]. The US share in foreign aid to India was the largest, at 51 per cent, not mentioning the share from the World Bank, which was primarily US controlled [Ito 1972: 126]. (See Table 7).

While Indo-US economic relations were deepened through trade and aid, direct foreign investment in India also was outstanding beginning in this period. The US share increased 9 per cent in 1955 to 27 per cent in 1968, while that of the United Kingdom declined from 83 percent to 41 percent in 1955 and 1968 respectively [Ito 1972: 151]. This meant that India ceased to be a monopolised market for the United Kingdom, while the United States became more influential. In fact, as Table 8 shows, US investment in India, through US affiliations and rupee companies controlled by US capital, as well as technological collaborations, increased tremendously beginning in the 60s (See Table 8).

India did not take a policy of export expansion until the early 60s. Capital flowed mainly from the United States in the form of aid and private investment, which became indispensable for the increase and/or maintenance of the output of Indian industrialisation. A huge deficit in the balance of payments in India made it difficult to pay loans previously received. The situation was aggravated by the Indo-Pakistan War of 1965, along with the temporary stoppage of US aid. With this crisis in India, India changed its development policy after 1965 by devaluating the rupee, relieving economic control by moving towards liberalisation, implementing the 'green revolution' and emphasising the development of the private sector. Needless to say, this modification was to accommodate a strong outside pressure, primarily the World Bank, belonging to the Aid-India Consortium, led by the United States. In this respect, having already relied on foreign collaboration from the United States in particular, the Indian economy hence became deeply involved within the US hemisphere.

Important, particularly for understanding the migration of physicians, is the factor of the hegemony of US technology over that of India. As Kabra [1976: 53] explains, technological 'colonialism' became a common feature in India through the instrument of multinationals. Since multinationals utilized their own technology which was under continual change and was brought from abroad for commercial use, it was impossible for India to keep up and digest the imported technology. As a result, large-scale industry, with foreign collaboration, slowed down the development of the indigenous technology of India. Therefore, Indian telent became isolated and was not able to contribute to the country's own technological development [Ray 1971: 2061]. As long as India depends on multinationals for capital and technology, India will continue to rely on the imported technology of the United States.

Of course, in addition to the monopolisation of technology by the United States, the gap in the absolute amount of expenditures and the percentages to the gross national product (GNP) in Research and Development between the United States and India, 34 billion dollars, or Rs 26,000 crore (3.4 percent of the GNP), and Rs 150 crore (0.43 percent) respectively in 1971-72, perpetuated the existing US hegemony in technology [Banerjea 1975: 190-191].

As such, the technology of the United States, which was not available in India, became attractive to Indian professionals, including physicians, who wanted to pursue further research and training. Several surveys do indicate convincingly that professionals who leave their countries and live in the United States permanently do so largely for the research facilities and logistical supports available only in the United States [Oh 1977; Cortes 1974].

However, it was not only individuals who sought US technology but institutions in India as well. This point needs clarification since India, from its colonial period, modelled itself after the United Kingdom. Yet, as the United States came to lead the world in technology, US influence on Indian educational and research institutions became apparent. A typical example was the Indian Institute of Technology, Kanpur, established through the assistance of the United States [Sreenivasan 1978].

In relation to the medical field, the case of the All-India Institute of Medical Sciences was notable because it received 6 million dollars for its construction from the US government. Among private foundations concerned with public health and medical research, the Rockfeller Foundation was most active with its grant to the Indian Association for the Advancement of Medical Education [Sodeman 1971: 168-170], and provision of funds for teaching and research equipment to many medical colleges and institutes in India. Family Planning was clearly a very important project of the Foundation [Mukherji 1978: 170-71].

The introduction of US methodology and equipment for teaching and research no doubt led individual students and graduates to seek higher education in the United States. Also, needless to say, studyabroad programmes encouraged by the Indian government were another factor. Ironically the purpose of absorbing and importing western technology through the study-abroad programme was not well achieved due to the large number of students who did not return home.

The fact that graduates of elite institutions, such as IIT Kanpur, went abroad and returned with prestigious positions, suggests that, although these graduates were not

TABLE 1

Indian Immigrants, Professionals, Exchange Visitors and Students to the United States, 1960-1978.

YEAR	Immigrants	Exchange Visitors	Students	Professionals, Technical and	Percentage of total immigrants
1960	391	1,337	1,591	118	30.2
1961	421	1,579	1,947	139	33.0
1962	545	1,567	2,029	167	30.6
1963	1,173	1,879	2,104	595	50.7
1964	634	2,029	2,025	220	34.7
1965	582	2,073	2,558	198	34.0
1966	2,458	1,782	2,535	1,424	57.9
1967	4,642	2,527	3,158	2,474	53.3
1968	4,682	2,507	4,048	2,189	46.8
1969	5,963	2,244	4,670	2,889	48.4
1970	10,114	2,242	5,392	5,171	51.1
1971	14,310	2,402	5,683	7,543	52.7
1972	16,926	1,969	4,071	8,171	48.3
1973	13,124	1,540	4,266	4,941	37.6
1974	12,779	1,427	4,714	4,812	37.7
1975	15,773	1,812	3,495	6,156	39.0
1976*	17,487	1,000	2,649	6,408	36.6
1977	18,613	1,021	2,329	5,762	31.0
1978	20,753	1,009	3,202	4,731	22.8

*The numbers do not include those admitted between July 1 to September 30, 1976 since the physical year of the Immigration and Naturalization Service changed from July through June to October through September in 1977.

Sources: a. U.S. Immigration and Naturalization Service (1960-1977)
b. U.S. Immigration and Naturalization Service (1978).

TABLE 2

Adjusted Indian Immigrants.

YEAR	Total adjusted	Status of entry			
		Students	Spouses and children of Students	Exchange Visitors	Spouses and Children of Exchange Visitors
1966	1,789	1,015	184	47	11
1967	2,822	1,703	345	83	52
1968	2,276	1,383	410	73	40
1969	2,779	1,567	525	117	73
1970	3,886	2,242	752	143	63
1971	6,144	2,925	955	836	554
1972	7,810	2,940	852	1,636	1,047
1973	4,823	1,332	260	1,264	814
1974	3,962	1,703	374	406	299
1975	4,188	1,901	497	266	181
1976*	4,463	2,009	540	333	219
1977	4,146	1,576	417	492	364
1978	4,430	1,996	440	277	218

* See the footnote in Table 1. Sources: Same as Table 1.

TABLE 3

Physicians and Surgeons Admitted to the United States as Immigrants and Exchange Visitors.

Countries	1962 Im.	1963 Im.	1964 Im.	1965 Im.	1965 Exch.	1966 Im.	1966 Exch.	1967 Im.	1967 Exch.
All countries	1,797	2,093	2,249	2,012	849	2,549	896	3,325	1,234
Argentina	94	116	151	140	47	115	—	126	47
Canada	280	467	440	380	314	393	339	449	300
Columbia	75	90	158	82	30	80	—	116	21
Cuba	120	156	229	201	—	150	1	162	1
Germany (Fed).	73	71	82	75	157	81	155	91	167
India	12	16	8	11	352	40	444	87	842
Japan	8	35	4	11	359	31	423	40	533
Korea (Rep.)	18	19	10	11	247	35	291	70	217
Mexico	70	97	77	110	127	119	131	86	160
Phillipines	119	101	63	66	572	259	754	550	657
U.K.	119	154	165	147	153	187	174	206	539

TABLE 4

National Health Expenditure (in million dollars)

	1950	1955	1960	1965	1970	1975
Total expenditures	12,027	17,330	25,856	38,892	69,201	122,231
Percent of GNP	4.5	4.5	5.2	5.9	7.2	8.4
Private expenditures	8,962	12,909	19,461	29,357	43,810	71,361
Public expenditures	3,065	4,421	6,395	9,535	25,391	50,870
Percent of total expenditure	25.5	25.5	24.7	24.5	37.0	41.6
Number of Physicians	233	255	275	305	348	409
Rate of population per 100,00	149	150	148	153	166	188
Population (1000)	151,326	165,069	179,979	193,526	203,806	213,032

Source : U.S. Bureau of the Census (1977 : 11, 94, 104)
U.S. Bureau of the Census (1965:11).

TABLE 5

Indian Private Transfer Payments*

YEAR	AMOUNT
1955/56	408 million Rupees.
1960/61	826 million Rupees.
1965/66	949 million Rupees.
1970/71	1,364 million Rupees.

* Private transfer payments include maintenance remittances, receipts of missionaries, remittances of savings, migrants, transfers, and since 1964 receipts of pensions, retirement benefits on private account.

Source : India (Republic). Central Statistical Organization (1974: 233-238)

TABLE 6

Value of Imports into Exports from India, by Principal Countries (million Rupees).

Imports of Merchandise

	1955/56 (%)	1960/61 (%)	1965/66 (%)	1970/71 (%)
Total	7,744	11,216	14,085	16,342
Canada	110(1.4)	199(1.8)	305(2.2)	1,172(7.2)
Germany (Fed.)	651(8.4)	1,225(10.9)	1,371(9.7)	1,075(6.6)
Iran	245(3.2)	296(2.6)	341(2.4)	916(5.6)
Japan	383(5.0)	608(5.4)	793(5.6)	834(5.1)
U.K.	1,998(25.8)	2,172(19.4)	1,501(10.7)	1,268(7.8)
U.S.A.	1,016(13.1)	3,276(29.2)	5,348(38.0)	4,530(27.7)
U.S.S.R.	72(0.9)	159(1.4)	832(5.9)	1,061(6.5)

Exports of Merchandise

	1955/56 (%)	1960/61 (%)	1965/66 (%)	1970/71 (%)
Total	6,034	6,324	8,016	15,24[illegible]
Japan	301(5.0)	349(5.5)	5717(7.1)	2,021(13.3)
U.K.	1,644(27.2)	1,707(27.0)	1,448(18.1)	1,700(11.2)
U.S.A.	853(14.1)	998(15.8)	1,470(18.3)	2,068(13.6)
U.S.S.R.	33(0.5)	288(4.6)	929(11.6)	2,098(13.8)
Trade Deficits	-1,710	-4,892	-6,069	-1,098

Source: India (Republic), Central Statistical Organization (1974: 206-211)

TABLE.7

Major Recipient Countries of U.S. Government Foreign Aid, 1955-1975 (in millions of dollars).

	1955a	1960a	1965a	1970a	1975b
Total, net	4,909	4,590	5,052	5,695	8,681
Brazil	37	42	153	93	193
China (Taiwan)	109	109	49	14	191
India	118	523	854	434	243
Korea (Rep.)	279	261	167	198	314
Pakistan	67	229	349	242	134
Turkey	97	101	140	88	73
Vietnam (South)	203	186	301	418	—

Source: a. U.S. Bureau of Census (1970: 872-875) b. U.S. Bereau of the Census (1977:859).

TABLE 8

U.S. Investment in India (in millions of Rupees).

1956	470
1960	726
1964	1,660
1968	4,223
1972	4,850
1976	*5,100

Source: Mukerji (1978:126). Complied from the data of the Reserve Bank of India.

*estimated

emigrating, they played a role in perpetuating the trend of modelling the educational system in India along the lines of educational institutions in the US. Naturally, in the case of FMGs, there was an expressed concern in the United States regarding the purchase of pharmaceuticals and equipment by other countries (including India) through FMGs. This meant, when FMGs returned to their home countries, it was expected that they purchase and introduce products from the US into their countries [US Select Commission on Immigration and Refugee Policy 1980 : 216-217].

In regard to the cultural aspect of migration, the 'colonial' mentality which was formally created through British rule in India should be considered. That is, in India, the British educational model was considered superior to that of the Indian [Munjee 1975 : 17]. A similar attitude was reflected towards US culture after the decline of British influence in India. This indealisation of western culture ignored or downgraded the culture of India. Thus it could be understood why the foreign-educated were considered superior in their fields in India even though they might not have had efficient skills [Munjee 1975: 17]. In looking at the 'neo-colonial' relationship with the United States, the attitude, although difficult to measure, is significant. It is well-known that the 'demonstration effect' which came forth with the influx of western goods stimulated Indian minds. On the other hand, those who went to affluent societies such as the United States became accustomed to the small conveniences of the United States, and thus, did not return [Daendekar 1968: 215].

In addition, 'neo-colonial' ties with the United States contributed to the emigration of Indian phyicians through the network of Asian Indian communties in the United States, and the information flow between India and the United States. For instance, the Directory of Approved Internships and Residencies by the AMA played a significant role in informing FMGs of the opportunities in the United States [Stevens et al. 1978 : 95].

In sum, the United States, backed by an overwhelming flow of capital goods, technology, and information, intervened in India's own economic development and incorporated India within its sphere. With an understanding of this relationship, which was not equal in nature, reasons behind the migration of Indian physicians to the United States can be seen.

Conclusion

In conclusion, it should be emphasised first that the phenomenon of migration is not a separate issue from interdependence under unequal terms between DCs and LDCs. In the case of India, the United States, replacing United Kingdom after the late 50s, exercised an overwhelming influence on India through the movement of capital, goods, technology and information into India. This hegemony of the US over India began to incorporate India within the US sphere. This linkage is the very factor for understanding the exodus of Indian physicians to the United States.[13]

In this respect, international migration can be considered as an analogy to internal migration because after the influx of urban capital and system of production into rural areas, people were pushed out. Today, a similar relationship is exercised at an international dimension. Indeed, the movement of people from LDCs to DCs plays a role in establishing an international division of labour, while still other factors of movement, capital and technology, occur in an opposite direction, as earlier mentioned.

It should be stressed also that DCs are very much responsible for inducing migration from LDCs for the sake of their economic development, and whenever the situation changes, they are able to limit the entrance of immigrants. It is the DCs which have the option to open or close doors to immigrants, and the LDCs and individual immigrants must rely on DC policies, even though individuals may profit from the migration. Thus, the issue of the contribution made to the development of DCs by the international migration of high-level manpower from LDCs has also been discusssed, a phenomenon referred to as the reverse transfer of technology [Kabra 1976; Mainstrean 1974]. Indeed, generally speaking, freedom of mobility is widely acknowledged; however only the freedom to leave countries is granted, the freedom to enter countries is not.

Notes

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1. As part of my project, I have done another case study on Pilipino. See Ishi [1982].

2. For a critical review of previous literature on international migration theories, see Bach [1978] in details.

3. For an overview on Indians abroad, see Tinker [1977].

4. According to Oh [1977: 33], the estimate of the non-return rate of Indian students was 59.5 per cent.

5. Regarding the problems faced by Asian health profesionals in the United States, both California and New York State Advisory Committees to the US Commission on Civil Rights made efforts to address the needs of Asian health professionals. See US Commission on Civil Rights, California Advisory Committee [1975] and New York State Advisory Committee [1980].

6. For a historical development of immigration laws in relation to manpower concerns, see Awasthi [1967] in details.

7. Chen [1980] describes the background of the Immigration and Nationality Act of 1965 in respect to who pressured its passage.

8. The various methods used by Mathur [1971: 80-81] to estimate the supply and demand of doctors are as follows: 1) Supply was estimated from the assumption that no new medical college would be added, and the annual intake capacity of 15,000 would be fully met. 2) Demand was estimated a) from doctor/population ratio norms, b) the relationship between stock of doctors and the growth of national income, c) the relationship between demand for doctors and the stage of economic development-the fitting of the regression curve of doctors on national income to the data of different countries, and d) the component approach.

9. Cited in Pandit [1968: 109]. Also, in Reddy [1974: 375] cited that the Financer Minister of India in 1968 said the brain drain was not a loss to India.

10. The trend of increasing remittances countinued after 1975 when the incentives for non-resident Indians to invest in India were taken by the government [Rele 1976: 270].

11. According to a survey, approximately 60 percent of the Indians in metropolitan New York area send remittances to relatives in India of 100 US dollars or more per month [Thottathil and Saran 1980 : 245].

12. The following argument is based on a study by Ito [1972] in respect to Indian economic development after the second world war.

13. The study on the migration of Indian physicians from India to the United kingdom and the United States, and of British physicians from the United Kingdom to the United States, should be fascinating. Along with the US hegemony on research and development, and the establishment of a national health service system in the United Kingdom, many UK physicians went to the United States while many Indian physicians filled the shortage in the United Kingdom partly caused by the exodus of UK physicians. However, Indian qualifications were only recognised up until 1975. Afterwards, it became difficult for Indian physicians to emigrate to the United Kingdom [Smith 1980: 1-12]. In 1976, the United States also imposed stricter requirements as mentioned in this paper.

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Undergraduate Medical Education in Underdeveloped Countries: The Case of Pakistan

s akbar zaidi

The type of medical education of a country is closely linked with its system of health care. Any health care system, with its own peculiarities, requires a certain type of doctor who can function effectively in the given environment. The same is the case with underdeveloped capitalist countries, such as Pakistan, where a skewed, elitist, curative model of health care exists. In Pakistan, where the literacy levels in the native tongue are very low, medicine is taught in English, and nearly all prescribed textbooks are written in and for the West. Conditions specific to Pakistan, such as the degree of cheating in exams, the time lost due to closure, and the level of debate concerning the medical system may find their parallel in other UDCs. Since it is the social and economic forces, which in the final analysis, determine the system of health care and medical education, one cannot expect any significant improvement within the existing class structure. (Reprinted from *Social Sci. Med.* Vol. 25, No.8)

THE historical evolution of most underdeveloped countries (UDCs) has resulted in a pattern of medical and health care which is, to a great extent, modelled on that found in developed countries (DCs). A salient feature of this type of health care is that it is essentially curative in nature. However, as the degree of social and economic development in UDCs still lags behind that in the DCs, the resulting model of health care is of a peculiar and distorted kind, and is in most cases, not as successful as that found in DCs [1-8].

The main feature that has evolved from this (curative care) type of health structure is the dominant role of the doctor in administering medical care. The preferable pyramidal structure for health personnel, where there should be more auxiliary health workers assisting each doctor, is in most UDCs, inverted [5, p 18]. These doctors have thus become the 'frontline' health workers, whether they function at urban hospital or district level. The role a doctor performs in any society is determined by the system of health and medical care in the country, which in turn is largely determined by the socio-economic formation prevalent there. Furthermore, the model of medical education, the process through which doctors are produced, is tied in very closely with the model of health care in that country and with the demands and perceived needs of the people or their ruler. If the model of health care in a capitalist UDC is one which is urban-based, hospital and curative care oriented and determined by the workings of the market mechanism resulting in a small minority of the population having any feasible access to the system, the doctor will go through a number of years of medical school so as to be able to work effectively in such an environment.

In socialist oriented countries, attempts will be made to make the doctor's role radically different and to involve him in social and community oriented health projects. This, however, is easier said than done, and a mere desire is not a sufficient condition to fulfill such political tasks. Given the fact that the medical education system before social change in these UDCs was one governed by the old socio-economic formation, the new socio-economic formation may not be able to bring in a new radical programme for medical education overnight. Clearly, the superstructure and its parts will take much longer to change than will the base. Nevertheless, a revolution in society will have its affects on the health system, which, as experience from the world in the last 40 years shows, will be greatly improved and expanded. For example, almost all socialist countries have made impressive gains in the health status of their people, thanks to the programmes of basic nutrition, housing, sanitation, water and education which now reach a majority of the population. Thus, physicians in these societies will be *aided* by the expanded health infrastructure in their attempts to eradicate disease. This advantage is clearly lacking in capitalist UDCs.

Furthermore, there is a difference in the position of doctors in the health system's matrix in capitalist and socialist UDCs. In capitalist UDCs, the doctor *(and thus medical education)* plays a more dominant role since supporting health infrastructure are lacking. In socialist oriented UDCs, other factors in the health matrix begin to play an increasing role. That is not to belittle the role of doctors and the importance of medical education in socialist oriented UDCs. Experience from these countries shows that by realising the importance of the role of doctors, concerted efforts are made to change the medical curriculum and to produce doctors oriented to the needs of the local environment. However, as has been argued above, the results may take time to bear fruit, as remnants of the old system may cause hindrances.

This paper will examine the issues relating to medical education in UDCs. After a brief overview of UDCs in general, we will turn to the particular case of Pakistan, a post-colonial state, and critically evaluate the system of medicine and medical education in this country. The final section will deal with the possibility of reform in medical education.

Health Care and Medical Education in UDC's[1]

A great deal of literature exists which deals with the model of health care in UDCs [1-22]. Most of these authors have limited their analysis directly to the model of health care, and have only indirectly approached the question of medical education. However, as we have argued, the two are very closely related.

Most of the present UDCs were, at one time colonies of the western nations. Their economic and social systems have been greatly influenced by the colonialists and despite their 'independence' they still follow closely norms and regulations left behind by their masters.

When the colonialists first took over, the overall society and economy of these countries were transformed, and the medical and health facilities were brought in line with the changing 'super-structure'. The colonial administrators required a model of health care which would cure the ills of their own people, their military and their bureaucrats. They thus set about 'importing' medicine from their home country and actively built up this 'western' type of health care, usually at the expense of the indigenous system which had existed earlier. As a select few of the locals were incorporated into the closed circles of the colonialists, a new elite was formed. Members of this small clique were also able to afford some of the luxuries brought by the westerners, one of which was the access to western medical care. When the colonisers left the foreign lands, the local elite had been so 'westernised' that they emulated their masters in practically all fields [1, 7].

The pattern of health care that has evolved in most of the capitalist UDCs is one based on curative care, and the workings of the socio-economic and political systems are such that health care has come to cater essentially for the rich and the elite [2, 8]. This model of health care has a predominantly urban bias in the distribution of facilities, and thus the majority of the population, usually rural, are denied the right to have access to health care [15]. And, it is not all the urbanites who have access to health care. Since medical and health care is sold like any other commodity in the market, most of the urban poor cannot afford the escalating costs of medical care either. In underdeveloped capitalist countries, we have argued that the socio-economic system, with its resulting class structure is largely responsible for this type of urban based elitist model of health care [8]. This model, along with a general low priority given to health care and disease elimination is responsible for the very high communicable disease pattern in these countries. However, there are a few UDCs which have at least made sincere attempts to solve the problems of their people.

The cases of China, Cuba, and Nicaragua are worth citing. In all these countries, there has been an improvement in the health status of the population. The infant and child mortality rate have fallen, facilities have come to be more equitably distributed, health services are free etc. [23, 27]. Mozambique too, is following a similar path and indications show that the health status of her population is also improving [28]. What is important to point out here is that these countries have not only had a change of government, *but there has been a substantial transformation in their economic structure.* They have gone from a non socialist mode of production (form of the economy) to a socialist one, where the distribution of power and resources rests with the people and their true representatives. The people have collectively been able to decide what is best for them and have taken action for their own betterment and welfare without having to confront a hostile ruling class. This importance of the change in the mode of production has been emphasised by Navarro as he argues, "abundant empirical evidence exists to show that the most important changes in the health of the underdeveloped countries' populations during the last 20 years have occured in revolutionary Socialist underdeveloped countries via changes in their economic, political and social structures, independently of and outside the health care sector" [11, p. 169].

In underdeveloped capitalist countries, for the functioning of the inequitable and elitist model of health care, the medical college has provided just the right graduate: a doctor who can function within the norms as defined by that society. Just as the economy of a UDC is closely tied in with the larger movements of the international economy, and is dependent on the developed countries, so too is its system of health care. Similarly, the medical college is linked closely with the pattern of medical education in the dominant (often ex-colonial) country. This is despite the fact that the real needs of the UDCs, as defined by their disease patterns and limited resources, are different from the DCs.

Even in Tanzania after the Arusha Declaration, the curriculum in the medical schools 'mimicked' that of the West with a content which is clearly unsuitable to the needs of the local environment. A major factor which determines the need to achieve an 'international' standard is the faculty. This desire for acceptance by university authorities in the West, forces them to adopt western concepts of 'academic standards'. The result is that "much of the curriculum is thus objectively being determined from outside the country" [16, p 47; also see 6,8]

Gish [14], Gish and Godfrey [19] and Horn [18] have shown how this type of western-oriented medical education results in a 'brain drain' of professionals to the developed countries. Gish and Godfrey argue that due to inequities in the functioning of the market, medical care is also skewed in a manner which suits the rich. The prospective doctor goes through an institution "whose 'standards' are generated by New York and London and are mostly unrelated to the problems and possibilities of UDCs" [19, p 6]. The reason for this is that the bourgeoi-

sie, who controls most of the resources in a country, requires the latest and best in medical care and thus try to produce 'comparable' doctors at home [2]. This internationalisation of doctors only helps the developed countries. The migrating doctors subsidise these countries as they do not have to go through the expensive process of producing their own doctors, while the social cost of producing them is borne by the poorer UDCs.

Not only does this internationalisation assist migration, but by maintaining foreign standards, severe internal distortions also arise. Since medical students are taught their craft in hospital settings, as is done in the West, they often fail to interact with 'communities', both urban and rural and thus remain ignorant of the social causes of disease. Since the disease patterns in UDCs are quite different from those in DCs, the way to deal with them must also be different. Medicine taught in the hospital setting is often not sufficient to deal with the complexities of disease in UDCs. The unfortunate outcome of this type of medical education is a hospital-oriented doctor who has been taught to function in urban settings with the help of modern and sophisticated technology. With such technologies and facilities lacking in rural areas, a large number of doctors would choose not to go there, thereby denying the right of the rural population to have access to doctors. With the concentration of doctors and facilities in urban areas, the limited finances of the health budget are spent here, where only a minority of the population lives [8,20-22].

A factor closely linked to the functioning of urban based doctors having a primarily curative approach, is the prescribing of drugs in great abundance. Since medical care, as it is practised, is linked with the doling out of medicine, this type of doctor and health care model also contributes in supporting the drug industry. The drug industry in most UDCs is foreign owned and acts as a further link in the exploitation of the UDCs by the West [29. 30].

Another important aspect of medical education has been lucidly examined by Banerji [1, 6, 7]. He says that in the course of their medical education, the students "who mostly belong to the upper classes, get further alienated from the masses of the people" [7, p. 33]. The colonial character of the health services, affecting medical education, also played its role in "shaping the value system and the social outlook of the Indian physicians" [1, p. 1334]. This class based alienation makes them further dysfunctional in the UDC, especially in the rural areas and urban slums, where due to their class position, they are often not able to relate to the poor. The doctor thus produced cater primarily to the elite of their country, or then, go off to the West or the oil-rich countries where they feel more at home professionally (and often even socially)[2][21].

This 'western' model of health care and medical education has been uncritically adopted by most UDCs. Thus the case study presented below, although specific to Pakistan, will clearly echo the situtation prevalent in other UDCs.

Case of Pakistan

Up to 1947, what are now India and Pakistan, were one country ruled by the British. Any history that they had until that time, was broadly the same, albeit, regionally specific in character. In the field of health services too, this is largely true with the exception that what is now Pakistan, had a greater influence of Muslim and Arab culture than did present-day India.

Debabar Banerji is a leading authority in the field of social aspects of medicine in the sub-continent. He has written extensively on the historical evolution of medical and health facilities in India and has shown how British imperialism imposed its values on Indian society and trampled on the indigenous health system that had existed until then. The colonialists developed their own system of health care (the 'western' system) and recruited a select few of the local elite to take over the entire political and administrative system after they left in 1947 [1, 6-8].

The resulting medical and health services system inherited by Pakistan is one which is modelled on the West (in particular Britain), being primarily hospital-oriented and based in cities. More than 90% of health facilities are in urban areas and the disparity shows no sign of improving [8]. The medical colleges in the country centre around this hospital-based approach to health care and look towards New York and London for guidance and inspiration.

There are at present 17 medical colleges in the country[3] with an annual intake exceeding 4300 students (there are at present more than 22,000 students enrolled). Two of these are exclusively for women while all the others are co-educational. There has been a great increase in the number of medical colleges in the last decade mainly due to the populist rhetoric of the Bhutto Government— in 1971 there were only seven medical colleges in the country. Some of these colleges were set up purely on political expediency, in cities which lacked even supporting infrastructure (eg Nawabshah, and Larkana—Bhutto's home town). Due to excess production, the present government has not only put a stop to the increase in the number of medical colleges, but has also decided not to increase the admission capacity of the existing colleges. *Ad-hoc* and anarchic policies, usually short-term, appear quite regularly, and despite weighty five-year and annual plans, there is seldom, if any, planning at all.

The curriculae of all the medical colleges in the country are identical and the colleges come under the aegis of the Pakistan Medical and Dental Council (PMDC). This body, apart from regulating and streamlining medical education, also looks at the ethical aspects of medical practice

Table 1: Allocation of Teaching Hours to Various Subjects in Medical Colleges in Pakistan

Serial Number	Subject and year	Total number of hours	Percent	When examined
Years I and II:				
1.	Anatomy with histology	800	24.5	1st professional
2.	Bio-chemistry	200	6.2	1st professional
3.	Physiology	600	18.5	1st professional
4.	Human relations, sociology, community orientation, medical ethics	100	—	—
5.	Pakistan studies and islamic ideology	100	3.1	1st professional
Year III :				
6.	Pharmacology including therapeutics	300	9.2	2nd professional
7.	General pathology (microbiology parasitology)	300	—	3rd professional
8.	Forensic medicine and toxicology	60	1.8	2nd professional
Years IV and V :				
9.	Community medicine (IV year)	100	6.2[1]	3rd[1] professional
10.	Medicine including applied physiology	145	4.8[2]	Final[5]
11.	Surgery including applied anatomy	145	5.1[3]	Final[3]
12.	Orthopaedic surgery	20	—	—
13.	Obstetrics and gynaecology	80	2.5	Final
14.	Paediatrics	50	1.5	—
15.	Opthalmology	30	0.9	Final
16.	E.N.T.	30	0.9	Final
17.	VD and skin	10	—	—
18.	Pathology (general and special) and microbiology and parasitology (IV year)	100	12.3[4]	3rd professional
19.	Clinico-pathological conference, orientation, etc.	80	2.5	—
	Total	3250	100.00	

[1] Includes no. 4. [2] Includes no. 17. [3] Includes no. 12. [4] Includes no. 7. [5] Includes no. 14 and no. 17.
Source : (31)

and acts as a control on malpractices. The body consists of senior professionals in bureaucratic positions and the principals of all the colleges.. For all practical purposes, the PMDC does little work that is of any profound significance to the system of medical education. However, it does exercise some control over the curriculum of the medical colleges and determines the courses to be studied. The last major change occurred in 1975, when the PMDC laid down the present curriculum for the MBBS degree. Since then some insignificant changes have been made, notably in the shifting of the subject of community medicine from one year to another. Another recent change is the introduction of Pakistan Studies and Islamiat (Religious Studies) in the first year of medical school [31].

Education in a Medical College

A student enters medical college after 12 years of schooling, the last four of which have already determined the choice of the student (or in most cases, his parents') towards medicine. However, a miniscule proportion of those who in their ninth year of school opted for medicine eventually get to medical college. Further, admission to medical school is not limited to merit, as a quota system exists which permits some second class students to enter.[4] Thus competition from an early age is fierce, and only those who excel, or have the right connections, or right regional or social backgrounds, are admitted.

The medical degree, MBBS, is spread over five years with four professional exams. Years one and two constitute the course work for the first professional exam, with a professional exam each year for the remaining three years (see Table 1). Clinical teaching starts from the third year, where students are supposed to spend 2 or 3 hours a day for a period of nine months with one month per ward. The third year group is taught how to examine patients but is not given lectures on diseases and is largely selftaught. Attendance to the wards is compulsory, as it is to classes, but as the group gets larger because of bigger intake, it gets more unmanageable and as learning by the bedside gets more difficult, more and more students stay away. Eventually only the core group of bright and eager ones remain, while the ones with lesser competence who need more attention stay away.

Community medicine is rarely given much importance

in UDCs, and Pakistan is no exception (see Table1). Previously, there used to be 'field trips' in the subject which took students to see sewerage plants, rural health centers, and other such institutions. Even then, community medicine had a 'curative' institution bias. Rarely did the students interact with a 'community', whether urban or rural, and often these trips were considered 'fun trips' and 'outings'. Now this procedure has been replaced by discussions and seminar groups for a period of one month each year. Thus, the discussions by the alienated students relates to 'communities' of which they have no first-hand knowledge. Due to a lack of training in the social sciences, they are also unable to see the social mechanisms at work in the environment. Even the patients that come to the wards are usually from urban backgrounds, so exposure to rural disease patterns is totally lacking [20, 21].

Further, the students are not taught in detail about common diseases such as typhoid and malnutrition, but instead, surgery, pathology, etc are emphasised. The students are advised to specialise in subjects which offer lucrative returns. A post-graduate in community medicine may be more qualified to deal with diseases in a poor rural community, but he would indeed have a hand-to-mouth existence. There is no social value attached to community medicine in this society and little or no demonstration effect exists. Thus, for students to reject community medicine and specialise in neurosurgery is sad, but nevertheless, understandable.

Lending facilities in the college libraries are poor and so students have to buy most of their books. Nearly all books are written by western authors and thus are fairly expensive, although now most of them are printed in Pakistan, or published in the Far East. In the first year a student is required to buy the greatest number of books which are also the most expensive. 'Gray's Anatomy' alone costs close to Rs. 700 and the bare minimum cost for books in the first year comes close to Rs. 1700. If a student wishes to purchase medical 'atlases', he must spend a great deal more. Further, the desire for 'latest' books means that since editions change very fast and the material changes as well, students cannot usually work with second-hand books from their senior colleagues. By the end of the final year, the students have spent between five to seven thousand rupees for their very basic books and if they want a few more necessary texts, they must spend further Rs. 3000-4000. The costs in many individual cases can be substantial.[5]

At the end of the five years in medical college (which in Pakistan due to 'disruptions' usually extends to seven),[6] the students are supposed to do a 'House Job' (internship) for a period of one year. Six months are spent as a junior, while the other six are spent as senior house officer in the same or another speciality. Again, the opportunity to work in a certain ward is based on merit, with about 30-40 doctors per ward. Of these only a few are paid, while the rest must be honorary.

The basic issue with which we start our criticism of the model of medical education is that of language. The medium of instruction in all medical colleges in Pakistan, is English; Pakistan, like India, is a country with different nationalities and cultures, each region having its own corresponding language. Although the official languages are English and Urdu, the entire population cannot speak Urdu, leave alone English. The regional languages have preference over the official ones, especially in the interior of all the four provinces. Further, only 26 percent of the population is literate (in any language). Thus, of those 26 percent one can presume that very few would be able to read and write English. Even fewer would have English as a mother tongue. Moreover, although medical education is in English, schooling can be in any regional or national language. A student may speak his mother tongue at home, he may use another language for primary and secondary education, and yet a third for professional education. That means that although a student has spent 12 years of school life in a language other than English, he or she will be confronted with a 'foreign' language once he enters medical college. This foreign medium of education means that very few students from per-medical schools will actually be able to learn much in medical colleges. This preference for English shows a bias towards the elite and westernised urban based minority who are accustomed to English in their homes and educational institutions. Members of this elite, apart from being able to learn more, and with much more ease, claim the best house jobs, followed by the most lucrative job offers. Thus, discrimination on a class basis is reinforced through the medium of instruction in medical colleges. Further, if medicine were taught in either the regional or national language, the international mobility of doctors would fall dramatically. This is a situation which the elite, whether doctors or laymen, will not readily accept [21].

The problem of language is not restricted to the lecture halls alone. Students have to take histories from patients, if not in the mother tongue of the patient, then in the local or regional language. A student who does not even know the names of the most basic diseases in the national language, will have substantial difficulty in finding out what is bothering the patient. There will be very little communication between the two, if at all. Langauge, however, is only a minor barrier compared to the cultural barrier that exists between the patient and doctor. In most post-colonial societies, a separate 'culture' exists for the elite, and even a mastery of the language will not necessarily close the cultural gap between the two [21].

The books that are used in medical colleges in Pakistan are in most cases written by foreign authors—mostly American and British.[7] These books cater, primarily, to a western audience in medical schools in developed countries. They are written in, and for, a specific socio-eco-

nomic culture and environment dealing with a particular health and disease pattern. The fact that they are used in UDCs without any changes, causes a few problems. Since the authors have the DC student in mind, quite naturally they talk more of diseases found in the West than in Pakistan or other UDCs. The main diseases in Pakistan which are caused by infections and are communicable have more or less been wiped out in the West. Further, a great number of diseases in UDCs have their roots in social and economic conditions which are far removed from the hygienic western hospitals in the countries of the authors. Thus, some diseases which are very common in Pakistan, such as typhoid and diptheria would be treated as 'interesting and rare' cases in the West, and would not be given the importance they deserve in the texts.

The average size of a class in medical colleges exceeds 250 students— in some colleges it is more than 400.[8] With such an unfavourable student-teacher ratio, it becomes very difficult to learn anything in class. Further, the audio-visual facilities that exist in all medical colleges are very poor, and thus most of the students are in effect, not participating in the learning process.

One important factor which upholds the existing system of education is the role of the teachers. With very few exceptions, all are foreign qualified. In fact, it is very helpful for teachers to be foreign qualified if they intend to rise to the post of professor.[9] These tutors lead their students through the course they went through— first education in Pakistan, followed by essential foreign training to learn the latest teachniques. These students if they come back, either end up in large hospitals in the city or else attempt to go and settle abroad where lucrative jobs await them.[10]

The irony of the medical education system is that with 4000 new graduates a year, not all can be absorbed in the existing health system. This leaves many unemployed, and the numbers keep on increasing at a very fast rate indeed. This expanding cumulative unemployment arises despite the fact that very few people in rural areas have access to doctors who tend to converge in the more lucrative urban areas. The medical education system has taught the doctor to deal with sophisticated equipment and modern technology. In a rural area he is completely lost without his tools. Further, the disease pattern is also different, and he may find that unless he is aware of rural sociology, politics and economics, or is a native of the rural areas, he will not be able to function effectively [8, 13, p. 217, 20].

The examination system in medical colleges acts as a major contributor to the poor quality of doctors produced. With the emphasis on essay-type exams held at the end of the year, with journal work and orals (viva-voce) playing a small part, irregularities are quite widespread.

It is not possible to assess exactly the amount of cheating, but one can, on casual observation, clearly see that it is quite significant. One observer quoting medical students, wrote in a local newspaper: "there was a question on typhoid ... we ignore small items. We prepare diseases which have complex, lengthy treatment so we could fill up pages. Typhoid has a simple treatment. Nobody bothered to study it. We strongly protested (to the invigilator) and cheated, of course" [32]. (This happens where every third day, six or seven cases of typhoid turn up in the wards). It is estimated that as many as 90 per cent of the students cheat. Cheating is not only limited to written exams, the oral exams, which should be a safeguard against cheating, are also subject to unfair means. There is a case where a student got a distinction in a subject by giving his tutor a diamond. Other students have been known to arrange for foreign trips for their teachers, while still others have paid for the petrol of their teacher's car for the whole year. Cheating in educational institutions of all types, at all stages is epidemic, yet few active measures are taken to deal with the problem.[11]

There is an anomaly which is probably unique to Pakistan. Some medical colleges in the country, although functioning under the PMDC regulations are not recognised. The degrees of the Chandka Medical College, set up in 1972, are as yet not acceptable to the post-graduate medical centres of the country. Two other colleges which have been functioning for a number of years have only recently been recognised. This essentially means that a student may complete five years of medical school and yet be legally unable to practice medicine.[12]

The present government of Pakistan has repeatedly played the nationalism and religion 'cards' as a means to extend its rule in the country. It has thus introduced the subjects. Pakistan Studies and Islamiat, in the curriculum of medical colleges. In fact, of all subjects taught in the first year they are probably the most important. If a student fails in either of the two he or she will not be allowed to reappear in the subject and will be declared failed in *all* subjects. Apart from the argument that religious studies have nothing to do with medicine, the level of instruction in these two subjects is similar to that of intermediate (class XI and XII), and is thus a repetition of the previous years. However, in this case, they not only add to the burden of work, but with so much importance granted to them, cause unnecessary anxiety.

Although the problems mentioned above may be specific to Pakistan, many UDCs can find some similarities. However, the level of debate concerning reforms in the medical system in this country, is of a very poor standard compared to other UDCs, such as India.

Since health care itself is not considered an important priority of the government—the health sector gets only 0.6 percent of GNP—any issues related to problems within the health system receive even less attention. Very little research is done in Pakistan which deals with problems related to medical education. Nevertheless, a few

government publications do exist which indicate the attitude of the doctors and concerned bureaucrats. However, since they echo the elitiest bias in medical thought, the recommendations if followed, can prove quite disastrous to the welfare of the masses of the country.

A commission set up in 1960 (33), to study the medical and health sector came up with some recommendations dealing with medical education. Some salient points of the report are worth noting.

The report recommended that "since children of medical practitioners will have seen at first hand what will be expected of them by the community, therefore a bias towards the children of medically qualified parents (in the case of admission to medical college) should be exercised" (33, p. 46). Such an attitude is reflective of the medical lobby which wishes to perpetuate its own hold on the profession. The prominent professors and physicians who control the health system wish their offspring to enjoy the fruits which they have tasted. The class nature of medical professionals is thus further re-inforced. (21).

This is evidenced by another recommendations which accepts the fact that many students' "knowledge of English is insufficient for them to profit from their course of studies" (33, p. 56). Rather than suggest a conversion to the mother tongue of the students, the writers of the report urge the teachers in medical schools to give their students "practice in speaking, reading and writing English" (33, p.56). The elite, who are fluent in English and need no 'practice', would nevertheless have an upper hand in the system.

The elitist bias is further revealed by the fact that the report gives only four lines out of 20 pages to community medicine. This is so because the elite amongst the doctors are the last who will need to see a rural community or an urban slum, since most of their clients will be well-to-do urbanites. Thus even if they were taught community medicine, they would have little opportunity to put it to practice.

The western-orientation of medical education in this country is further reinforced by the recommendations of the report. It suggests that the more 'enterprising' men and women who can make the 'necessary arrangements' should complete their training in the United States or Britain. In fact, another report goes even further.

Ahmed (34), argues, that not only should the physician training programme maintain international standards of quality, but since the cost of producing medical personnel is low, the world price is high, "the setting is ideal for developing an export market" (34, p 12). The object of medical education, according to the author is to "produce a graduate within our resources who is accepted internationally" (34, p. 13). (The report was funded and published by the Public Health Association of Pakistan!)

There exists little consciousness about social issues in this country, either at the political/bureaucratic level, or at the mass level. Further, with a dictatorship at the helm of government, any semblance of debate and dialogue if it gets underway, is heavily biased in favour of the existing status-quo. The media is totally controlled by the government, where inhabitants of the country are given their daily dose of 'newspeak'. With such an atmosphere existing within the social conditions of the country (lacking any significant opposition), any reforms that take place will be similar to those mentioned above. They will be totally cut off from social reality and will at best be only 'cosmetic'. Thus, to await reforms from the ruling class to suit the masses, is both native, and unrealistic. As long as 'things are in control'. and the status-quo remains stable, the government have no need to cater to anyone but to those whose interest it serves.

Possibility of Reforms

As the title of this section suggests, we will deal with recommendations for reform in the medical education system in UDCs. We will essentially deal with the suggestions put forward by Gish and Godfrey (19). We feel that their recommendations are indeed ideal and if followed through would result in an excellent system of medical education and health care which would fit the requirements of UDCs almost perfectly. As we proceed to show, however, their recommendations are good only on paper and as they have ignored the social and political forces active in UDCs, cannot be implemented in capitalist underdeveloped countries very easily.[13]

Gish and Godfrey start their paper with a critique of neo-classical reforms rejecting the framework on which they are based. Their alternative framework accepts an international market for professional skills into which UDCs are well-integrated. Their suggestion is a withdrawal from the market, essentially arising from a changed focus in educational policy which should deal with internal needs rather than external markets. They have presented some specific recommendations to which we now turn. (Their paper deals primarily with UDC commonwealth governments.)

The authors have given 11 different recommendations for UDCs which are summarised as follows: (i) an end to use of British qualifications; (ii) no more foreign professional examinations in UDCs and an end to advertisement and recruitment by developed countries; (iii) disaffiliation from western-dominated international professional associations; (iv) permission for students to go abroad only on 'relevant' courses. (v) the development of local courses and qualifications which are more suitable to local needs and thus less acceptable to the western employers— a 'de-internationalisation' of doctors and medical education; (vi) regional cooperation for higher education; (vii) the use of the national languages as the medium of instruction. (viii) improved rewards and job content; (ix) various controls to dissuade overseas study; (x) rejection of various, other

(outside the health sector) interests; and (xi) the restriction of the output of doctors in UDCs to the number that can be absorbed at home (19, pp 8-10).

Let us now proceed to examine each of their recommendations. Firstly, an end to British qualifications must take place not only at medical college level, but also at school level. At present the vast chain of 'O' and 'A' level schools all over the commonwealth offers the elite the opportunity to acquire British education while sitting at home. They have a great deal to lose by denying themselves this privilege and one sees no reason why they should give this up. Again, the author's second point: although Pakistan has ended the sitting of foreign professional exams in the country, those with money can easily fly to London or San Fransisco and take the relevant exams there.

Recommendation (v) requires substantial changes in the model of health care. Of course, UDCs should have locally specific courses so that they can function in the local environment, but again, as has been argued above in the way the class system exists, the rich want a certain type of doctor who is well acquainted with the latest and best techniques in major hospitals in the East, and not in the poor areas at home. It is quite clear that the doctor produced in UDCs favours and belongs to certain class, and this class, in all essence, determines the type of doctor to be produced and supports the 'international' curriculum (1,2,8,21).

Instruction in the national language, as we have shown above, also chips away the advantage of the elite for whom English has become a mother tongue. By introducing the national language (which is itself controversial, say in India), members of the lower classes will have access to the domain of the elite, again a hard-won privilege which they will not give up easily. Further, UDC governments can if they wish, discourage overseas study, but if a monetary mechanism is used, the rich can over-ride it. It seems doubtful that any other means will be used, especially since the children of the elite are the ones who are most likely to go abroad. Even local production cannot really be restricted, as the burgeoning middle classes will clamour for their rights as well.

Essentially, the above discussion looks at the relationship of the elite (the dominant class/classes) with the government. We argue that the dominant class has substantial control on the government and on the distribution of health resources in a country (2). Further, in the absence of any significant challenge or opposition, we see no reason why the ruling class should carry out policies to hurt its own interests. This is mainly what Gish and Godfrey have recommended—the government working for the 'masses' at the expense of the elite. This is clearly a problem in underdeveloped capitalist countries. However, in countries where there has been significant social change and mass participation and genuine democracy has resulted in the control of the people of their own destinies, these reforms are possible. Mosambique is an example of a country in which such change has occurred and it has carried out some of the reforms recommended by Gish and Godfrey. They have 'de-internationalised' their doctors, teaching them more about their own country than about the colonial nations. This has resulted in a more socially conscious, 'new' doctor, required by and suitable to the needs of Mozambique (28, 35).

We have analysed the issues involved in the model of medical education in UDCs, and have treated Pakistan as a case study. The factors that come out most clearly are that medical education is a reflection, in the final analysis, of the socio-political structure in the country.

The present form of medical education in capitalist UDCs is elitist in nature and is a major impediment to an equitable distribution of health care. This type of medical education, often in a 'foreign' language, favours the dominant classes and produces a doctor who works best in an urban-hospital setting either in the home country or in the West. Such a doctor is heavily incapacitated in rural settings, as he has not been trained in line with the needs of the country.

The case of Pakistan is peculiar in some cases, but in most of the broader issues concerning medical education, she is like other dependent UDCs. A lack of clear planning and the interests of those in power have often determined the path of medical care and the growth of medical educational institutions. The system of medical education is an important factor in the health care package and thus requires a restructuring to suit the true needs of the people. Clearly, mere rhetoric on the part of the government will fail to achieve this aim. What is essentially needed is a change at the political and economic level which will in turn affect the health care system and the system of medical education, and will thus determine new priorities. In a new society, a people-oriented package is to be devised, in which a newly designed medical education programme should play an important role alongside other ingredients of the health matrix.

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Notes

1 Our discussion is stricted to underdeveloped capitalist countries and we have purposely ignored developed countries. It is true that in advanced capitalist countries health care is fairly well distributed and accesssible to all, but this is a different issue, and we believe that comparisons between DCs and UDCs (whether capitalist or not) are quite irrelevant and out of context.

2 It must be emphasised that it is not doctors who are at fault, but the class system by which they are produced and in which they function.

3 Of the 17 colleges, all but one are government owned. The Aga Khan University is the only private University in the country and is linked closely with McMasters, McGill and Harvard Universities. It however also follows PMDC regulations, but has the 'advantage, of not only foreign trained personnel, but expatriates on their faculty.

4 Each college has its own 'quota system'. A certain percentage of seats are given on merit, while the others are re-

served for the children of: Military personnel, ex-service men, employees of the Education Department; and for students who have done well in extra-curricular activities and for students of underprivileged areas (these are usually termed 'rural' seats).

5 Ussi=Rs. 17/- annual per capita income in Pakistan is $335.

6 The colleges, due to local (college) or national politics and disturbances, are closed for many weeks each year adding up to a minimum of two years in a medical students college life.

7 About four of the 20 'essential' books are written by Pakistani authors. There is an unfortunate twist to this, in that the few books written by Pakistan authors are unfortunately of extremely poor quality, but are nevertheless, made compulsory if the author happens to be teaching the course.

8 The Army Medical Collge in Rawalpindi run on very disciplinary (military) lines, admits only 100 students a year. Liaquat Medical College in Hyderabad admits 447.

9 Of the 19 full professors at the Army Medical College, only three were not foreign qualified. The three are professors in the relatively less important subject of forensic medicine, biochemistry and physiology.

10 As many as 50 percent of doctors produced in Pakistan are abroad.

11 The author on a visitor to medical college found every student sitting in the corridors diligently working away. On no previous visit had the author seen students so busy. On enquiry it was revealed that each and every one was making notes to pass on to students in the examination hall.

12 The PMDC reiterates its claim that the level of teaching at these colleges is not up to 'standard' and thus their doctors are not 'properly' qualified.

13 Although Gish and Godfrey's recommendations are meant to reduce the exodus of physicians from UDCs, we feel that since it is the education system which causes the migration in the first place, their recommendations need to be discussed as they are extremely cogent and worthwhile.

UPDATE

News and Notes

Defining Quacks

CONSUMER Week this year was celebrated by meetings organised by several organisations such as the Consumer Guidance Society of India, Grahak Panchayat etc on health and health related issues like medical care and quackery, responsible medical practice etc. While these are commendable efforts at consumer education, the process can never take off unless certain uneasy questions are confronted.

Is it enough to define quacks as those who do not have appropriate degrees and qualifications? Such practitioners are, of course, quacks. But there are also those who practise 'quackery' even though they possess requisite qualifications and degrees. These are the properly registered doctors who pursue irrational practices and therapy. We illustrate this with just two instances :

(a) Several surveys and our own experience shows that a majority of patients who approach doctors receive injections regardless of their ailment. Is this rational practice? Medically, injections are given only in three situations—life threatening conditions; when the patient has severe vomiting and cannot retain oral medication and; when the drug is not available in oral form, such as insulin. Aren't these doctors who prescribe injections indiscriminately also 'quacks' of a sort?

(b) Such quackery became even more visible during the recent controversy regarding high dose estrogen progesterone (HDEP) drugs. No standard text book of medicine or pharmacology recommends such HDEP drugs. Moreover, they are known to cause serious harm to the foetus when taken by pregnant women. And yet, this drug with a multicrore-rupee market was freely prescribed and used by doctors not only for pregnancy testing but even to induce abortions. Further, when the Supreme Court ordered a public enquiry to decide on whether the irrational and potentially harmful drug be banned, some of these doctors chose to give glowing testimonials in support of the drug. Is this responsible medical practice or is this 'quckery' to help the drug industry?

The Medical Council of India is charged with the responsibility of regulating medical practice which includes curbing quackery. What has it been doing? It has never come out against irrational practices such as the propogation of the 'injection culture' by doctors; it has kept a dubious silence on the issue of the doctors' role in pushing hazardous drugs; and even worse, it has not bothered to take action against the doctors which the Lentin Commission had named as being responsible, by their negligence, for the tragedy at the J.J.Hospital. One may legitimately ask: Is this a body to enforce medical ethics or a body to legalise quackery?

Of course, the MC does take prompt action on certain issues such as promptly de-registering a non-practising filmstar doctor for advertising. Or more recently, the Maharashtra Medical Council issued a statement 'threatening' the doctors who supported Dr Bal in his fight against victimisation with 'dire consequences'. His supporters, it will be recalled are agitating against the sinister role played by Dr Sudhakar Sane in his personal capacity as Vice President of the Managing Committee of Dhanvantri Hospital from where Dr Bal was dismissed. Dr Sane happens to be the current president of the Maharashtra Medical Council and so the MMC sought to provide protection for him for his personal ill-deeds.

Why was Dr Bal victimised by Dr Sane and his friends in the managing committee of Dhanvantri Hospital? Because he is the secretary of ACASH, a consumer organisation which along with others sought to get the HDEP drugs banned, started a campaign against the unscientific claims made to sell analgin by the industry and so on. Thus so-called qualified doctors and their premier body have chosen to victimise those who are fighting against the quackery of medical professionals.

It is really ironic and tragic that in the consumer week the president of the Maharashtra Medical Council was invited by the CGSI to speak on Consumer Education in Medical Practice. Not only that, the CGSI which supported Dr Bal and the drug consumer movement till recently has decided to dump both Dr Bal and the campaign for rational use of drugs in favour of such medically-organised quackery. We cannot help wondering at the kind of education that this protector of the high priest of medical quackery will give to lay people. In any case, do people who either indulge in this sort of 'quackery' or give them protection by refusing to confront the issues have any moral right to be part of consumer meetings? They are really the 'accused' and not the 'educators'.

Isn't it time to take the bull by the horns and confront the medical establishment with these issues?

(Press release from Medico Friend Circle, Bombay Group on March 18, 1989.)

Rural Doctors in Thailand

IN accord with a world-wide change in attitude about health services the government in Thailand has adopted a health policy centred on community services and a better balance between prevention and cure. However there are problems with the implementation of the policy. These problems were raised at a seminar held recently in Bangkok about the role of community hospitals in public health development. Jointly organised by the Rural Doctors' Association (RDA) and the Ministry of Public Health (MOPH), some 400 rural doctors attended the seminar.

The government policy, as laid out in the previous Fifth (1982-1986) and current Sixth (1987-1991) National Health Development Plans, talks of participation in development, basic minimum needs, primary health care, decentralization and intersectoral collaboration. Nobody disputes the soundness of the policy. And few would dispute the progress made to date. The number of doctors in the rural areas has more than doubled over the past six years. This year 63 per cent of the health budget will be spent on rural services, compared to 43 per cent in 1981. All villages have local village health personnel, and almost all districts have hospitals. In general, the government's policy is well approved of and is having some positive results.

The RDA though is critical of the actual implementation and argues that the potential positive effects have been hampered by a budget that does not adequately reflect the policy, and poor education for all health personnel about the principles of primary health care.

As already mentioned, over the past six years the number of doctors working in the rural areas has more than doubled. However as the chairperson of RDA, Dr. Supatra Sriwanichakorn pointed out, "This still represents less than 10 per cent of the more than 14,000 doctors nationwide while more than 80 per cent of the population are rural residents." Thus in the north-east of Thailand, the poorest region, the ratio of doctors per head of population in 1984 was 1:15,554 while Bangkok could boast a ratio of 1:1,321.

In addition to this only 45 per cent of these rural doctors have worked there for more than two or three years. The government currently requires medical graduates to work in a rural hospital for three years after graduation. Thus the majority are relatively inexperienced and rush back to the city after their compulsory rural service.

A further concern of several speakers at the seminar was the dehumanising effect of the modern medical system. Several speakers reiterated the need to inject 'spirit' into the practice of medicine. Contemporary medical education is often centred on accomplishing skills at utilizing medical technology, ignoring the inter-dependence of body, mind and spirit. Thus, training of all health personnel is inadequate in instruction on both the principles of primary health care and the dependence of physical health on social and spiritual well-being.

While it is true that considerable gains have been made towards achieving equity in health expenditure, further redistribution is essential if the health status of the poorest Thai people is to improve.

A former chairperson of RDA and now a member of the Health Planning Division, MOPH, Dr. Suwit Wibulphonprasert explained this further. "If the proportion of the health budget spent in rural areas, now a relatively fair 63 per cent of the total, is dissected further it can be seen that half of it goes to provincial hospitals and more than two-thirds of the remainder goes to district hospitals." Thus the vast bulk of the budget is used for hospital services.

Now is the time to concentrate on health services at sub-district and village level. The projected 9 percent increase in the 'district/sub-district' item of the health budget will almost all go to the sub-district level. There are plans to employ nurses in all the Health Centres as well as to increase the availability of Mobile Health Teams for weekly visits to the Health Centres. However, should this become merely an outreach extension of the hospital it cannot be considered a true diversion of funds towards primary health care.

The RDA is also advocating more autonomy of district hospitals so that decisions about implementation of policy can be made locally with local conditions in mind. Decentralisation is the key-word. "But you have to differentiate between delegation and decentralization" Dr. Suwit cautioned. Delegation is handing down the responsibility for some decisions from one officer to another. Decentralisation should go hand-in-hand with full community participation. That is, power should be devolved to the recipients of health services.

The Rural Doctors' Association is certainly not disputing the general direction of the government's public health strategy. They do believe though that much more could be done to accelerate the health development of Thailand— for all of its people.

For further information, contact :

Dr. Supatra Sriwanichakorn,
Chairperson, Rural Doctors' Association,
Bua Yai Community Hospital
Nakorn Ratchasima 30120
THAILAND

Private Sector in Medical Care
(A Brief Survey)

rama v baru

The increasing penetration of high technology equipment is making medical care a profitable venture and has provided a fillip to the expansion of the private sector, which in health care comprise clinics, nursing homes, hospitals, pathological labs and diagnostic centres. What are the factors which have led to this development? What are the implications for health care?

WHILE only a few years back there were hardly any hospitals which offered super specialist services outside major metropolitan centres, now a large number of private hospitals and diagnostic centres have come up in all major cities. Some of these organisations are corporate enterprises which are run like regular business concerns by floating shares in the market. Big business groups like Tata, Hinduja, Modi and Escorts and regional groups like Standard Organics Ltd in Hyderabad and Apollo Hospitals Ltd. in Madras have diversified into Medical care

Whether in larger hospitals, nursing homes, diagnostic centres or pathological labs, high technology medical equipment like scanners nuclear gamma camera, lithotripers, auto-analysers and the like have come to play a crucial role for diagnostic and therapeutic purposes. Nearly 80% of all medical equipment is imported through companies like Siemens of Germany, General Electric of USA, Dornier and Hitachi.[1] Although equipment costs are high, imports are rising quickly. While in 1980 alone Rs. 20 crore worth of equipment was imported, by 1986-87 it had risen to Rs. 65 crores. According to an estimate, imports are expected to rise at the rate of twenty percent annually for the next three years. The trend of increase in import of high technology medical equipment is essentially a fall out of the liberalisation of procedures by the Government on import of technology. In the case of medical equipment the government has reduced import duties from 107 per cent to a mere 40 per cent. In addition, total duty exemption has been granted to hospitals and diagnostic centres willing to treat at least 40 per cent of their patients free of cost. In the case of non-resident Indian (NRI) investors exemption from import duties is granted if at least 25 per cent of the patients are offered free treatment.

The liberalisation of import duties coupled with increase in the income of middle and upper middle classes has resulted in the demand for consumer durables and luxuries. This, naturally, has had an effect on health care as well. A number of large projects have been initiated and several existing hospitals are being expanded and upgraded by business groups and private trusts across several States in the country.

According to a market survey report by a leading pharmaceutical company, in Uttar Pradesh, the Modi group of industries is establishing a super specialist hospital in Modinagar with emphasis on specialities like paediatric, cardiology and cancer treatment. The project is valued around Rs.200 million and is nearing completion. Apart from this several smaller projects have been initiated in major cities of North India. In New Delhi the cancer treatment facility for the 1000 bed All India Institute of Medical Sciences is being developed in cooperation with the Rotary Club of New Delhi. The estimated cost of this project is to reach over Rs. 100 million. In addition a number of large hospitals and diagnostic centres have also been set up with NRI collaboration in New Delhi.

A sizeable number of large private hospitals have mushroomed in States like Maharashtra, Kerala and Andhra Pradesh over the last few years. In Maharashtra, Bombay has three or four large projects in the offing. The Hinduja business family from London is funding the expansion and renovation of their 100-bedded National Hospital to a 300-bedded modern general hospital with the latest diagnostic equipment. The hospital proposes to offer specialised services in opthalmic and orthopaedic surgery.

The Indian Cancer Society in Bombay has initiated the construction of a new cancer hospital which is valued at Rs. 200 million. Yet another 200-bedded hospital is being built by the Mahavir Health Foundation which is a charitable trust. The estimated cost of this project is Rs. 100.50 million and will specialise in cardiac and kidney diseases. The Bhatia General Hospital which is run by a private trust in Bombay has been expanded at a cost of Rs. 20 million with super specialist service like cardio-therapy, ultra sonic imaging and clinical analyses equipment. The mushrooming of private hospitals in Maharashtra is by no means confined to Bombay. Karad town in Satara district of Maharashtra has a 200-bed private hospital started with an investment of Rs. 30 million to provide for construction and initial costs. Since the project is located in a small town it is expecting to provide services to surrounding villages as well.

In Kerala there has been a state-wide boom in private hospitals. According to a survey conducted by the Bureau of Economics and Statistics in 1986, there were 1,953 government institutions with a bed strength of 38,133 as against 3,585 private hospitals with 50,766 beds.[2] While cities like Trivandrum and Cochin have their share of high technology medical centres, it is by no means restricted to the larger cities. In fact high technology medical care has

penetrated even into smaller towns and villages, in some parts of Kerala. According to a report it is not uncommon to find private hospitals in villages having scanning and diagnostic cum therapeutic equipment being used for treatment of patients.

Apart from big business groups and private trusts establishing hospitals with sophisticated equipment, regional business groups have also entered this arena. Apollo Hospitals Ltd, a Madras-based corporate concern was one of the first to establish a super specialist hospital in South India. Recently, the same concern has initiated another project in Hyderabad with an initial investment of Rs. 12 million to cover construction and equipment costs.[3] Several such projects are being initiated in Andhra Pradesh by business groups and private trusts in collaboration with Non-Resident Indians. Standard Organics Ltd, a Hyderabad-based corporate concern has also made inroads into health care. The Standard Organics Ltd which is essentially a pharmaceutical concern has diversified into leasing of medical equipment and have set up diagnostic centres in several major cities in the country.[4]

In a recent announcement a group of Andhra non-resident Indian doctors based in California are initiating super-speciality hospitals project in Hyderabad, Vijayawada and Visakhapatnam. The cost of each of these projects is estimated at Rs. 30 crores and will consist of over 300-bed hospital, 200 nursing quarters, 100 physician quarters, a hundred room three star hotel, a thousand seater auditorium and four lecture halls. In addition to providing super specialist services the foundation seeks to "bring about medical and health awareness in rural and semi-urban populace through continuing medical education programmes with accent on rural health.[5] Apart from these large projects a number of smaller ventures have already been initiated in the several major towns. In Hyderabad a local business group has initiated a super speciality hospital valued at Rs. 7.60 crores is nearing completion.[6]

Calcutta is yet another metropolis where some leading business groups from Madras have applied for permission to the government for land to build super specialist hospitals. In addition in a recent announcement the State is planning to hand over some 'sick' government hospitals to industrialists and NRIs in order to improve the functioning of these insititutions.[7]

Although this brief survey is by no means exhaustive, it is certainly indicative of the emerging scenario in the private sector. While it is well known that both the state-supported medical service and private medical care have been co-existing since independence, in more recent years the latter has been growing and diversifying. The private sector in health care comprises, clinics, small, medium and large nursing homes, hospitals, pathological labs and diagnostic centres. Increasing penetration of high technology equipment is making medical care a profitable venture and has provided a fillip to the expansion of this sector. As a result of this a number of large and regional business groups and doctor entrepreneurs are diversifying into this area. Institutions which use high-tech equipment are no longer confined to the metropolises but are penetrating semi-urban and even rural areas.

There are several reasons for the burgeoning of the private sector. Firstly, although the public sector has expanded considerably since independence, the meagre investments made by the state have been inadequate in meeting rising demand. This 'pent-up' demand is increasingly being met by the private sector. Secondly, the increase in incomes of the middle and upper middle classes, in recent years, has resulted in the demand for durables and luxuries which is reflected in medical care as well. Thirdly, advancement in medical technology has pushed up the cost of medical care making it a profitable business venture. This coupled with liberalisation of import duties on high technology equipment has led to mushrooming of medicare institutions across the country.

Quite clearly, the increase in imports of medical equipment has hiked the cost of medical care. Since most of the high technology equipment is employed for diagnostic purposes, testing has assumed an important role in treatment. As a leading specialist remarked "these days doctors depend excessively on sophisticated testing procedures which have often led to unnecessary testing". Although import of medical equipment is on the rise there has been no effort to either regulate the growth or prescribe minimum standards for the running of these enterprises. Given the profit motive of the private sector, the absence of checks and regulations relegates the welfare of the patient to a secondary position. With the increasing commoditification of medical care and the demand to treat it as an industry, it is mandatory that the government prescribe controls to regulate this sector, the absence of which, will only further distort the existing structure of medical care.

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Need for Alternative Medical Education in South Africa

r h philpott

Medical education was introduced in South Africa in 1922 and has since produced many eminent doctors. But today the universities are not producing doctors appropriately trained either for current needs or more disturbingly, for a post-apartheid future. There is an urgent need to radically transform the medical course and curriculum. (Reprinted from Critical Health, *1988)*

DOCTORS first completed their medical education in the University of Cape Town in 1922. The early medical teachers brought their curriculum with them, mainly from the United Kingdom. They produced many first rate doctors and in the decades since, many graduates have attained international acclaim. There have been a number of intra-university curriculum reviews but these have tended to add more and more to an already overfull course. In 1985, the South African Association for Medical Education (SAAME) held a national review of medical education in South Africa, but very few of the recommendations have had any effect on our medical schools. Our universities are neither producing graduates appropriate to the needs of our country at present nor, more disturbingly, for the post-apartheid future. This paper sets out some of the reasons why we urgently need alternative medical education to help solve the serious health care problems in this country, remembering that it will be six years after the new curriculum is established before the first graduates appear.

Maldistribution of Health Services

Doctors tend to practice in the kind of environment where they are taught and so it is understandable that they find their security in city practice, either in this country or overseas. It is true that it will take more than a changed education to entice doctors to practice holistic medicine in the neglected parts of our country, but if we don't change the education we provide, no amount of structural change in the health service will bring about improved health care for the people of South Africa. Doctors need to be trained in the context of where their services are needed most.

Not only does maldistribution operate geographically but also in the emphasis on specialities. For example, many specialist obstetricians with a minimum of twelve years of training spend the bulk of their time doing normal deliveries for extra-ordinarily high fees while primary health care for the poor is seriously neglected.

The major portion of clinical teaching is provided in referral, high-technology teaching hospitals, where the bulk of the country's health budget is spent. This gives students a view of health care that suggests that doctors only deal with rarities and that sophisticated monitoring systems and laboratory investigations are not only indispensable, but immediately available.

The teaching hospital glorifies high-technology curative medicine and surgery and gives limited consideration to preventive and promotive health. Role models have a major influence on the development of a medical student's approach to medical practice, and with the emphasis given to curative medicine and the down-playing of preventive and promotive care, it is little wonder that the same pattern persists in succeeding generations.

There is a need for a medical faculty to develop expertise in the various specialities but this does not promote the most appropriate basis for medical education. It has engendered unhealthy competitiveness for curriculum time, space and status. Each department advances its own course for survival sake and as a result produces a curriculum more suited to specialists in the discipline. Such structures are not suited for the undergraduate education of a 'core' doctors. Instead, there is a need for strong central departments of medical education that co-ordinate cross-discipline, integrated programmes of problem-based learning.

Medical students who graduate from our medical schools have every right to presume that health care is dependent primarily, or even exclusively, on doctors. Their doctor teachers in the hospital are on top of the pile and project other health workers as auxiliaries. Medical students are seldom introduced to other health workers, let alone train with them. Again it is understandable that our graduates have little experience of working in teams and that our country's health service is, in the words of David Werner (author of the book *Where There is No Doctor*) community oppressive rather than community supportive. Doctors are expected to have all the knowledge and wisdom and are not shown how to consult the communities they are meant to serve. They have been trained to be consultants before they learn to consult and to direct before they have learnt to serve.

The tenets of western medical practice are taught as if no other belief and practices have any place in a country with such a multiplicity of cultures. Our very failures should alert us to the need to examine others' successes and to incorporate them into new learning opportunities for our students. A salutary research study conducted in Zimbabwe needs to be heeded by our medical educators. Groups of 100 rural and 100 urban women (many of whom were university graduates) were asked where they would wish to be delivered of their next baby and who they would like as their attendant. The majority in both groups wanted the safety of hospital or maternity clinic but 100 percent of the rural and 90 percent of the urban woman preferred to have a traditional birth attendant (TBA) with them during their labour. Few doctors even

recognise that the overwhelming majority of women on this continent are delivered by TBAs. Instead they write off such patients as 'unbooked' or 'defaulters'. We interpret compliance as meaning taking the host of tablets we prescribe, in spite of the fact that we never explained what they were for. We also forget that our patients have an entirely different world view that informs their understanding of the aetiology and therefore treatment of illness.

Not only do we compartmentalise within our medical faculties, but we isolate the medical schools from all other faculties in the university. How can we expect students to accept other disciplines such as agriculture, economics, sociology and education as being important, if not more important, than medicine in providing health and wholeness of care? We even call one of our schools a Medical University, which is not only a contradiction in terms, but more evidence of our failure to understand what holistic health care is all about. The consequences are a country that can boast the first heart transplant while within walking distance of the particular hospital involved, there are townships with no piped water. The need for a multi-disciplinary approach to teaching extends beyond the compartmentalised medical school to cross the academic barriers in the university. It is only when engineers and agriculturists link with sociologists and physicians in formulating new curricula that the ill-health caused by factors related to each of these disciplines will be addressed. It all seems so obvious, but until we are brave enough to create new educational structures, our students will retreat into their academic enclaves instead of becoming the new pioneers of health care in Southern Africa.

This is not the language of our medical teachers. We are the privileged ones and we are comfortable with our elitist positions and the status quo and bureaucracy that protects our academic safety. Few of us have experienced the oppressive effects of apartheid, the major cause of poverty and ill-health in the midst of this land of great wealth. Without this experience, our teachers are unable to interpret the effects of state systems on community and individual health, and therefore demand that politics and health care be kept in separate compartments.

In spite of the fact that many of our students come from the oppressed communities, their awareness and understanding is not encouraged by the majority of their teachers, and the only oasis in the midst of a year of non-contextualised teaching is the annual Students Conference, at which academic staff are conspicuous by their absence.

The Medical Course

This statement hardly needs elaborating, yet we are all guilty of adding every new discovery to the curriculum, without taking anything out. Each new discovery should remind us that much of the content in today's curriculum will be out of date by the time our students are in practice and our volumes of content will not prepare them for the demands of the new century. We subscribe to 'Health for All by the year 2000' but are not equipping graduates to meet that challenge. Rather than multiplying content we need to provide students with problem-solving skills, for it is that they will be called on to do whether at the community or the individual patient level. Problem-solving will ensure a multi-disciplinary approach to medical education and will equip students to absorb and apply new knowledge as it becomes available. It will also ensure that each subject discipline is dealt with according to its merits, the merit of the solution to common life-saving problems in the first instance, and later, any other problem that may present itself. Students progress when they know how to explore knowledge rather than just memorise it.

We manage to drain every atom of motivation and enthusiasm that students bring with them by our layered curricula, which in the first three years can only suggest to students that life is filled with laboratories, cadavers and specimens in bottles. How much more exciting it is to see a small group of first year students deciding on the anatomy, physiology, pathology etc that they need to explore and learn to enable them to solve a particular clinical problem. By the end of a course of suitably chosen problem-solving studies they will have not only learnt the principles and content of each subject in the curriculum but they will see how it all fits together in helping them solve the problems. Experience with such curricula has shown that students have to be restrained from over-studying rather than driven through the early years of boredom.

Medical schools are not entirely to blame for suppressing the natural spirit of adventure and exploration. The rot sets in at junior schools. Children, left to themselves, are experiential, self-directed learners until the schools get hold of them. From then on the teacher takes control, and presumes that all children learn at the same pace. Consequently they are regimented into large classrooms, told to keep quiet and listen to the teacher. The only difference at medical school is that the classes are many times larger and the teachers do not even hold an education diploma. My only surprise has been the rapidity with which fourth year university rote learners respond to the liberating experience of changing from an emphasis on whole-class lectures to the fun of problem-solving in small groups. We have shown that it works at that late stage of the curriculum, so why not start that way from the first year of the medical course?

Of all countries in the world today, South Africa in particular needs a liberated educational system. Not only is this the most appropriate way to learn but it equips people to seek after truth and justice in every sphere of their lives.

This outline of the need for alternative medical education in South Africa must point us in the direction of community-based, community-oriented, integrated, problem-solving education as the solution to our needs.

Socio History in Medicine

padma prakash

Medical curricula is in the long run determined by the socio-political needs of the class in charge. Even the content of these disciplines reflects these needs. This article examines the history and curriculum content of one undergraduate discipline in medicine—preventive and social medicine.

THE practice of medicine has undergone tremendous expansion and diversification. Several factors have contributed to the transformation of medical practice, some internal and others external not the least significant of which have been social, political and economic. From time to time medical education has reflected these changes in the practice of medicine. This amalgamation of current practice with training has not taken place in either a smooth progression or as a matter of course. For example while improved methods of diagnosis and treatment have become part of the training of medical graduates with relative rapidity, the growing body of knowledge in epidemiology and in the sociology of health and illness have been all but ignored in the undergraduate medical curriculum. This marginalisation of the sociological perspective has had consequences for the development of medical education and inevitably for the nature of health care.

It is the character of the dominant group/section/class in society which determines the trends and content of medical education. This dominance however, is not because of numerical strength but is a consequence of the historical development of society. Again, what constitutes the requirements of this dominant class is not just derived from the health characteristics of the class/group. For the requirements are rooted in the socio-political needs of the class in charge. In fact not only is the curricula determined largely by these factors, but even the content of these disciplines is tailored to match and sustain the ideological requirements of the dominant class. To illustrate, we examine in the following the history and curriculum content of one undergraduate department, viz preventive and social medicine (PSM). This is a relatively new field, having been introduced as a distinct discipline only in the second quarter of this century. In India separate departments of PSM were established only in the late fifties. What were the factors leading to the introduction of PSM into the undergraduate curriculum? What has been its orientation and what is its current content?

For the purpose of examining in detail the undergraduate curriculum content of PSM we have taken *The Textbook of Preventive and Social Medicine* by J. E. Park and E. Park as a typical illustration. The content preventive and social medicine can only be understood against this background. Specifically, we have looked at Parks' *Textbook of Preventive Medicine* assuming it to illustrate the typical curriculum followed in the department in any undergraduate course.

The textbook is divided into 18 chapters which don't appear to follow any particular sequential logic. A first chapter on what is presumably meant to be a history of medicine is followed with a series genetics and health, sociology and health, environment and health. In a sense of course, the chapterisation is indicative of the entire approach to the subject— that the understanding of the preventive and social aspects of medicine can be so compartmentalised. There appears to be no continuity between the chapters. This criticism will perhaps become clearer when we deal with these chapters in greater detail.

Our main criticism is that the book projects a certain picture of medicine, medical practice, and of the role of the doctor. This creates and reinforces an ideology which is biased against certain sections of society. Moreover it delineates for the medical graduate a methodology for understanding social phenomena which views society as a static, rigidly divided structure. According to this viewpoint the components can each be studied separately, can even be modified, improved, changed. For instance, that health behaviour can be changed without altering the social location of the individual or family concerned. This affords the right grounding for the view that medical solutions can not only be independent of social factors, but in fact they over ride the latter and can even affect social change. While undoubtedly medicine in history has contributed to socio-cultural changes, that it has itself been a product of society is something which is entirely missing in this world view projected by textbooks such as Parks'.

Simultaneously, the book also projects society as a homogeneous entity where everyone has equal access to the conditions which make for health. There is no recognition of the fact that health status, especially in third world conditions is an indicator of the class location (20). This may be best illustrated by the manner in which the authors discuss the problem of malnutrition. Socio-economic factors are listed only as one among the many aspects of the ecology of malnutrition.

The text manages to de-emphasise the fact that malnutrition especially under-nutrition which is the major problem in India, is largely rooted in the lack of purchasing power of certain sections of the population which in turn is again both a cause and consequence of the lack of political power to demand and obtain the wherewithal to lead comfortable lives, live in healthy surroundings and work at non-hazardous occupations. Leave alone the issue of class in society, the book does not even admit sex discrimination in society. Surely a book published in 1985 cannot claim to be

unaware of data on this matter. Any number of studies have shown that women suffer to a greater extent from the problem of malnutrition than do men. Again, in dealing with tuberculosis, the book fails to acknowledge the class-wise distribution of the disease, even though the age and sex trends, time trends and the rural-urban differences are remarked upon.

In general the book tends to medicalise all problems concerning health. Such as for instance malnutrition. Clearly, a social problem it is regarded as a 'medical' problem with social causes and repercussions. Even worse is the way the authors treat mental illness where although social pathological are listed— only third to organic and hereditary— the solutions offered stress mainly early diagnosis and rehabilitation just as in any medical problem. The point is except for a small proportion of cases which have organic and hereditary roots, the majority are symptoms of social distress which become manifest in individual aberrations. They can hardly be resolved by 'early diagnosis' of individual cases. The solution lies in the early diagnosis of social distress, which clearly according to Parks is beyond the purview of the doctor.

Not surprisingly, the solutions offered by the authors to any of the range of health problems are either individualist or abstract. That is, what the individual can and must do to avoid falling ill or how the government or more often the health services can offer appropriate measures. That prevention of illness can most effectively be brought about through social action of a group or community. Thus it completely misses out the crucial role the doctor can play in such action by providing the group or community with information etc. In fact right through the book the doctor is regarded as a person being apart and slightly above the rest of society.

Let us now look more closely at some of the chapters in the book. The first, purported to be a history of medicine runs to nine pages. It is pertinent here to note that this is the only department in the undergraduate medical course where the history of medicine figures at all. It was in 1955 recommended the introduction of history as part of the PSM curriculum. In Parks' textbook we have a travelogue through time, enumerating the 'advance' of medical knowledge rather than an account of the dynamic interrelationship between medicine and society. The authors' approach is a historical dealing with the developments not in time periods taking into account the social and economic structures of the time, but rather as geographical categories. We have for instance, paragraphs dealing with primitive medicine, Indian medicine, Chinese, Egyptian, Greek and so on. This gives a false notion that the growth of knowledge in medicine has been circumscribed by boundaries of nations and states. In fact, although there were characteristic developments in different countries in numerous periods of history, there has also been a process of dissemination and assimilation between the various centres of civilisation. Modern medicine has its roots in this body of knowledge even though today it may bear little resemblance to it. In consequence the contributions of early medical practitioners and thinkers such as Hippocrates, Galen, are regarded as distinct and separate from that beginning with say, Parcelsus (who "publicity burnt the works of Galen and attacked superstition and dogma in medicine"), Vasalius ("who demonstrated some of Galen's errors") and Ambroise Pare (who "revived surgery and became the father of modern surgery"). While it is true that developments in medicine after the sixteenth century represent a break with the past, the continuity of empirical traditions which is so characteristic of the field does not feature in the narration.

The middle ages ('dismissed by the authors of the book as the dark ages") saw the development of two distinct traditions of medicine, which were to become competitive in a later period. The inflexibility of the codes of the Catholic church, the widening gap between Church medicine and the people, the famines and plagues, the growing impoverishment provided an impetus for the growth of a more accessible cheaper medical care. Folk medicine which had continued to exist outside the Church, largely in the hands of women, began to encroach upon Church medicine [2] Many historians have seen the witch hunts which were rampant in Europe in the tenth to fourth centuries as the manifestation of the attempts by the Church to usurp the folk knowledge and quell the competing tradition of medicine, one monopolised by the rich feudal lords, the richest of them being the Church, and the other practised by and accessible to the lay poor[3].

Park reviews the beginnings of modern medicine, that is in the 16/17th centuries without ever referring to the tremendous changes that were occuring in the social fabric of the time. So great was the intellectual impact of these discoveries in the field of medicine, that they in turn influenced other sciences and social ideas as well. For instance William Harvey was the first to consciously use scientific methodology in the biomedical sphere. He also used concepts of quantification to arrive at a hypothesis. And used the concept of the human body as a mechanical system with the heart as pump. These are concepts which are integral to clinical medicine today.

Parks' history fails to recognise and trace the ideological trends which are current to this day in medical practice. This would have been possible only if the dynamic interaction between medicine and society is admitted. For example, the predominant social structure of society, cultural practices and prejudices of the seventeenth to the nineteenth centuries, were assimilated in some form or the other into the concepts and content of modern science and medicine which were then evolving.[4] Not surprisingly, medicine's model of a 'normal' human being was a white, adult male. By definition, therefore, women and non-whites were 'abnormal'. These ideas have influenced the development of medicine and set limits on the understanding of particular

pathologies and illness syndromes. Similarly, the mechanistic concept of the body as a machine, as distinct from the mind was to limit the growth of medical knowledge for generations.

At the same time because medicine adapted the dominant ideas of the period, and because it continued to retain its long-standing status in society, it was used to reinforce and substantiate these social myths. Thus for example, because women were by definition all physiological, conditions experienced by them, menstruation, childbirth etc, were regarded as being abnormal and treated as illnesses.[5] Society in turn promoted and perpetuated these ideas by taking resort to medical opinion. This fact that throughout history medicine and its practitioners have largely been oriented towards supporting and sustaining dominant ideas, often to the detriment of the socially oppressed classes is an important aspect of history unfortunately given a miss by Parks' textbook. In short, the first chapter of the book is a disoriented, disjointed account of history which really ought not to have been there at all. If at all the history of medicine is to be taught to medical students, it ought to receive a more coherent, sociological treatment than the one presented here.

Sociology of Medicine

We now look at two chapters which give us an idea of the sociological concepts presented by the authors. The book deals with sociology more as a set of terms to be defined rather than as a body of knowledge with a long history. Like other disciplines sociology too, a plethora of theories, orientations and schools of thought have richly contributed to its development. Park however, is either unaware of these developments or regards but one school of thought as being important. This approach will undoubtedly leave the medical student with a slightly jaundiced view of the discipline. More importantly, the book does not deal with methods of sociological analysis which are so necessary for the delivery of health care.

The chapter on 'sociology and health' deals with the following "concepts in sociology": society, social structure, social institutions, role, socialism, socialisation, social control mechanisms, customs, culture, acculturation, standard of living, social problems, social pathology, social surveys, case study, field study, communications and social defence in that order. Need we say anything at all about this? One is hard put to understand the logic and the purpose of such a list of 'concepts'. Admittedly these are terms which need to be explained, but they are not concepts. Even the terms cannot be understood by mechanical definitions. Each has to be understood historically, its meaning often having changed with time and the context. Moreover, even the choice of 'concepts' so defined appears biased. Such important concepts as social movements, or social change and what they constitute, do not figure here.

It is also significant that in defining social structure the inherently conflicting relationship between classes (or stratas, as Parks would call it) is not recognised. The fact is that some groups are more empowered than others and that these power relationships cannot be altered without shaking the very roots of society.

Society has been defined in a number of ways by different sociologists. In the evolutionary model all societies pass through definite stages of development. For some social thinkers like Durkhiem the most important dimension of society is the degree of specialisation within it which is progressively complex as societies pass through the different stages. In the structural functionalist model it is the interrelationship of social institutions rather than the individual or group which is to be emphasised.[6] Talcott Parsons modelled his conception of society on the theory of homeostasis and saw society as constantly attempting to balance its equilibrium by automatic adjustments when upset by internal or external forces.

Parks' textbook appears to have no use at all for this variety of ways in which thinkers have understood society. This is even more true of the other 'concepts'. Certainly it is utterly ridiculous to try to define socialism in 14 printed lines.

What little there is of sociology in the textbook is almost entirely Parsonian. Talcott Parsons developed the concept of the sick role in his writings have greatly influenced medical sociology. According to this understanding there are four essential aspects of the sick role— the sick person is exempted from his normal social role responsibilities; the sick person cannot help being ill; the sick person is expected to get well as soon as possible and finally he is expected to seek help in getting well. Parsons therefore emphasised the need to control sickness. Consequently, social control is clearly a function of the medical establishment.[7]

Not surprisingly of course, the textbook deals with social institutions such as the family as being "the most powerful example of social cohesion" which have existed in all societies. "The family is a primary unit in all societies." It is well-accepted today that the family, defined as the authors do viz, "a group of biologically related individuals living together and eating from a common kitchen." was not in fact a primary unit in all societies. Quite clearly, the Parks notion of the family is patriarchal: "The family is a bridge between generations and between fathers and sons." And again, "The family provides social care by ... giving status in a society to its members ie use of family names..." At one point the book talks of how the "freedom of wives" has enlarged and of how "the young wife in India...brings to a marriage not only a dowry but a professional or semi-professional education and she seeks a professional career." There are several points to be made here. First, the changing family structure is a consequence of a number of factors, economic, cultural and social and second, the status of women in the family and their role, as well as the functions of the family are not universally the same. Even within one

country they vary with class, region and culture. And third, while it is true that dowry is a widespread phenomena, to refer to it as an inevitable and accepted feature of society is not quite correct.

The discussions on the family in the textbook are particularly important because 'social and community medicine' confers a significant role on the family in disseminating its message. Thus for instance, the family's traditional role or rather the role of the women in the family, in child bearing, health and nursing care, are the via media through which ideas can be propogated from generation to generation, thus ensuring the perpetuation of the social structure as it exists currently.

Another chapter which is a hotch potch is the one on community health. After attempting to define health in a crudely mechanistic way and outlining the relationship between health and development, the chapter moves on to a definition of disease— the interaction of the agent, host and environment etc, and then on to a description of health situation and the health services. While such an explanation for understanding disease may be useful, it can also tend too mechanical. Evidently the result of the interaction of the three is often much greater than the sum of the three. Moreover, it is not possible to change the nature of one without inevitably altering the other two. Altering, say the disease agent may not be possible without simultaneously changing the characteristics of the other two.

Nowhere in all this do we find a definition of community. This is a concept which has created much discussion among sociologists. If by community is meant a group which shares common socio-political features, then a village comprises several communities and it is absurd to talk of a village community as if it is homogeneous. Community medicine is a meaningless concept if 'community' is not defined.

To sum up, in this book preventive and social medicine has the following characteristics : (1) Ill health is viewed as a consequence of the interaction of man and nature where the changes in the latter are beyond our control. The essence of medicine is to help 'man' make the necessary changes so as to balance the changes in nature. (2) The activities of the individual are the major reasons for ill health — viz, use of unclean water sources causes typhoid, cholera etc, smoking causes cancer, inadequate iron intake causes anaemia, babies die because mothers don't breastfeed, workers die because their work environment is unhealthy and so on. The object of PSM is to teach medical students to help individuals, alter their lifestyles without damaging social institutions and norms. (3) The social and political forces in society do not significantly affect the development of medicine or health policy, and the history of thought (including medicine) may be viewed as a set of isolable, distinct phases with little spillover. (4) society is generally uniformly cohesive. Although there are groups and stratas, they do not have inherently conflicting interests and may live together in peace and health. (5) The human body is a mechanical system and organs are component parts which may be repaired or replaced. In the same fashion all health problems may be reduced to the malfunctioning of a particular part of the subsystem. Biological man rather than the social human being is the ideal. (6) Health is defined and understood in terms of an individual's productive capacity and not the quality of life. By this definition, a worker is termed healthy as long as he can achieve a certain level of productivity. The individual must therefore be helped to maintain this level of productivity irrespective of whether he feels healthy. In short, PSM justifies existing socio-economic and political formation by arguing that the aberrations seen in the system are not intrinsic to it but are a result of individual behaviour and may be smoothed over by persuading individuals in 'communities' to accept their fault and remedy the situation. An approach to medicine which has the potential to show up the inherent contradictions in patriarchal class society which in reality determine the health status of a society, has effectively been defused.

The exercise undertaken here is only illustrative, but it does indicate that the orientation of preventive and social medicine reinforces the socio-political framework which papers over major contradictions in society. It helps to justify existing socio-economic and political formation by arguing that the aberrations seen in the system, in this case in the health status of the population, are not intrinsic to it but are a result of individual behaviour or minor faults which may be smoothed over or repaired. If the practice of medicine is to become more relevant, it is here in the department of PSM that the restructuring must start.

[This article is an abridged version of a paper appearing in an anthology on Medical Education published by the Medico Friend Circle. (In the Press)]

Notes

1. J D Bernal in fact delineates the significant contributions of medieval Christiandom to science while at the same time cautioning against the trend to glorify the period. Modern science grew out of the superceding of the medieval world picture (*Science in History* Vol II, Penguin)
2. See *The Political Economy of Health* by Doyal and Pennel, Pluto Press London.
3. Leo Huberman *Man's Worldly Goods*, 1968 and Hughes Pennethorne, *Witchcraft*, 1965, Penguin.
4. See Brian Easlea, *Science and Sexual Oppression*, 1981 for critical reading of nineteenth century biology and Hilda Smith, 'Gynaecology and Ideology in 17th century England' in *Liberating Women's History* by Bernice Caroll 1976.
5. Barbara Ehrenreich and Deidre English, *Witches, Midwives and Nurses*,. Glass Mountain Pamphlet, 1980.
6. A brief but comprehensive introduction to sociology which defines the canvas of the discipline is Alex Inkeles, *What is Sociology?* published by Prentice Hall in the Foundations of Modern Sociology Series, 19.
7. Talcott Parsons, *The Social System.*

Book Review

An Uneasy Relationship

sucheta amin

Law and Medical Ethics by J K Mason and Smith McCall R A, Butterworth 1987 (Second Edition), pp 344, $ 12.95. It should not be correct to say that every moral obligation involves a legal duty, but every legal duty is founded on a moral obligation — Lord Chief Justice Coleridge in R.V. Instan (1893) 1QBat 453.

THIS second edition of the book takes account of recent legislation and much of the text, including chapters on reproductive techniques, consent and euthanasia has been rewritten. There is also a new chapter on the treatment of the elderly and the Mental Health Act 1983 is also considered. With the introduction it covers five major topics viz: reproductive medicine, medical practice, death, research and experimentation and psychiatry and the law. The list of cases and table of statistics along with appendices is also given.

The first section on evolution of medical ethics briefly follows the progress through the earlier periods to the organisation of modern medicine. This section also introduces medical ethics and legal intervention in medicine. The crucial question raised is that of determining the extent to which medical decisions should be the object of legal scrutiny and control. Two extreme views exist, one that holds that the medical profession should be left to regulate itself and that it alone should decide what is acceptable conduct. The contrary view expressed, denies doctors the right to regulate their relationship with their patients ie reserving for the medical profession the right to decide on issues of life and death is an improper derogation from an area of legitimate public concern and an encrochment by clinicians into what is, properly, social policy. Broadly speaking these conflicting views are those of two groups representing the medical profession holding the first viewpoint and the patients who are treated by these medical professionals holding the latter view-point. The legal system then is faced with the classic problem of doing justice to both parties. The fear of the medical profession must be taken into account while the legitimate claims of the patient cannot be ignored.

The second section dealing with reproductive medical covers (a) A Reform of Sex Law? (b) Modern Reproductive Technology (c) Control of Fertility (d) Abortion (e) Prenatal and Wrongful Life (f) Neonaticide and selective treatment of the newborn.

Under the topic a reform of sex law, this book deals briefly with application of law with regard to sexual intercourse, rape, homosexuality, incest, transexualism etc. "Full expression of ones sexuality is now advocated in some countries by responsible educational authorities. Medical knowledge and expertise are moving to serve the changing needs of people. It is doubtful on the other hand if our present sex laws to accurately reflect current public mores". The topic of rape ie sexual intercourse without consent briefly but concisely brings out various issues related to the subject. They almost take a stand when they state "our feeling is that 'rape' is essentially an act of violence in which sexuality plays only a secondary part. It also brings out the outdated existing laws in the United Kingdom where rape, to be raped requires intercourse per vulvam.' There is a brief mention of approach to rape in different countries. There is a humane though condescending attitude taken by the authors towards homosexuals [illegible] it transexuals. As for incest when it is sexual abuse [illegible] dren by a trusted elder then there can be no place for law that protect such abusers.

Modern reproductive technology has been extensively covered in this book. Being a very sensitive issue needing intense consideration of both legal and ethical issues. The authors seem to be taking a very practical view when the state 'methods are now available for by-passing the natural process. Almost inevitably, these sometimes conflict with laws which were mainly fashioned before such techniques were considered.

If we look at the different reproductive techniques offered at their exorbitant rates, it is a highly commercialised process. So let us not be under the impression that it is concern for childless couples that such techniques have emerged. Why are absurd techniques like amniocentesis in vogue today? Is it to help facilitate female foeticide under the garb of helping correct genetic defects? Why should fascist ideas of eliminating imperfect foetus be encouraged? In almost all cases the woman who has to go through all the painful procedure has someone else making decisions for her. The major being the 'stigma' attached to being infertile. Surrogate motherhood is a mockery of motherhood the way it stands today. The word someone had coined 'technological adultery' would more apt here. There is so much about abortion and laws relating to it. Why is not the woman left to decide whether she wants to abort or not? It is her body, her right to decide. If the socio-economic pressures are the main reason a woman goes in for abortion, why aren't laws passed to deal with exploitation that is going on. Instead of whether the heart was beating at the time the foetus was aborted?

The chapter on medical practice looks into issues relating to medical confidentiality, consent to treatment, treatment of the aged. The above mentioned issues are points of con-

flict between law and medical ethics. The authors have presented the issues illustrated with actual cases. Laws relating to medical ethics emerged as a safeguard against exploitation by of the medical profession. Being a reflection of the capitalist social structure, compensations (torts) will be demanded for medical malpractices. It is inevitable because the patient has his/her right since they are paying for the services. Counsel regarding treatment of the aged is a clear indication of the economic climate and is unlikely to be followed in the foreseeable future.

The topic on 'Death' deals with diagnosis of death, donations of organs and transplantation, euthanasia Biomedical human experimentation, Research on children and foetal experimentation. Issues over which medical profession could exert their power. Euthanasia whether active or passive, voluntary or involuntary is reflective of a person's right to life. The question I would like to raise is whose life is it? Donation of organs and transplantation is once again based on financial gains except a few philanthrophists who would ation organs from the goodness of heart. Though research is necessary for its benefits to humanity, the way it is used for commercial purposes leaves one aghast. Then we need to look within, to question our motives.

The extent to which psychiatry can operate as a political or social weapon constitutes its importance in the current debate. A broad sympathetic view may prevent the unjust punishment of those who are truly not responsible for their action but it may also prove to be socially damaging if criminals are left free under the garb of insanity. The inescapable task then becomes one of charting a course between Scyulla and Charybdis. To achieve this the criminal law should adhere to a broad definition of insanity (such as in Scottish or French formulae : refer page 307) which allows maximum leeway for a court to take into account expert evidence while at the same time avoiding necessarily being bound to an acceptance of psychiatric notions of reponsibility.

This book is a good reference volume with its pragmatic approach to different issues illustrated by actual cases. It covers topics relating to law and medical ethics in United Kingdom. These issues can hardly be considered applicable in Indian context where law itself if negligent, let alone medical ethics.

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(Contd from Pg. No.4)
repeatedly stressed that scientists and technologists ought to be accorded higher status and emoluments. The Shrivastava Committee, MCI and other highly placed authorities unequivocally recommended non-practising terms for the medical teachers. The administration has not taken their recommendations in the right spirit. There has developed a nexus of mutual interest between the political-bureaucratic authority and the teaching community. Politicians of all shades and bureaucrats enjoy the free services of teacher-specialists who also make the costly medicare facilities of the state hospitals available to the former out-of-turn. It is indeed difficult to find a political leader or a high government official who is not personally obliged to a medical teacher. In fact, one of the topmost physicians of Calcutta openly maintained unauthorised private practice throughout the entire length of his service career occupying non-practising posts, which included the topmost posts in the post-graduate medical college and the health service in West Bengal: this enterprising doctor professionally served the chief ministers and ministers during both Congress and Left Front regimes. Unless this pernicious system of private practice is removed, other measures will be infructuous. All discriminations in the matter of pay, promotion and retirement benefits should be resolved. More and more university control should be introduced replacing government control. There should be a declared policy of transfer in transferable services. Lastly and most importantly, there ought to be a system of assessment of performance accompanied by incentives and disincentives. This is perhaps the most controversial area and difficult to operate. Because, credibility of assessment depends upon the credibility and competence of assessors. Still, a structural framework for elements and procedure for assessment could be devised and be given a trial. If this is done, then the present system of examinations based on subjective assessment could be thrown away and be replaced by periodic objective assessment of students at every crucial level of curriculum and training.

The task of updating of knowledge should not be left to individual initiative. Updating includes revision and is dependent on research. It may be emphasised that the teaching community is the most effective force in research and the poor state of medical research in India is actually a reflection of the teaching community.

The Bhore Committee observed in 1946.

"No special facilities are available for the training of teachers in the different subjects of the medical curriculum. . . Broadly speaking medical research receives little or no attention in the medical colleges of India. The authorities responsible for staffing and financing the medical colleges are usually ignorant of the importance of research in relation to the achievement of a correct attitude of mind in the students. . . " The role of teachers in shaping the make-up students is crucial and nowhere is it more pronounced than in the field of medical education. The attitude towards both science and society is involved. The student is influenced not only by the teachings and preachings of the teacher but is influenced most by the teacher's practice. The teacher's admonition against indiscriminate use of antibiotics or random use of steroids cuts little ice with the student when the latter discovers the very teacher's indiscriminate and random prescriptions in private practice. The student thus learns the difference between theory and practice and this influence is intensive and sustained, shaping the professional career and attitude of the student. The teacher's conduct, in its turn, is detemined by his/her position in the society and the profession. Social and economic compulsions dictate terms. In the conflict between pursuit of science and commercial gain, the latter generally prevails. Medical education cannot wait for the development of the intrinsic goodwill of the teachers. Unless measures are taken to ensure job satisfaction, medical colleges will always remain short of dedicated teachers. Unless the standard of teachers is improved, teaching can never improve and consequently medical care cannot improve. However, grandiose or rational might be the curriculum or methodology of teaching. Unfortunately this profound role of teachers in medical education is yet to be recognised in India.

Ajoy Mit
Sujit K. Datu

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We regret that the last few issues of the *Radical Journal of Health* have been delayed. This has been because of printing and other difficulties, none of which fortunately are insurmountable. We hope to bring the publication up-to-date in the next couple of months. Please bear with us!

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On Eliminating Quackery

The laws against quackery were intended to protect physicians in their special interests, to secure their curative privileges; the patients were put under the guardianship of the government, of the patronising police state. The modern state which is to establish the equal rights of free citizenship must therefore, automatically be against the maintenance of the law of quackery. . . .

. . . We must (now) ask how the state. . . can and shall prevent quackery. For it cannot be denied that it lies in the public interest to restrain as far as possible the treatment of patients by ignorant persons.

The main tool of democracy is education. If we raise the educational level of physicians as well as that of laymen, quackery will correspondingly become less frequent. The more perfect the educational institutions of the state, the more scientific and practical medical education, the stricter and the more careful the medical examinations, the more realiable will be the physicians, "accredited by the government" and officially recommended to the lamyen and the greater will be the confidence they will meet and acquire. . . . But just as important, or perhaps even more so, is the education of the layman. As long as our schools devote th main efforts to the transmission of certai types only of knowledge and of doctrine consolidating belief in authority, in the best cases, producing a sterile scholarship; as lor as education, from primary school, to sity is not throughout based on percepti[illegible] by our senses, as long as it does not aim tc maintain and increase by critical faculty and by the power of independent thought, sound, genuine and unadulterated human under standing side by side with a large fun[illegible] positive knowledge in the natural sciences in natural history, the basis will be lacl which would enable the layman to form own judgement on his physicians pseudophysicians. Not only the un[illegible] cated but also the educated laymen, common as well as the outstanding peop will remain servilely subordinate to me cal authority and a resounding title such a privy court, or sanitary counsellor constitute a most lucrative shingle for medical quack. . . . Let a few generat pass — and that which now appears as a logical postulate, as a pious wish turn out to be an actual necessity, a cu[illegible] achievement.

— Rudolf Virc[illegible]