

A CONCEPTUAL STUDY OF THE ROLE EXPECTATIONS OF A PHYSICIAN:  
TOWARDS THE ELABORATION OF A SCHEME OF REFERENCES

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## CURRICULUM STUDIORUM

Pierre-Marc Robinson was born June 11th, 1935, in Pointe-Gatineau, Québec. He received a Bachelor of Arts degree in 1954 from l'Université Laval. He graduated as an M.D. in 1959 from the Faculty of Medicine of the University of Ottawa, and in 1960, on completion of one year of internship at St. John's Hospital in Detroit, Michigan, U.S.A., he was given a license from the Medical Council of Canada. He completed a residency program in Internal Medicine and Hematology at the Ottawa General Hospital and in 1965 obtained a specialist certificate from the Royal College of Physicians and Surgeons of Canada. In 1966, he achieved the same specialist statute for the province of Quebec. In 1971, he was made a Fellow of the American College of Physicians and in 1972, a Fellow of the Royal College of Physicians and Surgeons of Canada.

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## INTRODUCTION

During the past twelve years, the author has had ample opportunity to seriously observe the physician in practice and in training. This was made possible because of personal experiences related to the training of interns and residents specially after assuming the responsibility of Director of Medical Education at the Ottawa General Hospital. A few years ago, I had asked myself a question: Why and how did I choose my field of expertise? By extension the question rapidly became the following: How do physicians learn their roles? At first thought it appeared that certain aspects only were emphasized by certain departments. It seemed also that role learning in medicine is spread over a span of six to ten years or more between the entrance to a medical school and the first few years in practice.

Subjacent to these questions about role learning is the fact that the aspiring physician meets with and is exposed to a very heterogeneous group of teachers: (1) There are physicians only interested in a basic science and who have never nor will they ever practice medicine; (2) there is a large group of non-physicians, mainly research Ph.D., involved usually in a very limited aspect of the health sciences; (3) there is a group of physicians who are partly practitioners and partly researchers. The division of time spent on each aspect varies according to the individual

concerned; (4) there is finally a large group of physicians exclusively in practice who do no research at all. This group is usually minimally interested in the basic sciences but they are concerned fully with their application to clinical medicine. As a consequence to the existence of these various groups of teachers, a Faculty of Medicine is sharply divided into separate compartments or departments.

Discussions with medical students and with the faculty at all levels and in almost every department, point to the fact that a department can easily lose sight of the end-product that is to say the physician as he will function in the society. It also becomes apparent that various groups of teachers will perceive the role of the physician in a very special aspect and will therefore emphasize only those aspects. The factor "make up" of a group of teachers will therefore be important.<sup>1</sup> This probably explains why the student-physician varies so much in his attitudes during the course of his studies. It also probably explains why the student arrives in his clinical years totally unprepared to apply his recently acquired knowledge.

Although these facts have been observed by many medical teachers, it is surprising to note the resistance

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1 C. Jean Léveillé, "L'apprentissage du rôle du maître: exploration d'un modèle théorique", thèse de doctorat non-publiée présentée à la Faculté d'éducation de l'Université d'Ottawa, 1970.

to change encountered in a medical school. Medical Schools can and do develop vested interests and they will continue doing things in set ways, not only when they are still optimum ways but also, on occasion, when they are no longer appropriate. Oddly enough, changes in medicine should be reinforced by tradition, a tradition that has always been a commitment to the search for improved, and therefore changing, ways of coping with the problems of the sick. We should remember that free societies continue to grant relative autonomy to their component institutions only as long as these responsibly discharge their functions.<sup>2</sup>

Discussions with medical students and with the faculty plus intensive soul searching has raised the question of the socialization of our future medical personnel. The worry was that medical students were reared to be students and not physicians. While he (the student) learns the fact and skills of the physician, he may or may not acquire the values, attitudes and behaviors of a physician.<sup>3</sup> It has been said that he (the student) is being socialized often by what he "should" or "ought" to do and think and,

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<sup>2</sup> Robert K. Merton, George Reader, Patricia I. Kendall, The Student-Physician, Cambridge, Mass., Harvard University Press, 2nd Printing 1969.

<sup>3</sup> Ann G. Olmsted and Mariane A. Paget, Michigan State, "Some Theoretical Issues in Professional Socialization", Paper given at the Association of American Medical Colleges annual meeting, Houston, Texas, Nov. 1968.

not in fact, by what he does and what he thinks. In other words, he experiences a form of childhood socialization,<sup>4</sup> learning values and not behaviors.

He will, moreover, be socialized in both a group and as an individual;<sup>5</sup> of the two, group socialization is certainly more difficult because the adaptation to the needs of an individual is easier to accomplish than an adaptation to the divergent needs of the several individuals of a group.<sup>6</sup>

It is unfortunate that some medical schools or some training programs will inhibit the acquisition of necessary behaviors by exacting demands from their students which have little or nothing to do with the practice of medicine. Moreover, we have to take into account the existence of individuals or sub-groups, who, by virtue of what they are and what they believe in, are going to be affected differently by what happens to them during the course of their medical training. Thus divergent socialization routes will be traveled by different members of a group while being exposed

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4 O. G. Brim, Jr., "Socialization thru the Life Cycle", in O. G. Brim, Jr. and Stanton Wheeler, Socialization after Childhood, New York, Wiley, 1966, p. 1-49.

5 Stanton Wheeler, "The Structure of Formally Organized Socialization Settings", in Brim and Wheeler, Op. Cit., p. 53-116.

6 H. S. Becker, B. Geer, E. Hughes and A. Strauss, Boys in White: Student Culture in Medical School, Chicago, University of Chicago Press, 1961.

to the same situations.

If we are to learn and to teach a role, the obvious question is: What is that role? What makes a physician? What are the role attributes of a physician? Is there a model or a mould common to all those engaged in the various fields of medicine? This research will be a very modest attempt to conceptualize a model or, more specifically, a scheme of references. This conceptualization is based not only on the perception of the different sources of reference that tried to analyse the role of the physician, but also on the conceptualization of the same sources of reference as they attempted to visualize, in a prospective approach, the idea of the role of the physician.

The author warns the readers that, within his self-imposed limits, he was not preoccupied by either the perceptions or the conceptualizations of the various definers of the role of the physician such as the patient, the members of multidisciplinary teams, the various administrators, the regional health councils, the schools of Medicine, the politicians, the numerous consumer pressure groups and the ministries of health.

It is hoped to include in that scheme of references most of the role attributes of a physician and yet leave the door opened to the addition of other attributes.

In order to achieve a decent scheme of references, the last five years of the medical literature as compiled in the Index medicus were reviewed. This also included minimal review of the sociological literature as listed in the above mentioned Index. Some of the sources reviewed exhibited results documented and proven by experimental research; other sources were reports from individuals or groups who made recommendations based on impressions or who expressed wishes. Yet still other characteristics as they will be listed were added by the author after reflection and dialogue with colleagues. This latter group could not be traced back to the literature. Moreover, an active correspondence was undertaken with individuals actively committed to medical education in various North American institutions. A correspondence was also developed with prominent medical personnel in the same institutions and with the secretariats of medical associations ranging from the World Health Organization to the local Academy of Medicine. (See appendices 2-3-4.)

A descriptive list of role expectations will be elaborated from the above mentioned references. It will probably be incomplete. Some of the expectations may be thought more important than others depending on individual interest(s). Once the role expectations are outlined, an attempt will be made to regroup them in broader categories. This will be done by searching for a certain affinity between the role expectations but it will not take into account the various schools of thought that have always permeated the profession, namely: the traditionalist approach referring to the physician-dilettante, imbued with general knowledge; the socializing approach referring to the efforts made by many groups to make all the health professionals equal; the specialist approach referring to the study of a very narrowed field without consideration of neighbouring efforts; and the community oriented approach referring to the efforts made to base most of the role learning in the community in which the physician will live and work. No attempt will be made either to emphasize one or more of the regrouping categories.

Any study of these characteristics and of their emphasis will have to be looked at in the context of escalating health costs and of the efforts of various levels of government to control these costs. Dr. John Hastings' report in 1972 stated that:

A growing concern of both the Federal and Provincial governments [is] about the accelerating rate of spending in the health services. During the 1955-1968 period, the average rate of annual increase in the cost of providing all health services in Canada was approximately 10.7%. In 1968, government sources accounted for 69% of combined operating and capital spending in the health services in Canada. Spending from all sources in the same year represented some 6.6% of the gross national product. In the last three years, the rate of increase was running well above the 10% average and for 1971, the indicated rate of increase in spending is about 12.5%. The rate of increase in the expenditure on acute hospital care has been around 14% and shows no sign of slowing.<sup>7</sup>

In this context, it is possible that many of the characteristics will have to be relegated to a lower priority for a period of time while others will take a higher priority. This will also depend on the future of society.

From the regrouping of the role expectations, an illustrated scheme of references will be elaborated. It will try to bring out the total composite picture of a physician as he engages in the various medical acts. In summary the ~~different~~ steps to be followed will be the

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<sup>7</sup> John E. F. Hastings, Report of the Community Health Centre Project to the Conference of Health Ministers, 1972.

following: (1) A short review of the theory of the role will be done to situate the whole exercise. (2) The role expectations of the physician will be identified and listed. (3) These characteristics will be regrouped by association and affinity. (4) The regrouping will serve as a basis to elaborate an illustrated scheme of references. (5) The role as a teacher will serve as an example of how the scheme of references can be applied.

It is hoped that the scheme of references will lead to the formulation of various research hypotheses, some of which will be listed later. It is also hoped that the scheme will serve as an important tool in the development of an attitudinal test for candidates to our medical schools. It would then serve as an adjunct to the current admission procedure although it would never totally replace the current selection exercises. The scheme of references will also hopefully offer a new tool in teaching our future physicians.

Finally, it might be added that the teachers cannot take the young physician by the hand and bring him all the way down to his first contact with a patient in his own office. There will always be a jump from the sheltered life of the training programs to the decision-making life of the practicing physician. However, this jump can and should be minimized if more importance and attention is

paid to all the attributes of the role of the physician as they will be outlined.

## CHAPTER I

### A REVIEW OF THE THEORY OF THE ROLE

Before listing the various characteristics of the role of a physician, the author felt that a brief review of the theory of the role was indicated. This review will not be exhaustive because such is not the purpose of this research. It will attempt to introduce the main concepts of the theory of the role. It is felt that this review may help in the understanding of many of the ideas mentioned later. The review will not be done in a chronological order but will merely try to outline some of the various ideas emerging from the theory of the role: a definition of the role, its application in socialization mechanisms and in research, role learning, role conflicts, perception of the role, role transition, role clarity, role strain, role set and the situational role.

The first conceptualization of the role as a sociological entity was offered by Ralph Linton.<sup>1</sup> The role was then visualized as the movements of an actor occupying a defined position in a system. In this context the role is normative because these movements are determined by

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<sup>1</sup> Ralph Linton, The Study of Man, New York, Appleton-Century-Croft, 1936, ix-503 p.

behavioral patterns accepted and presented by the other actors of the system. These patterns really are the role expectations and they become norms that are imposed on the actor. Therefore, the role has to be consistent if role learning is to occur Linton added:

The successful training of the individual for a particular place in a society depends upon the standardization of the behavior of the society's members. [...] Such standards of behavior are called culture patterns by anthropologists.

Without them, it would be impossible to function or to survive.<sup>2</sup>

From the early definition of the role, Sargent developed the idea of role conflicts.<sup>3</sup> There will be conflict if an actor has to adapt too rapidly to the requirements of various roles or when an actor faces conflicting role expectations. Toby<sup>4</sup> thinks that these conflicts are important to the evolution of sociological systems. However, they have a limiting quality because they often provoke instability in a given system, and thus destroy the system.

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<sup>2</sup> Ralph Linton, The Cultural Background of Personality, New York, Appleton-Century-Croft, 1945, p. 19.

<sup>3</sup> S. Stansfeld Sargent, "Conceptions of Role and Ego in Contemporary Psychology", in John Rohrer and Muzafer Sherif, eds., Social Psychology at the Crossroads, New York, Harper & Bros., 1951, p. 335-370.

<sup>4</sup> Jackson Toby, Some Variables in Role Conflict Analysis in Social Forces, Vol. 30, March 1951, p. 323-327.

The research model of Getzels and Guba<sup>5</sup> allows for recognition of conflicts defined as role personality conflicts. These conflicts happen if there is discontinuity between role expectations and the personality of the individual. They also happen when role expectations are defined by many different groups or when an actor faces contradictory role expectations.

Neiman and Hughes<sup>6</sup> showed that it is possible to use the concept of the role in research, if the concept implies in its definition all of the role expectations originating from certain situations; then interactions are necessary if a role is to be realized.

Talcott Parsons<sup>7</sup> uses this concept of the role as the pivot of his theory of sociological systems. It then becomes apparent that role learning is the main mechanism of socialization.

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5 Jacob W. Getzels, James M. Lipham, Ronald F. Campbell, Educational Administration as a Social Process, Theory, Research, Practice, New York, Harper and Row, 1968, p. 410.

6 Lionel J. Neiman and James W. Hughes, The Problem of the Concept of Role: A Re-survey of the Literature in Social Forces, Vol. 30, Dec. 1951, p. 141-149.

7 Talcott Parsons, The Social System, New York, The Free Press, 1951, 575 p.

The social system is made up of the actions which constitute the social system; these actions are also the same actions which make up the personality systems of the individual actors [...]. For most purposes, the conceptual unit of the social system is the role. The role is the sector of the individual actor's total system of action. It is the point of contact between the system of action of the individual actor and the social system [...]. The primary ingredient of the role is the role expectation and the role expectations are patterns of evaluation.<sup>8</sup>

Still according to Parsons, the main mechanisms of role learning would be (1) reinforcement and disappearance (2) inhibition (3) substitution (4) imitation (5) identification. How is a role perceived? This was explored by Sarbin<sup>9</sup> who stated that:

The perception of roles is an organized response of a person to stimuli in a social context [...]. Role perception may be thought of as a sequence of behaviors in which the perceptual response is the first part of a social act.

Leonard Cottrell<sup>10</sup> insisted on role transitions.

This concept refers to the process of moving in and out of roles in a social system. It may involve the addition or

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<sup>8</sup> Talcott Parsons, Edward A. Shills, eds., Toward a General Theory of Action, Cambridge, Harvard University Press, 1967, p. 190-233.

<sup>9</sup> Theodor R. Sarbin, "Role Theory", in L. Lindzey, ed., Handbook of Social Psychology, Cambridge, Addison-Wesley, Vol. 1, 1954, p. 223-258.

<sup>10</sup> Leonard Cottrell, "The Adjustment of the Individual to his Age and Sex Roles", in American Sociological Review, Vol. 7, 19 Oct. 1974, p. 617-620.

the termination of one or more roles and the concomitant beginning of another. Therefore how easy is it to make role transitions?

In order for the role transition to be easier the role or roles have to be made very clear. This is referred to as "role clarity" and it means the degree to which there is a set of explicit definitions of the expected reciprocal behavior. We can then redefine role conflict as the presence of incompatible expectations of a social role. A theoretical model about making role transitions has been very well summarized by Burr.<sup>11</sup> Role transition will be easier according to the degree to which a role facilitates achievement of a goal.

Role strain was defined by Goode in 1960.<sup>12</sup> There is stress generated within a person when he either cannot comply with or has difficulties in complying with the expectations of a role or a set of roles. Playing roles in different physical locations or different social situations then becomes role compartmentalization. It is also safe to assume that the degree to which roles are compartmentalized

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<sup>11</sup> Wesley R. Burr, "Role Transitions: a Reformulation of Theory", in Journal of Marriage and the Family, Vol. 34, Aug. 1972, p. 407-416.

<sup>12</sup> William J. Goode, "A Theory of Role Strain", in American Sociological Review, Vol. 25, Aug. 1960, p. 483-496.

influences the strain that results from incompatible roles. There is role incompatibility when the demands of one role are incompatible with the demands of the other roles occupied by an individual. These various concepts are again very important when we think of the role of the physician.

Merton has introduced the concept of a role set.<sup>13</sup> This concept represents a complex of role relationships which individuals own by virtue of occupying a particular status. For example, because they find themselves in situations calling for widely disparate attitudes and behavior, medical students at any one stage in their training and even in their post-graduate years, tend to think of themselves now as students, now as physicians as they work in diverse social contexts. There is therefore, quite often a situation calling for role transition.

Based on what has been discussed up to now, we believe that the definition of the various role expectations of the physician will make that role easier to learn. It should also be remembered that one expectation may be more important than others in different situations. This would introduce the concept of situational role emphasis. Each expectation is therefore a sub-role. The scheme of references,

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<sup>13</sup> Robert K. Merton, "Social Theory and Social Structure", in Journal of Marriage and the Family, Vol. 34, Aug. 1972, p. 407-416.

to be introduced later, will most likely apply to every physician but various specialties may emphasize various role expectations. The basic core will however remain the same. As mentioned by Léveillé,<sup>14</sup> the theoretical scheme of references of a professional role, such as the roles of physician, engineer or nurse can be used in a study about how that role is learned.

Such a scheme of references will become efficient if we can determine which, if any, continuity exists on the one hand between the individuals defining the role from an academic standpoint and on the other hand, the individuals defining the role from a practical standpoint. Role learning should therefore be situated as much as possible in the areas where that role is going to be practiced.

Role learning may be purely situational and unplanned and never formerly taught. Not everything that is taught in medical schools is actually learned by students, and not everything that is learned is taught there, if by teaching is meant the didactic forms of instruction.<sup>15</sup>

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14 C. Jean Léveillé, "L'apprentissage du rôle du maître: exploration d'un modèle théorique", thèse de doctorat non-publiée présentée à la Faculté d'éducation de l'Université d'Ottawa, 1970.

15 Robert K. Merton, George Reader, Patricia L. Kendall, The Student-physician, Cambridge, Harvard University Press, 1969, p. 41-42.

## CHAPTER II

### IDENTIFICATION OF THE EXPECTATIONS OF THE ROLE OF A PHYSICIAN

Most of the following expectations have been defined from the three levels of sources mentioned earlier in the introduction: research, recommendations and personal conclusions. They will be regrouped later but a preliminary regrouping will become apparent as the list is quickly reviewed. This was done on purpose, to prevent confusion when they will later be regrouped. This preliminary regrouping has also evolved from the review of the literature when every role expectation was annotated and classified.

#### The Application of the Scientific Method: Problem-solving and Decision-making

The author feels that this part of the role expectations of a physician has been well researched. Only a very short review is therefore necessary.

The scientific approach to medicine hinges around the application of the scientific method as applied to problem-solving and decision-making. It is to be noted that in the practice of medicine, the two processes of the scientific method are separated. For after a problem is solved, the decision is not automatically reached. Very often the same approach to problem-solving has to be repeated many

times before a decision is reached both through experiencing and rationalization. Moreover, the decision-making either in diagnosis or in therapy immediately leads to other problems. It is better to look at the whole process in two separate entities but placed on a continuum. This continuum is constantly being applied to patients in diagnosing and treating and is applied to research both basic and clinical. Problem-solving and decision-making mean that data are gathered to substantiate the main process which is the formulation of a hypothesis. The better the previous analysis and the more prior facts are available, the more precise any hypothesis is likely to be, although there is no evidence that quantity of facts and precision are linearly related.<sup>1</sup>

This presupposes that skills have been developed to obtain the necessary information and that there exists a general body of facts that can be used as a reference

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<sup>1</sup> H. A. F. Dudley, "Taxonomy of Clinical Educational Objectives", in British Journal of Medical Education, Vol. 4, 1970, p. 13-18.

frame.<sup>2,3,4,5,6</sup>

Thus it is: (1) necessary to impart a general knowledge about the application of the scientific method i.e. problem-solving and decision-making. (2) This effort at problem-solving must be related to the real-life situation presented by the ill-patient. (3) The general knowledge that is needed in the context of human illness must be identified before we can intelligently delineate the problem in terms that will permit useful hypotheses to be entertained.

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2 Arthur Elstein et al., "Methods and Theory in the Study of Medical Inquiry", in Journal of Medical Education, Vol. 47, Feb. 1972, p. 85-92.

3 Ann G. Olmstead, "Bases of Attraction of Medicine and Learning Style Preferences of Medical Students", in Journal of Medical Education, Vol. 48, June 1973, p. 572-576.

4 Arthur S. Elstein, "Use of Simulation and Videotape Stimulated Recall to Study Medical Reasoning", Office Paper, OMERAD, No. 1973-3, Michigan State University.

5 Arthur S. Elstein, "Analyzing Medical Inquiry Processes", Office Paper, OMERAD, No. 1973-2, Michigan State University.

6 Department of Community and Family Medicine, Development of an Experimental Model for a Teaching Program in Comprehensive Patient Management for Undergraduate Medical Students, Salt Lake City, Utah, University of Utah College of Medicine, Nov. 1972.

In summary, the key to problem-solving is the mastery of three key areas of understanding:<sup>7,8</sup> 1) Concepts 2) Practical skills 3) Key facts. The diagnostic process also involves decision-making in that the act of diagnosis itself implies a choice between alternatives or hypotheses and also in that a diagnosis usually leads to action. Before taking action, decisions have to be made.<sup>9,10,11,12</sup> Theoretically the medical student should graduate with the necessary knowledge and skills to enter the practice of medicine. Postgraduate training would then only represent a period to sharpen this knowledge and those skills to a fine edge, rendering problem-solving and decision-making an

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7 Arnold Naimark, "Medical Education and Quality of Care", Paper given at the Workshop on Quality of Care and Medical Education, Conference at Skyline Hotel, Ottawa, April 25-26, 1974.

8 Robert Kane, Woolley F. Ross, Rosalie Kane, "Towards Defining the End-product of Medical Education", in Journal of Medical Education, Vol. 48, July 1973, p. 615-624.

9 Mary Ann Antley et al., "Obsolescence: the Physician or the Diagnostician Role", in Journal of Medical Education, Vol. 47, Sept. 1972, p. 737-738.

10 Personal correspondence, Dr. J. Devitt, Department of Continuing Medical Education, University of Ottawa.

11 Rapport du groupe d'animation pédagogique, Université Laval, 1974.

12 Personal correspondence, Mr. John B. Krauser, Administrative Assistant, Ontario Medical Association.

almost automatic gesture.

### The Prevention

Both the provincial and federal governments have recently been very fond of talking about the preventive aspect of medicine and of the need for more public health oriented physicians and thus training fewer doctors to practice acute and curative medicine. This latter group is usually hospital-based and very expensive. As for example, we should perhaps look to the experience of the "bare-foot" doctors of China.<sup>13</sup> Through a massive preventive exercise, they have successfully stabilized their population growth and they have eradicated venereal diseases while we are still experiencing massive epidemics of gonorrhoea. The experience in China has of course been made possible by regimenting a whole country although parts of their programs are probably applicable in our context.

Obviously, the word prevention would have to be defined and its objectives delineated.<sup>14</sup> But surely this is not possible. Twenty-four million Americans are suspected of suffering of undiagnosed hypertension. Canadians are

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<sup>13</sup> Alain Peyrefitte, Quand la Chine s'éveillera, Paris, Fayard, 1973, p. 443.

<sup>14</sup> Personal correspondence, Dr. G.J. Sarwer-Foner, Professor and Head, Department of Psychiatry, University of Ottawa.

certainly not faring better. Couldn't we launch massive programs of detection? Hypertension is only one of the diseases that could be looked at by prevention. But if we want to be in control of the world that we have created, we will have to train our future health teams in the area of prevention. If we are to take this direction we should not settle for the idiot-savant technologist with the large research team because he often has left his humanity and his social conscience at the door of his laboratory.

It may be that the fault lies with our premedical education, the requirements of which effectively excludes the humanities and social sciences. The perfect mix might be the preparation of the older generation with the scientific knowledge of our generation.

#### The Research<sup>15</sup>

Research is an extension of the scientific method; in other words, research is the scientific method pushed to its utmost conclusion and purity. To undertake research, basic or clinical, there has to be a stronger than average body of knowledge and very special skills. However, there is a minimal difference between the researcher and the

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<sup>15</sup> Personal correspondence, Dr. J. Devitt, Department of Continuing Medical Education, University of Ottawa.

clinician: both may have the same attributes, both are approaching problem-solving and both are or should be working for the ultimate benefit of the patient. If a strong point was made about the practical application of research, it probably would attract more individuals to the field. As it presently is, few students are attracted to research and this may be due to the fact that few basic researchers consider themselves as physicians. They often think that they are superior to their counterparts in clinical medicine; but in the process, the welfare of the patient is forgotten. A similar thinking process unfortunately often afflicts the clinician when he refers to the researcher.

#### The Application of Modern Technology

Modern technology will constantly be influencing the physician. We will mention a few of these problems held in store in the future: the capacity to implant minute transistors to control behavior, the ability to conduct genetic surgery and engineering, the massive use of bacteriological warfare and of tranquilizers, the advances in transplanting cadaver or artificial organs, the idea of selective sterilization and selective breeding, the development of a test-tube generation of superhumans and the increasing use of radioisotopes. However, most of these problems are farther off than the application of computers to medicine.

What will the impact of computers be on the practice of medicine? I would like to venture the opinion that they will never replace the physician completely neither should they store all the core facts assimilated by the physician. They are probably the future reference book of the physician, helping the latter to arrive at a decision by storing non-core facts. They have been proven very helpful also in simulating patients, acting as teaching machines and performing evaluations of various groups of physicians.<sup>16</sup> The prospects of a teaching or examining computer are however painful although more objective.

Can computers be used in prevention programs? It is probable that a health team with a computer can accomplish more than an ordinary team in population screening and data storage. Computerized medical records available to every member of the health team, could also insure a higher quality of care.

If we are presently talking of computerized kitchens, cars and airplanes, there surely is a place for a computerized physician's office with a terminal connected to a central or regional center data bank. This would of course be a centralizing operation but, at the same time, it would be

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<sup>16</sup> Donald R. Wilson, "Assessment of Clinical Skills from the Subjective to the Objective", in Annals of the Royal College of Physicians and Surgeons of Canada, April 1975, p. 109-118.

decentralizing by bringing to everybody the same standards of care.

We probably should be approaching the topic of computers with medical students and make them aware of possible implications. Using a computer now should be part of the role if we are to later avoid role conflicts. These conflicts would arise mainly because of the non flexibility built in the computers systems.

#### The Communication and the Perception

The concept of communication and of perception is believed by the author to really be lacking in the day to day life of the physician. It was therefore decided to look into that concept more fully.

Let us look first at the roots of the three words that describe the profession of medicine:<sup>17</sup> physician, medic, doctor. The word physician derives from the greek: "physis" or nature, denoting that the physician has his roots in an understanding of the nature of things; the word medic comes from "mederi", to heal and the root "med" means to meditate or think, so that medic is the equivalent of thinker and healer; the word doctor originally meant master or instructor. Thus semantically, the profession involves

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<sup>17</sup> Felix Marti-Ibanez, "To be a Doctor", in MD of Canada, Vol. 4, Nov. 1960, p. 13-14.

learning, knowing, healing and teaching. This could be the simplest approach to the role of the physician, and for centuries, every physician has been trained in that direction. Yet, also for centuries, some doctors were more successful and were considered by their patients and their colleagues as being special physicians. They were said to combine their knowledge to an intangible that was called the art of medicine. Is it possible to look at that art, analyse it and teach it so that it can be learned?

One of the vital parts of that art is a basic skill: the ability to communicate effectively with patients and other health personnel.<sup>18,19,20</sup> These needs cover a wide range of information transfers in different settings. Physicians must be able to obtain a complete and accurate history and must be able to establish a viable relationship with their patients which will maximize compliance.

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<sup>18</sup> Department of Community and Family Medicine, Op. Cit.

<sup>19</sup> Personal correspondence, Dr. J. Y. Gosselin, Department of Psychiatry, University of Ottawa.

<sup>20</sup> Proceedings of the joint meeting of the Committee on Medical Education and the Committee on the Study of Instructional Media in Medical Education, ACMC-ACTH-CAUSN Annual meeting, Hamilton, Ont., Oct. 1973.

Pickering,<sup>21</sup> in his study in Ontario, stated with reasons that communications between doctor and patient left much to be desired. He illustrated this assertion with the following comments: some doctors frighten their patients; some doctors overawe their patients with an overbearing manner; some doctors are remote, impersonal, inaccessible and even arrogant; some doctors appear to think that the patient has no right to know the facts about his condition. This brings out a most definite need for a two-way exchange of information. The duty of a physician is to act towards his patients as he would wish them to act towards himself: with kindness, courtesy, honesty and humility. There has to be an ideal of service that permeates all of the activities of a physician.

To achieve this, the physician must know not only the diseased but also the healthy; he must perceive or be aware of others.<sup>22</sup> To be aware of others, however, the physician must be fully aware of himself.<sup>23</sup> He must learn

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21 Edward A. Pickering, Paper given at the Workshop on Quality of Care and Medical Education, Conference at Skyline Hotel, Ottawa, April 25-26, 1974.

22 Robert M. Thurnblad et al., "Human Behavior and the Student-physician", in Journal of Medical Education, Vol. 42, Feb. 1967, p. 158.

23 Carl R. Rogers, Le développement de la personne, Collection organisation et sciences humaines, Paris, Dunod, 1970, p. 275.

to perceive and understand his own emotions when facing patients. Total self-perception and perception of others can then be placed on a continuum whereby both individuals can become better and more complete.

To communicate effectively and to be aware requires three important aspects: responsibility, availability and dependability. With these three characteristics, it becomes easy to establish "rapports" with others.

Communications should not be limited to interaction with patients. Communications refer to an interaction with individuals, colleagues, the other members of the health team, other professions in the society, associations, government etc.... (Fig. 1) The family practitioner needs to have excellent communications with his consultant and vice-versa.<sup>24</sup> The physician, in a hospital environment, needs to have constant contacts with his administrators and vice-versa. This represents the whole area of interpersonal relationship.<sup>25</sup>

Much too often, the partnership between the medical profession and a number of other constituencies such as

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24 R. B. Coles, "The Consultant and his Roles", in British Journal of Medical Psychology, Vol. 42, 1969, p. 231.

25 Frederick Koenig, "Positive Affective Stimulus Value and Accuracy of Role Perception", in British Journal of Social Clinical Psychology, Vol. 10, March 1971, p. 385-386.

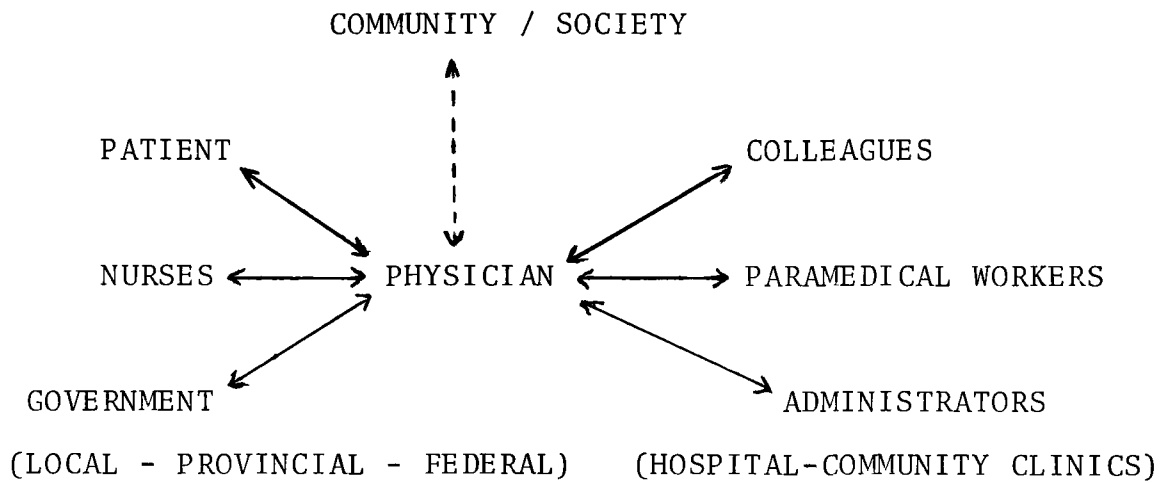


Figure 1.- The Directions of Communications

hospital para-medical workers and government, is ignored. In these situations, both partners are usually at fault. There is no harm for the medical profession to recognize the right of the public to make its view on medical matters known. The profession has much to gain from this communication: assembly-line methods must be abandoned both in the hospital and in the private offices; time must be spent with patients; interest in patients must be genuine and maximizing income must not be the dominant motive of the physician.

We should avoid being robopaths using Yablonski's definition:<sup>26</sup> "People whose pathology entails robot-like behavior and existence". A robopath is a human who has become socially dead and who possesses eight interrelated characteristics: (1) ritualism (2) past-orientation (3) conformity (4) image-involvement (5) acompassion (6) hostility (7) self-righteousness (8) alienation. All of these characteristics are anticomunication and antiawareness.

#### The Motivation

The main attitude that will permeate all other attitudes is motivation. Motivation in this context is a goal

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<sup>26</sup> Lewis Yablonski, Robopaths, A Pelican Book, Baltimore, Md., Penguin Books, p. 188.

oriented behavior providing that the goals are relevant and achievable. (Fig. 2) Figure 2 relates both the learning and the teaching processes. It is to be noted that motivation and objectives are both situated at the apex of the pyramids making them the two most important components of these processes. The bottom of the pyramids represent the bases on which the two processes are built. Motivation may be external or internal. Motivation to be worthwhile must however be internal, and learning under internal motivation will produce greater retention, understanding and transfer.<sup>27,28</sup> Motivation cannot be taught in the formal sense but it will be dependent on objectives if the latter are relevant, achievable, ethical and related. It could be looked at as an abstract quality passed on from teacher to student by osmosis. To be exemplified like that, motivation has to be internal and not external such as dependent on colleagues, patients' financial or other prestigious interests.

In the era of role transition and of role conflicts, the internal motivation will be the only important guiding force to seek the following achievements: role changes, an

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27 M. L. Brigge, Learning Theories for Teachers, New York, Harper & Row, 1964.

28 Marvin R. Clark, "How and in What Form can Continuing Medical Education Contribute to the Maintenance of Competence and Quality of Care", Paper given at the Workshop on Quality of Care and Medical Education, Conference at Skyline Hotel, Ottawa, April 25-26, 1974.

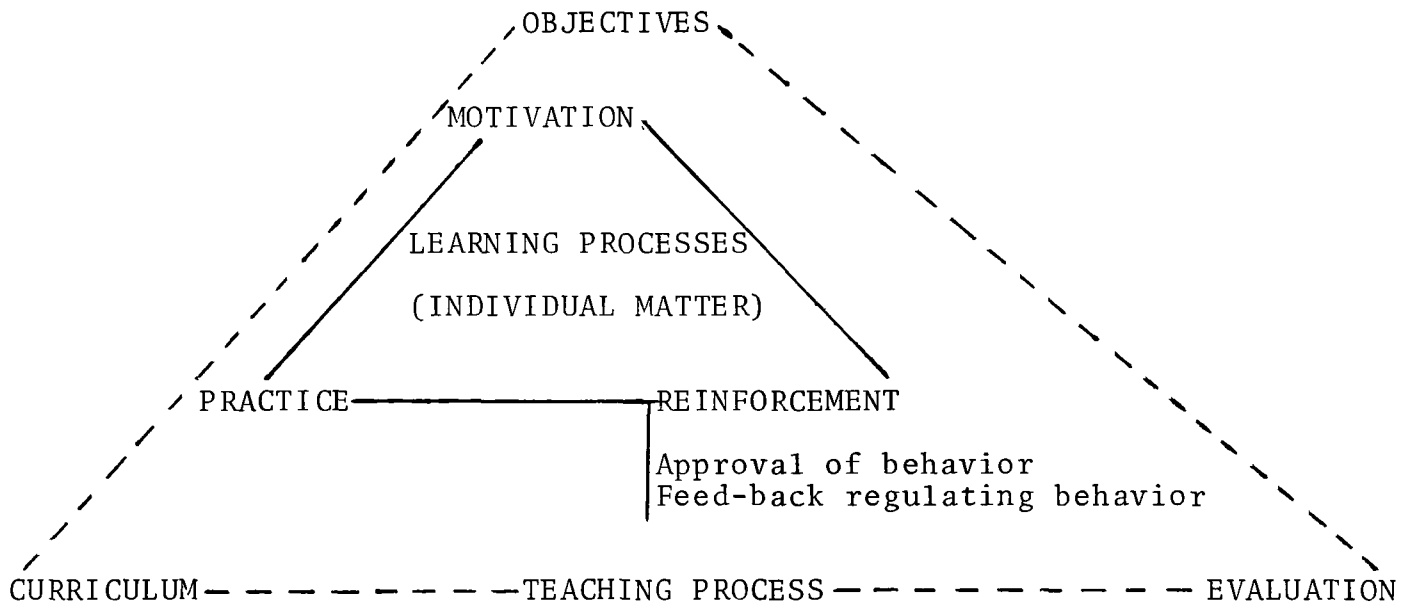


Figure 2.- Learning Versus Teaching Processes

understanding of the team approach, role innovation, constant evaluation and continuing education.

(1) Motivation to Role Changes

If we try to anticipate the difficulties that the young physician will encounter when he enters practice, we realize that the medical role is burdened with potential conflicts. He, for instance, works in a group during his last years but the medical sub-culture that he absorbs emphasizes the values and attitudes of private entrepreneurial practice.<sup>29</sup> According to Wilson, there are three major forces leading to changes in medicine:<sup>30</sup> a) the expanding medical knowledge and here we link up with the continuing medical education aspect; b) the integration of the physician in a complex societal structure; and c) the exposure of the physician to the organizational power of the various groups of professional administrators. This organizational power has now effectively become a control as will be shown later. We could add to these forces the facts that an ever more sophisticated society is exerting pressures and the fact

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<sup>29</sup> Wayne G. Menke, "Medical Identity: Change and Conflict in Professional Roles", in Journal of Medical Education, Vol. 46, Jan. 1971, p. 59-63.

<sup>30</sup> R. N. Wilson, "Physician's Changing Hospital Role", in Human Organization, Vol. 18, 1959, p. 177-183.

that the governments are very worried over the rapidly escalating health costs.

We probably should not train the future physician as we trained him in the past decade. Medical education should be clearly relevant to medical practice. Jason<sup>31</sup> is possibly right in concluding that medical students who are prepared to do what is now being done, are condemned to instant obsolescence. The potential to accept changes and not the resistance to change should be built in medical education. In other words, physicians should have a positive attitude to change and should not carry on with negative attitudes such as to new attitudes in the field of health care delivery. This is not to say that physicians should be passive to change but that they should make an effort at active and constructive criticism.

(2) Motivation to the Learning of the Team Approach

There has been, in the past few years, a definite movement of physicians from private to organizational practice and to a team approach in the hospitals and in the community health centers. This team approach was developed to make sure that the patient was benefiting fully at all times

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<sup>31</sup> Hilliard Jason, "The Relevance of Medical Education to Medical Practice", in Journal of the American Medical Association, Vol. 212, June 22nd, 1970, p. 2092-2095.

from the individual expertises of the various health professionals. It was also designed so that every one of these professionals could have an input in the problem-solving and the decision-making processes involved in patient care. The team approach is stressed in teaching institutions but the teams are always limited to any one of the health professions. Conflicts are therefore bound to arise when an interdisciplinary health team is formed. (Fig. 3)

Figure 3 outlines some of these problems as visualized by the author. These problems will stem mainly from role conflicts and role fragmentation. It has to be remembered however that the main concern of the team is the welfare of the patient. These conflicts most often stem from the ignorance that each of the professions have of the other, even though they have been closely associated with one another for many years. Conflicts also arise because the physician has always assumed that the leadership of the group was unquestionably his; he may, of course, be right simply because he is the individual with the best educational background; he would specially be right if the team is only handling care to patients. However, in practice, the leadership would probably vary, becoming entirely

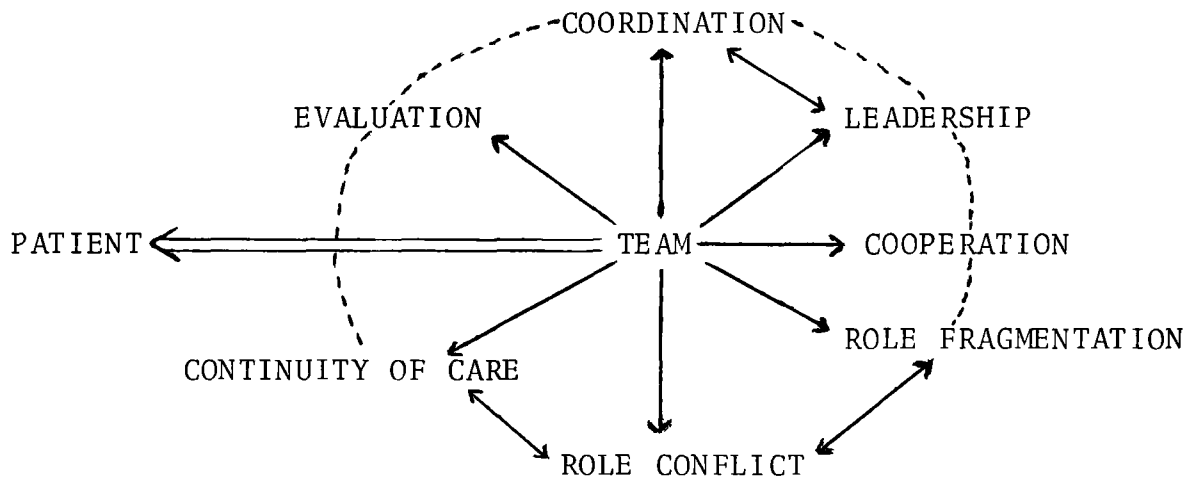


Figure 3.- Problems of the Team Approach

situational.<sup>32,33</sup>

While varying in his point of view from some of his co-workers, the physician should remain the recognized leader of the health-care team and strongly influence its direction.<sup>34</sup> But unfortunately, he does not enjoy a good reputation with his co-workers. Described as the last of the autocrats, he consigns the other health personnel to a non-professional limbo, regarding these individuals as working for him rather than working for the patient.<sup>35</sup>

Being self-confident in his diagnostician role requires some authority and to recognize a need for others is to acknowledge his limitations. It is interesting to note that to recognize self limitations is to practice auto-evaluation at its best. This could be helped by providing the medical student with knowledge of the potential contributions of his colleagues in allied disciplines. Formal educational contacts could then be enhanced. The successful

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32 Mildred Morehead, "Changing Roles of Personnel in Neighbourhood Health Centers", in Post Graduate Medicine, April 1971, p. 193-197.

33 Mickey Smith and Norman Tullis, "Survey Shows Hospital Pharmacist in Advisory Role", in Modern Hospital, Dec. 1969, p. 114-118.

34 Barbara Bates, "Doctor and Nurse: Changing Roles and Relations", in New England Journal of Medicine, Vol. 283, July 16th, 1970, p. 129-134.

35 R. M. Magrau, Ferment in Medicine: a Study of the Essence of Medical Practice and of its New Dilemmas, Philadelphia, Saunders, 1966, p. 173.

physician is very often the one who listens to the nurses and who turns to them for help in various situations. It is also interesting to note that physicians have all done this very thing, early in their post-graduate education.

Cooperative role development could easily be enhanced and with it efforts at coordinating both activities and individuals to promote the good function of the team. The team approach will stay and it will not vanish because we would like it to. In fact, it will probably gain in popularity as its various components are pushing for more recognition in the decision-making process. The physician will probably remain the captain of the team and continue to be the mainstay of the provision of health care.<sup>36</sup> But because of the team approach, there will be less freedom for the physician to create his own role and this role, will have to be subservient to the role of the team. This should not be a hurdle for the physician.

Within the group, there will invariably be role fragmentation. This fragmentation is usually not dictated by the team, but it arises out of the shared perspectives

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<sup>36</sup> Personal correspondence, Robert Davis, Coordinator of the Council on Medical Education, CMA House; presently the associate director of continuing medical education, Royal College of Physicians and Surgeons, 84 Stanley St., Ottawa, Ontario.

and interests of the involved professionals.<sup>37</sup> As the new segment gains strength, it will seek administrative recognition and potential overlapping will lead to potential conflict.

### (3) Motivation to Role Innovation

If the physician of today finds himself unprepared to deal with the demands of society, it is not for a lack of technical professional training but it probably resides in the conservative attitude and role rigidity of the professional. It is therefore entirely the responsibility of the individual to develop a life-style of role innovation.<sup>38</sup> This may imply a basic rejection of the norms governing the practice of the profession plus a concern for the role of the professional in society. Questions have to be asked such as: (a) who is a client? (b) who should initiate the contact between the client and the practitioner? (c) what is the appropriate setting for conducting practice? (d) what are the legitimate boundaries of the professional's areas of expertise? The underlying argument behind these

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<sup>37</sup> Ann Olmstead, "Integration and Individuation", Memo to the curriculum committee, Michigan State University, Aug. 1972.

<sup>38</sup> Edgar Schein, "Occupational Socialization in the Professions: the Case of Role Innovation", in Journal of Psychiatric Research, Vol. 8, 1971, p. 521-530.

questions is a strong concern to make the profession more relevant to the problems of society. This concern is also not the sole interest of the medical profession but should apply to other careers.

Why bother about role innovation? The problem is pressed on us because: (a) there are changes in the society and the environment that create new problems and these problems deserve a solution; (b) certain individuals will develop value systems that are out of line with the role demands of their jobs; (c) there are professional schools which will and should aim at changing the profession.

To impart role innovation into our students will involve certain basic changes in attitudes and policies of our institutions. For instance, if we cannot loosen the concept of professorship, we may ultimately fail in untangling the concept of the role-innovative professional.

#### (4) Motivation to Evaluation

One of the recommendations of the conference held on quality of care at the Skyline Hotel in Ottawa on April 25th and 26th, 1974 reads:

It is the medical schools responsibility to foster by teaching and by example the attitude that self evaluation should be a way of life for every physician.

The attitude of self-evaluation will permeate students if it is practiced fully by their instructors and teachers. However, self criticism has neither characterized the practitioner nor the academician, substantiating the claim made by Arthur Stinchcombe:<sup>39</sup> "If the Edsel division had been a new department in a university, it would still be there."

Self evaluation and evaluation of others form the basis of high quality medical care. The evaluation methods will vary and might include peer review by direct observation of care, peer review of clinical records, written and oral assessments including self-assessment examinations and others. This approach will work if students are taught the value of self-assessment and self-criticism from very early on in their careers. The "publish or perish" attitude of too many departments will have to make way for a new era of cooperation and constructive criticism. It is beyond the goals of this study to assess the evaluation value of the problem-oriented records and it is just mentioned as a

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<sup>39</sup> A. Stinchcombe, "Organizing-creating Organizations", in Transaction, Vol. 2, 1965, p. 34-35.

potential force in evaluation.<sup>40,41</sup>

We should remember that the evaluation results will remain valid so long as the social and political conditions under which they were conducted remain stable. This brings us back to the aspect of role innovation and the acceptance of change during a professional career.

#### (5) Motivation to Education

This topic refers mainly to continuing medical education. We again quote verbatim from the first recommendation of the conference on quality of care:

[...] Self education should be a way of life for every physician. Students of medicine should realize that all true education is self education and that continuing intellectual growth and continuing competence depend upon continuing intellectual curiosity, scientific scepticism, conscientiousness and hard work.

This attitude should again be permeating from the teachers. But specialization of teaching may cause this to disappear as a particular teacher will only refer to his field of

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40 L. S. Valberg, "Place of the Problem Oriented Record and Other Methods in Evaluating the Quality of Care in a Hospital Setting", Paper given at the Workshop on Quality of Care and Medical Education, Conference at Skyline Hotel, Ottawa, April 25-26, 1974.

41 Warren Dixon, "The Place of the Problem Oriented Record and Other Methods of Evaluating Quality of Care in an Ambulatory Setting", Paper given at the Workshop on Quality of Care and Medical Education, Conference at Skyline Hotel, Ottawa, April 25-26, 1974.

expertise and force the student to be disinterested from his quest for a broader knowledge. The standard form of whole-class lecturing, by its spoon-feeding approach, also shies away from developing a thirst for self-education. Examinations, by their normative approach to a certain body of knowledge, force the students to concentrate on that knowledge and prevent him from letting his curiosity and interest wander. That this curiosity should be guided remains certain but through newer techniques of learning, teaching and evaluation.

Once this attitude is developed, continuing medical education has to be reexamined. The two or three day course becomes obsolete as it does not cater to the particular needs of the individual. Continuing education, like the internship year, should be based on each physician's specific needs and not only on recent advances. In fact, it is probable that the enhancement of basic skills would be the most important aspect.

If a major part of the physician's self education is based on the current medical literature, the latter may have to be trimmed of all the superfluous articles. Personalized refresher courses will have to be developed with more emphasis on the "extra muros" programs of the faculties of medicine. These programs will have to be built on the needs of the physicians' communities. A search will have

to be undertaken to develop new techniques of continuing medical education. The apparatus and the resources are already structured; they have to be delivered. Postgraduate training programs should also be individually designed to fit the needs of the trainee and of society.<sup>42</sup>

The physician should also participate actively in the teaching and training of allied health personnel. The on-the-job training approach has always been an integral part of medical education and it should be reemphasized in the allied disciplines. More important, physicians should be part of the long term planning of the community colleges, instilling at that level their philosophy of health care. We should not wait until their graduates are hired by the hospitals to complain about the inadequate training. If the physician's support is not asked for at this planning stage, it should be actively sought by the faculties of medicine. The delivery of health care is too important to be left only to educators, administrators, civil servants and community pressure groups.<sup>43</sup> If a part of the physician's function is to be performed by non-physicians, it is

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42 R. C. Westbury, "Helping Doctors Learn to do a Better Job", Paper given at the Workshop on Quality of Care and Medical Education, Conference at Skyline Hotel, Ottawa, April 25-26, 1974.

43 Report of the Ontario Council of Health on Health Manpower, Supplement #3, 1970.

the faculty of medicine's duty to demand that these para-professionals abide by the same criteria of excellence as physicians do.

The governments have questioned the continuing education of the physician and they are considering alternatives. A willingness to change and cooperation from the profession will be needed.

### The Social Expectations

There are, presently defined, four social role expectations: the familial role, the knowledge of environment, the financial role, and the response to ever increasing controls.

#### (1) The Familial Role<sup>44</sup>

The familial role is not different in medicine from the other professions. But because of the hours worked and because of his responsibilities to his patients, the physician very often fulfills very poorly his role as a parent, by suffering from isolation due to the pressures on his profession. This topic will be the subject of a further article. With his knowledge of life and the sympathy delivered at work, the physician is probably better equipped than any

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<sup>44</sup> Personal correspondence, Dr. G. J. Sarwer-Foner, Professor and Head, Department of Psychiatry, University of Ottawa.

other profession in handling his role as a parent but he must reach a just equilibrium.

(2) The Knowledge of the Environment

The physician must be able to understand fully the ecology of human existence in various environments.<sup>45</sup> To be able to treat the person and to treat his environment is not a matter of mere coordination.<sup>46</sup> There are differences of opinion as to which is defective or, more practically, as to which can be adjusted. With the monthly increases in the cost of living, more and more symptoms are likely to be due to changes in the environment. There is no point in prescribing a diet of liver and fresh vegetables to an old age pensioner if he or she cannot afford it. The same applies to medications. When a biological problem is only a part of a consequence of a larger problem, a biological priority may be unsuccessful or even detrimental to the patient.

There is also a necessity to be acutely aware of the world's problems such as energy, population explosion

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45 Robert D. Allison, "The Role of the Biomedical Sciences Division of ISA in Biomedical Education", in National Biomedical Sciences Instrumentation, Vol. 5, 1969, p. 1-4.

46 Donald G. Bates, "Medicine Roles in Comprehensive Care", in Perspectives in Biology and Medicine, Vol. 15, Spring 1972, p. 317-325.

and pollution. The World Health Organization is probably better situated to handle these problems than politicians are. Then we could ask ourselves some questions like: is it moral to prolong life by very expensive means while some very normal children die of hunger? We should remember that these very expensive means are only available in countries where the consumption of non-reusable energy is the highest. The higher is that consumption, the more these resources vanish and prices increased. In underdeveloped countries, the mortality rate increases because of these high prices but this represents a negative feed-back because those who have died were consuming very little. In summary, are cardiac transplantations necessary or are they merely gestures of dehumanized individuals?

Population control and pollution are also very important aspects where the sensitized physician is a necessity.

### (3) The Financial Role

This role has also many facets. The physician represents, by his earnings, the best paid professional in North America and his purchasing power is consequently quite impressive. Because of these earnings, he has become the target of multiple attacks: questions are asked and controls such as ceilings or salaries are talked about. This

is understandable when a country spends 7.6% of its gross national product on health. This is a dilemma because physicians will not do anything about this voluntarily and governments are presently politically afraid to institute tight controls.<sup>47</sup>

Physicians-in-training should actively debate the following question: Should the fee-for-service mechanism be retained? If the answer is yes, then ask: For how long will the public sector be able to support us in this way? We should not answer that it is up to the governments to find a way out of a situation they have created. Our provincial and national associations should now explore with the governments new ways of remunerating physicians. More physicians should train as economists and health administrators. This represents a potential conflict in the years to come and we should anticipate solutions instead of reacting to the crisis when it arises. The subsidized physician is already in our midst.<sup>48</sup>

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47 John K. Iglebort, "Health Report", in National Journal Reports, Oct. 11, 1973, p. 1684-1692.

48 W. J. Copeman, "Program to Attract Physician to Underserviced Areas", in Ontario Medical Review, Dec. 1971, p. 619-622.

## (4) The Response to Ever Increasing Controls

Controls have been creeping among the profession of which the physician-in-training knows nothing about and which are all potential sources of role conflict. There are professional controls and governmental controls: provincial, regional and hospital.

Controls may take the format of relicensure or restricted licenses. They may be a sum total of study credits to be obtained within a certain time and at a certain place. The possibilities of controls are infinite. The governmental controls are usually less subtle but no less serious: under the guise of manpower studies and of global budgets, they have already jeopardized many training programs. The profession may ultimately have to take the blame.<sup>49,50</sup> Our governments are already conceding that it is not a matter of whether the health care industry should be regulated but rather how it should be regulated. Through manpower studies, the controlling agencies will be in a position to allocate physicians to areas according to population needs. Regional controls in Ontario are but a step away from such

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49 Bror-Rexed, "The Role of Medical Education in Planning the Development of a National Health Care System", in Journal of Medical Education, Vol. 49, Jan. 1974, p. 27-41.

50 Carolyn S. Steinwald, Trends in Health Care Delivery Regulation, American Medical Association Center for Health Services Research and Development, Jan. 1974.

legislation.<sup>51</sup>

Finally, the hospital imposes controls through its by-laws and regulations. The hospital itself is presently questioning its role and will eventually arrive at new orientations such as assuming the leadership in developing new patterns of care; the planning of all health facilities will be on an area-wide basis. The hospital will maintain a relationship with medical education but they will never let education take priority over patient care. It will be up to the physician to adapt and participate in all these new roles of the hospital.<sup>52,53</sup>

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51 The Mustard Report, Ontario, 1974.

52 Lester Breslow, "Role of the Public Hospital", in Journal of the American Hospital Association, Vol. 44, July 1st, 1970, p. 44-46.

53 James A. McPhee, "The Changing Role of the Doctor in the Hospital", in Applied Therapeutics, Vol. 12, March 1970, p. 26-30.

## CHAPTER III

### THE REGROUPING OF THE EXPECTATIONS OF THE ROLE OF THE PHYSICIAN

In order to make these characteristics into a scheme of references, it becomes important to regroup them into broader categories, so that the scheme of references can later be designed in a graphic form. These characteristics will simply be regrouped by affinity and by long-term effect. (Fig. 4)

#### The Scientific Expectations

The first category to be discussed is the scientific part of the role of the physician. This includes some aspects that will be peculiar to medicine and others that will apply to all professions. In fact, the scheme of references may be attributable to all professions. The scientific aspect according to Maslow<sup>1</sup> will be a social institution with conserving, ordering and stabilizing functions. If we look at the first two characteristics listed, we realize that they will fulfill exactly the requirements listed above: the approach to the scientific method and the preventive aspect of medicine. Again, according to Maslow,<sup>2</sup> if science

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1 Abraham H. Maslow, The Psychology of Science, Chicago, Henry Regnery, 2nd printing 1970, p. 151.

2 Ibid.

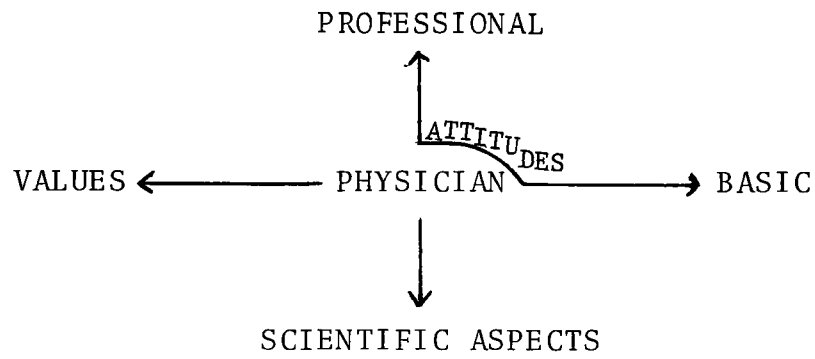


Figure 4.- The Basic Core

is to be more than defensive, there will be some functions of discovering and renewing. Research in medicine and the application of the modern technology will fulfill these two demands.

In summary, the four dimensions of the scientific aspect of the role of the physician will fulfill the attributes of a science by ordering and perpetuating and also by discovering and renewing. By being that complete, medicine will avoid upsetting problems. An effort has to be made to avoid making from medical science, a safety philosophy. (Fig. 5)

#### The Attitudes

The next category to be tackled would be attitudes. Attitudes can be looked at as more or less as a descriptive study of beliefs and resultant positive and/or negative values in belief-value matrices in specified populations of individuals. Thus most attitude studies have been concerned with discovering merely the presence or absence of specific attitudes.<sup>3</sup>

It might however be preferable to use Allport's classic definition of attitudes.

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<sup>3</sup> Talcott Parsons and Edward A. Shils, eds., Toward a General Theory of Action, Cambridge, Mass., Harvard University Press, 1967, p. 496.

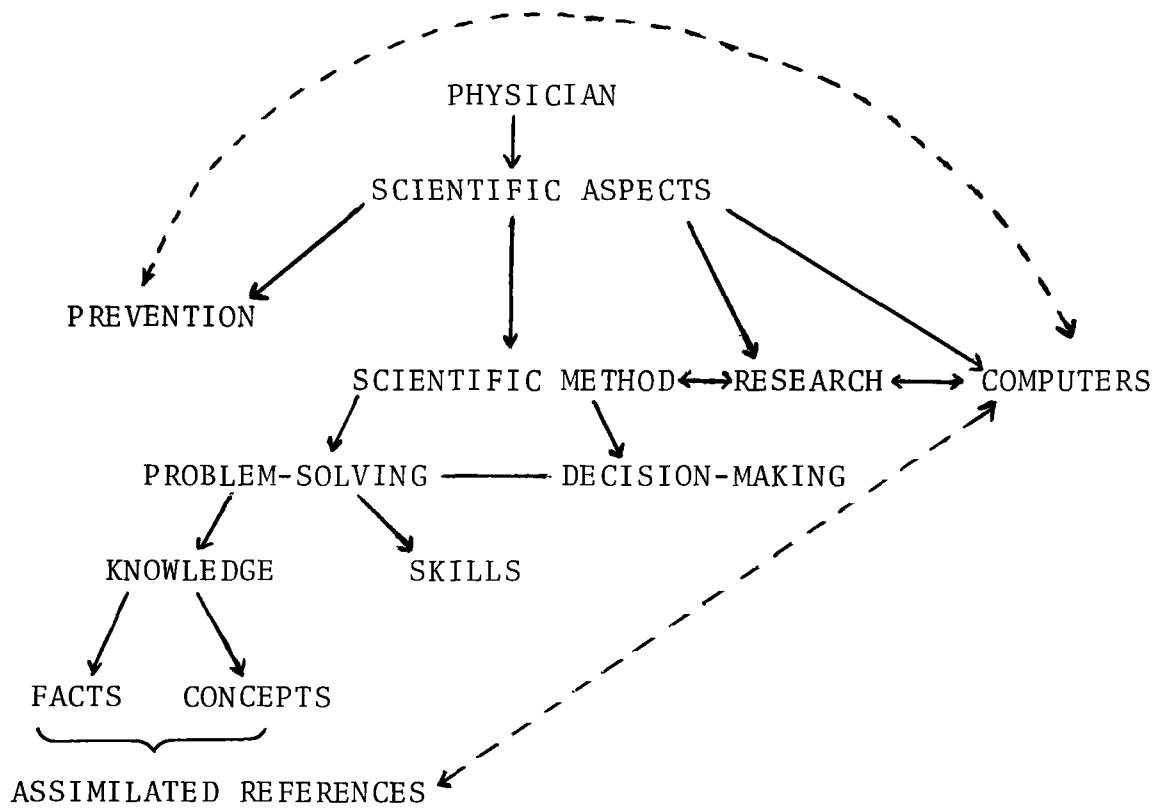


Figure 5.- The Scientific Aspects

A mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related.<sup>4</sup>

Therefore, as opposed to values, we must refer to the fact that attitudes have an exclusive referability to the individual. In this category, would be included communication, perception and motivation because these three characteristics are totally dependent on the individual.

It becomes important for future references to divide attitudes in two separate entities (1) basic attitudes (fig. 6) and (2) professional attitudes (fig. 7).

This division is suggested by the author as being feasible.

Basic attitudes are and will remain the basic desire to communicate and the ease of perception (of self or others). The main and maybe the only professional attitude is motivation and its components: motivation to role changes; motivation to the team approach; motivation to role innovation; motivation to evaluation; motivation to education. It is to be noted that the basic attitudes apply to all professions but that the components of motivation may vary with each profession.

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<sup>4</sup> G. W. Allport, Personality, a Psychological Interpretation, New York, Holt, 1937.

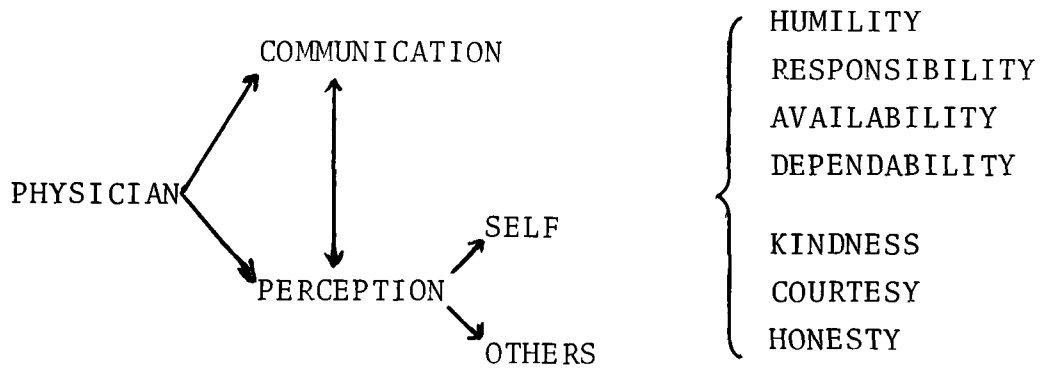


Figure 6.- The Basic Attitudes

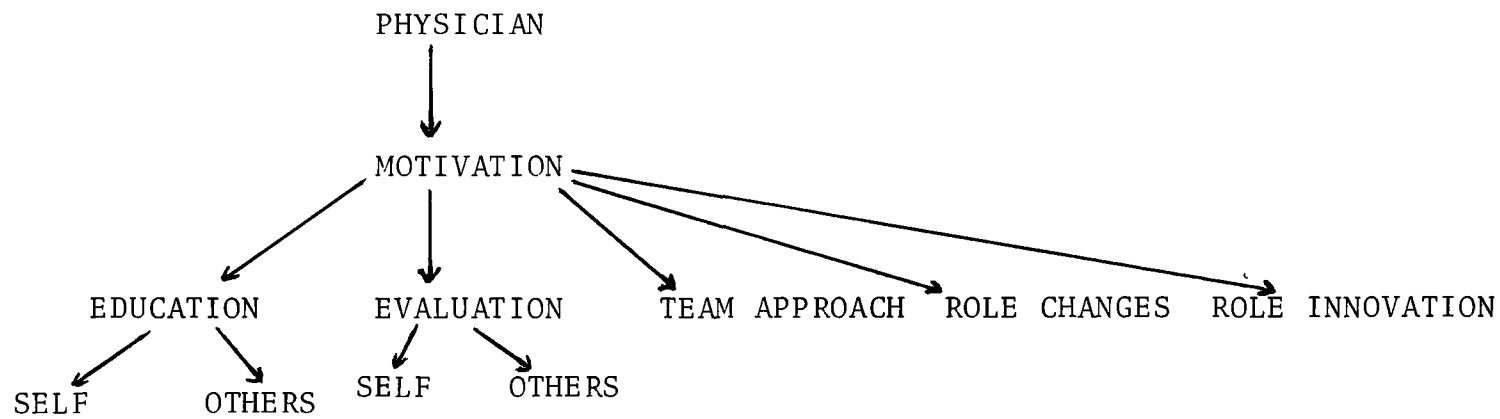


Figure 7.- The Professional Attitudes

## The Values

What has been described in the list of the characteristics as the social role is more akin to values than attitudes, if we use for a value the following definition: "that aspect referable to standards, personal or cultural, that do not arise solely out of immediate tensions or immediate situation".<sup>5</sup>

Therefore the values would become the social role and its components: the familial aspect, the knowledge of the environment, the financial role and the impact of controls on the physicians (fig. 8).

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5 Parsons and Shils, eds., Op. Cit.

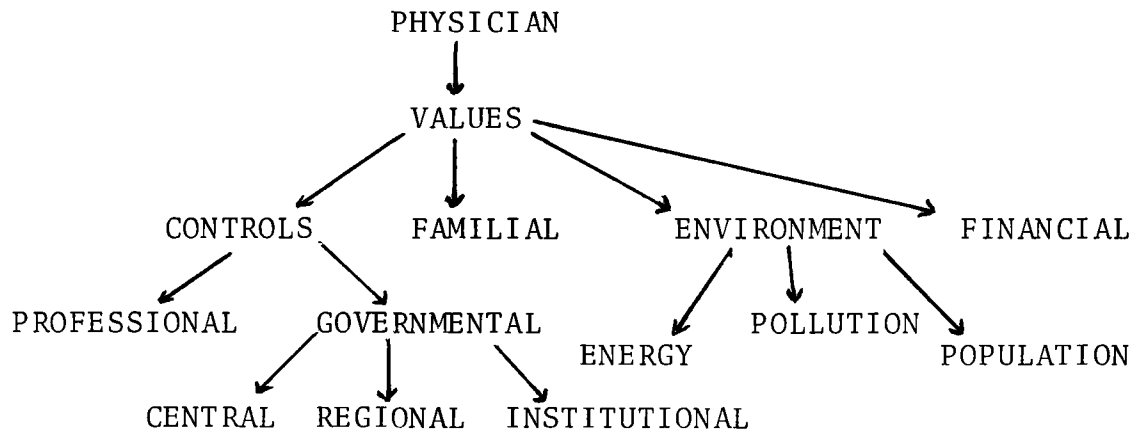


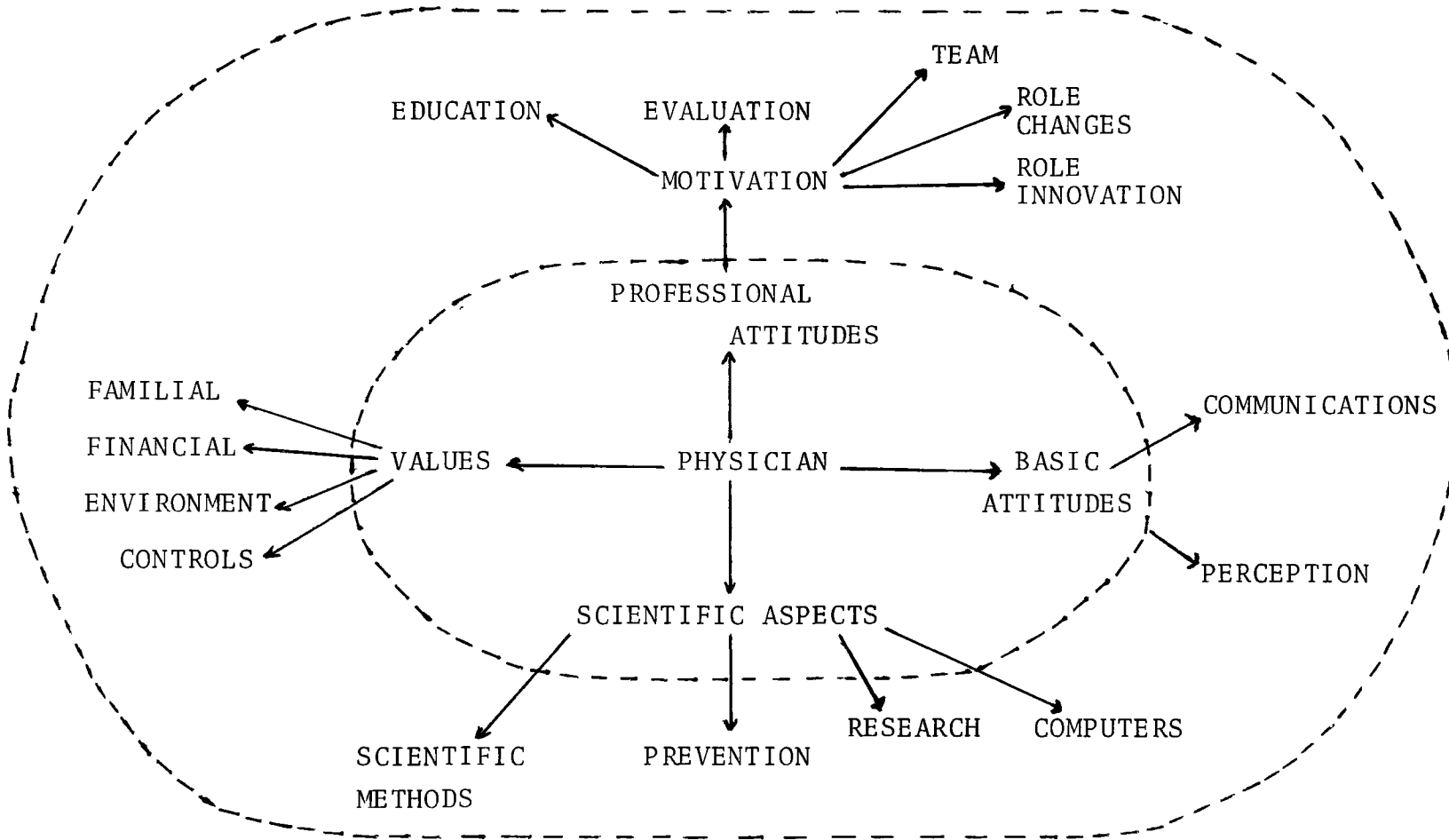
Figure 8.- The Values

## CHAPTER IV

### THE SCHEME OF REFERENCES

In order to introduce the scheme of references, the various regroupings will be combined in one group. It is to be reemphasized that each of these characteristics is based upon one of three levels: experimental research, recommendations and wishes and subjective experience through dialogues. (Fig. 9)

ROLE AS A TEACHER



THE SCHEME OF REFERENCES

Figure 9.- The Composite Scheme of References

## CHAPTER V

### THE ROLE OF THE PHYSICIAN AS A TEACHER

The role of the physician as a teacher may be used as an example of the scheme of references.

When taking the traditional oath of Hippocrates, the graduating physician promised to teach his knowledge to future generations of physicians. This part of the oath has always been carried out in medicine. In fact medicine stands out among all of the professions in that respect, as the only profession in which voluntary teachers have spent a life-time teaching. But the question really is: teaching what?

As we have seen up to now, there are many role expectations to the role of the physician. The role in its entirety has to be taught throughout medical school. We cannot depend only on the clinical years to teach all of the aspects of that role. If we want that role to permeate our future physicians, all of the role expectations have to be built into the curriculum from the first moment a student becomes a medical student.

The role as a teacher then becomes the sum total of all the role expectations listed so far (fig. 10). If only certain expectations can be met by certain departments, then

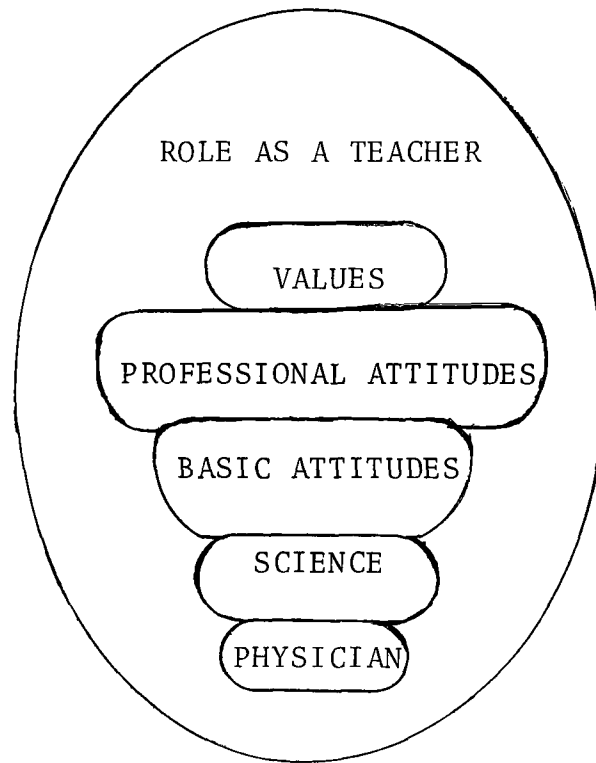


Figure 10.- The Scheme of References in Summary and its Relationship to the Role as a Teacher

that department has to be aware of its deficiencies and try to compensate for them; at least that department has to make sure that other departments will pick up where they left off. We have to constantly think of the final product as he will live and work; specialists should not project themselves as an example of what the final product should be and consequently always discuss their limited field of expertise.

The ideal circumstances necessary may only happen when the practicing physician has input in every department as a teacher, an advisor and a resource person, specially at the level of curriculum decisions.

## CONCLUSION

In conclusion, a probably incomplete scheme of references of the role expectations of the physician has been prepared and outlined. Each role expectation has been regrouped among four characteristics forming the basic core of the physician. Other expectations can then be grafted to that scheme of references. We have to remember that the conceptualization of this scheme of references was based not only on the perception of different sources of reference but also on the conceptualization of the same sources of reference. It is our hope to use these role expectations to undertake education research at the Faculty of Medicine of the University of Ottawa.

It is interesting to note that many college seniors planning to study medicine, list independence and security as the two foremost reasons for their decision.<sup>1</sup> According to our scheme of references, these two reasons would be a source of potential conflicts. The same survey showed that only 33% of the same college seniors felt that a pleasant personality was necessary: another potential conflict. The scheme of references then will become important to prevent conflicts.

These role expectations can be quantified in the form of questionnaires. These questionnaires can be applied

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<sup>1</sup> Anne M. Shafer, "Medicine as a Career", in Journal of Medical Education, Vol. 49, Jan. 1974, p. 83-86.

to physicians to test the validity of the scheme of references. Once verified, it can be applied to teachers and its results compared to the results obtained from physicians in the field.

The test can also be administered to medical students both vertically and horizontally throughout their stay in medical school. It would then finally become possible to judge if there is a wax and wane effect in motivation and if so, why? Will these results from the first year medical students be the same as those from his teacher or the practicing physician? As he goes on in his career, to which group does the medical student and intern relate the most? By implication, is he ready to go out in practice ?

The scheme of references as a test could also be used to find out whether certain specialties place more emphasis than others on certain expectations and therefore are certain students exhibiting that same emphasis? Do they proceed to that specialty as a career subsequently?

The test prepared from the scheme of references could serve as an adjunct to the admitting criteria to a medical school helping maybe in discovering the best candidates. The results could be compared to the present criteria to see if the candidates accepted are the same ones that will be picked by the questionnaire.

Determining the role expectations of the practicing physician will bring him in close contact with the faculty and his input might then be sought when curricular changes

are considered.

These few ideas are but a few of the research projects that could be undertaken by using even such a modest scheme of references. At the least, it is hoped that this work will stimulate discussions on what makes a physician. It is hoped also that it will bring an emphasis on training future physicians as whole physicians.

This might finally answer the mounting criticisms that academic medicine distorts the education of students as to the basic health problems; that it does not prepare physicians for dealing with these problems realistically and that it does not show by precept that the nation's problems are the concern of the faculty.

If changes are recommended, there will be resistance to change. Machiavelli may have foreseen these difficulties when he commented that the one who innovates will have for his enemies all those who are well off under the existing order of things, and only lukewarm supporters in those who might be better off in the new order of things. Medicine is one of the few disciplines at the interface of science and human needs and medical education must adapt to those needs. Our most constant necessity in the years ahead will be the necessity for constant change and renewal.

According to the fact that the author only looked to three sources of reference, the author warns the would-be readers about the very actual danger of generalizing the scheme of references to areas like the expectations of the patient, of the other members of multidisciplinary teams, of the various administrators, of the regional health councils, of the schools of Medicine, of the politicians, of the numerous consumer pressure groups and of the ministries of Health.

## SUMMARY

The question has often been asked: how does a physician learn his role? It is probable that every physician at one time or another in his career has asked himself the same question. The author went through the same experience but no answer was forthcoming. Instead another question arose that seemed to be a prerequisite in answering the first question: what are the role expectations of a physician?

A review of the last five years of the medical literature along with an active correspondence with medical educators and personal reflection, brought no complete scheme of references of the role expectations of the physician. Instead the author only found reports about one or another role expectation. These reports were sometimes accompanied by experimental research and at other times simply expressed recommendations or wishes of an investigation commission.

It was felt at that time that there was an actual danger that one department would lose sight of the end-product of the medical school, that is to say a physician as he will practice in society. That danger would be minimized if an attempt was made to collect, identify and classify the isolated characteristics mentioned in the

medical literature and through the above-mentioned correspondence. They could then be grouped and made to fit a scheme of references. The conceptualization of the scheme of references is based not only on the perception of different sources of reference but also on the conceptualization of the same sources of reference.

Before going through the above described exercise, the author felt that a brief review of the theory of the role was necessary. The review was not exhaustive because such was not the purpose of the present research. The review attempted to introduce the main concepts of the theory of the role. It is felt that this review has helped in the understanding of ideas introduced later in the discussion. The review was not done in a chronological order but merely tried to outline some of the various ideas emerging from the theory of the role: a definition of the role, its application in socialization mechanisms and research, role learning, role conflicts, perception of the role, role transition, role clarity, role strain, role set and the situational role.

The role expectations of the physician were then listed. These expectations were identified from a review of the literature and of inquiry reports, from correspondence with prominent members of the medical profession and

through personal reflection and a dialogue with both students and faculty members. The role expectations included the application of the scientific method with its problem-solving and decision-making components; the preventive aspect of medicine, the research component, the application of modern technology to medicine, the importance of communication and perception, the necessity of motivation (to role changes, to the team approach, to role innovation, to evaluation, to education), and the primordial importance of the social role and its components: the familial role, the role of the environment, the financial role and the response to ever increasing controls.

Following the preliminary listing of role expectations the author has regrouped them in three more general categories that were: the scientific aspect, the attitudes and the values. This regrouping was done only by the individual affinity of each expectation and were also based on more precise definitions of attitudes and values. Based on affinity, the author has regrouped the following role expectations under the scientific section of the role: the application of the scientific method, prevention, research and the impact of modern technology. Based on definitions by Allport and Parsons, attitudes and values were separated. The attitudes were subjectively divided into basic and professional attitudes. The basic attitudes were identified as being communication and perception while the only professional attitude was motivation and its components. The values then became the social aspect of the role with the familial component, knowledge of the environment, the financial component and the impact of controls.

Once the role expectations were regrouped, it was easier to establish a workable scheme of references in a graphic form. Each regrouping fell into place and the role expectations of a physician as identified from the sources mentioned above could be seen at one glance. It included the basic core of the regrouped characteristics. To each of the element of that basic core were grafted the other characteristics.

One of the first areas where this scheme of references can be used was in the teacher role of the physician. If a physician is teaching medical students and/or physicians-in-training, the whole scheme of references had to be kept constantly in mind. The scheme in its entirety should be implicitly taught throughout medical school. The role as a teacher then became the sum total of all the role expectations of a physician.

In conclusion, the author pointed out the fact that the scheme was probably incomplete, keeping in mind that other role expectations could be added, probably through the realm of the regrouping characteristics. An immediate potential conflict was pointed out in the ideas that college seniors have regarding medicine as a career.

It was also noted that the scheme of references can probably be quantified as a questionnaire that could be

applied as a test to physicians already in practice and to medical students at various levels during their formal education. The scheme could serve as an adjunct to the admitting criteria of a medical school by allowing us to increase our confidence that we are selecting the best candidates possible.

Medicine is one of the few disciplines at the interface of science and human needs and medical education must adapt to those needs. The most constant necessity in the years ahead will be the necessity for constant change and renewal.

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The authors have studied and defined role learning in medical students. They have insisted mainly on career-choice and attitudinal learning.

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APPENDIX 1

FAC SIMILE OF THE LETTER SENT TO ALL ENGLISH-SPEAKING  
CORRESPONDENTS

Ottawa General Hospital  
43 Bruyère, Ottawa, Ontario  
K1N 5C8

August 15th, 1974

Dear Sir:

I am presently engaged in the development of a scheme of references regarding the role attributes of the physician under an expanded scheme of references that can later be graphically rearranged. This research is based in part on a review of the medical literature and in part upon a correspondence with various individuals and organizations; it will be used as a thesis to obtain a Master's degree in Education.

Once this scheme of references has been developed, it is proposed to use it in doing basic research of the role of the physician; its perception, its actualization, etc... I would be very interested in knowing your ideas about this research and particularly your ideas about the role attributes of the physicians. Your definitions and thoughts will be incorporated in the final research.

Yours sincerely,

P.M. Robinson, M.D. F.R.C.P.(C)  
Director of Medical Education

/m1

FAC SIMILE DE LA LETTRE DISTRIBUE AUX CORRESPONDANTS  
FRANCOPHONESHôpital Général d'Ottawa  
Enseignement Médical43 Bruyère, Ottawa, Ontario  
K1N 5C8

le 15 août, 1974

Cher monsieur,

Je me suis récemment engagé à la rédaction d'une thèse de maîtrise en Education. Le sujet de cette thèse sera le développement d'un schème de références du rôle du médecin. Cette recherche est basée sur une revue de la littérature médicale et aussi sur une correspondance avec de nombreux individus et plusieurs organisations médicales.

Lorsque le schème sera complet, on s'en servira pour pousser plus à fond une recherche du rôle du médecin: la perception du rôle, l'actualisation du rôle, l'apprentissage du rôle etc.... Il me serait très utile de connaître vos vues sur cette recherche et plus particulièrement vos idées quant aux attentes de rôle du médecin. Vos définitions et vos idées seront alors incorporées à la recherche finale.

Veillez agréer, cher Monsieur, l'expression de mes sentiments les plus distingués.

P.M. Robinson, M.D. F.R.C.P.(C)  
Directeur de l'enseignement médical

/m1

## APPENDIX 2

### LIST OF CORRESPONDENCE WITH HEALTH AND PROFESSIONAL ASSOCIATIONS

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Geneva, SWITZERLAND

Canadian Medical Association  
1867 Alta Vista Drive  
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American Medical Association  
535 N. Dearborne  
Chicago, Illinois 60610

Ontario Medical Association  
240 St. George St.  
Toronto, Ontario M5R 2P4

The College of Physicians and Surgeons of Ontario  
64 Prince Arthur Avenue  
Toronto, Ontario M5R 1B4

The Royal College of Physicians and Surgeons of Canada  
74 Stanley Avenue  
Ottawa, Ontario

The Royal Society of Medicine  
1 Wampole Street  
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Ottawa, Ontario

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Professor and Head  
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APPENDIX 4

LIST OF CORRESPONDENCE WITH EDITORS OF MEDICAL JOURNALS

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1310 Green Avenue  
Westmount 215, P.Q.

Ontario Medical Review  
Ontario Medical Association  
240 St. George St.  
Toronto, Ontario M5R 2P4

The Journal of Medical Education  
Association of American Medical Colleges  
One Dupont Circle N.W.  
Washington, D.C. 20036

Annals of Internal Medicine  
4200 Pine Avenue  
Philadelphia, Pa. 19104

The Journal of the American Medical Association  
535 North Dearborne  
Chicago, Illinois 60610

The New England Journal of Medicine  
10 Shattuck St.  
Boston, Mass. 02115

The Canadian Medical Association Journal  
1867 Alta Vista Drive  
Ottawa, Ontario K1G 0G8