In Dunant's *Notice sur la Régence de Tunis,* a new edition of which is in preparation, the theme of Arab hospitality is presented through a great number of details. " Henry Dunant appears to be fascinated by the duty to be loyal, by the responsibility men have to shoulder when tied by a promise, by man's moral obligation. That idea runs throughout the book from cover to cover." Mr. Louca then adds, after declaring that the battle of Solferino only acted as a catalyst in Dunant's heart: " From Geneva to Solferino, the most *direct* road runs through Africa ".

J.-G. L.

S.O.S. Environment, *The Courier, UNESCO, July 1971.*

Regardless of the difficulty of achieving agreements, nations must find a way to abolish war, to defuse their nuclear armaments, and to destroy their chemical and biological weapons. The consequences of a global war would be immediate and irreversible, and it is therefore also the responsibility of individuals and groups to refuse to participate in research or processes that might, if used, result in the extermination of the human species.

Earth, which has seemed so large, must now be seen in its smallness. We live in a closed system, absolutely dependent on Earth and on each other for our lives and those of succeeding generations. The many things that divide us are therefore of infinitely less importance than the interdependence and danger that unite us.

We believe that it is literally true that only by transcending our divisions will men be able to keep Earth as their home.

Problems, issues, challenges of nursing research, by Faye G. Abdellah, R. N., *The Canadian Nurse,* Montreal May 1971.

. .Model and theory development should be undertaken in nursing, but it must be related to nursing practice. Clearly there will be no one theory of nursing, but multiple theories that eventually will comprise a nursing science.

Nursing science can deal only with those models and theories that can be set right, challenged, and corrected. Nursing science is defined

as a body of cumulative scientific knowledge drawn from the physical, biological, and behavioral sciences, which, by the process of synthetization, becomes uniquely nursing. Nursing, like other disciplines lacking theories, finds some of its investigators embracing seemingly tested models and theories from other disciplines, without checking to see if the model or theory is appropriate for use with a new study population and environmental setting.

Models and theories adapted from other disciplines must be continuously challenged and contested. As new phenomena are observed and new events or facts added or rejected, valid and reliable models and theories can be developed. Research can help to clarify models and theories related to nursing practice, each step leading toward the development of a nursing science.

Knowledge is needed about behavior of patients with different diagnoses, from different age groups and environments. Knowledge is also needed about patterns, processes, and phenomena in patient situations. Descriptive research is the most direct line of attack to this problem. Once this knowledge is available, models and theories can be developed.

Existing, relevant theories that will be useful in building a scientific base for nursing practice need to be located. These theories must then be tested and validated to see if they will hold true in the new setting with new population groups. Thus, new theories are not discovered, but are invented. Nursing theories result from the integration of nursing with the basic sciences and are drawn from the " real world " of empirical reality.

Criterion measures of patient care and precise instrumentation to measure the effects of nursing practice on patient care are clearly the major gaps in nursing research.

The failure of the nursing profession to formulate agreed upon goals reflects one of the key problems encountered in trying to define criterion measures against which to evaluate performance. Nurses themselves cannot agree on measurable criteria of effective nursing care. A scientific body of knowledge that is uniquely nursing has yet to be identified to provide a theoretical basis against which nursing practice can be measured.

Unlike the use of criterion measures in controlled laboratory research —in which the organism being studied is in a controlled environment, such as a test tube or a cage—in nursing these measures must be employed in the framework of the patient's complex environment. Since there are so many extraneous variables in the situation, both organismic and environmental, it is exceedingly difficult to keep the variables under sufficient control.

The difficulties in identifying criterion measures in nursing have directed much of the research in nursing into areas that are more easily "researchable." To illustrate, the study of the nurse—what she does, how much time she spends on patient care—can provide us only with empirical knowledge. This knowledge has value in that it helps to discern problem areas that need to be studied in more depth.

Ultimately, however, how the nurse functions must be measured against the effects (criterion measures) of nursing practice on the patient. Likewise, studies of the role of the nurse have value in giving direction to the nursing profession. These studies are indeed important, but will have little decisive impact on the improvement of patient care if there are no adequate criterion measures to evaluate effects of changed practice on patient care.

The lack of criterion measures in nursing places a partial blindfold on the nurse as she provides nursing care. Her practice thus becomes one of trial and error instead of one based on tested practices, proven to be scientifically effective.

Measurement of patient care in terms of valid and reliable criterion measures is a crucial part of research in nursing. The fact that the measurement of the effects of nursing practice on patient care continues to be identified as the number one priority area for nursing research, reflects the difficulties being encountered in finding valid and reliable measures. Because of the multidimensional nature of patient care, it is difficult but not impossible to measure this variable.

Measurement of patient care can be approached by evaluating the adequacy of the facilities in which patient care is provided, the effectiveness of the administrative and organizational structure of the agency providing patient care, the professional qualifications and competency of personnel employed to provide the care, and the evaluation of the effect on the consumers of care—the patients.

The type of criterion measure used is influenced by the research problem and the hypotheses that have been developed to explore the problem. Once the variables have been defined, the researcher must then decide how the dependent variable—the criterion measure—will be calculated. The decision to select a direct or indirect measure will be influenced by the ease with which the variable can be directly estimated.

The investigator seeking to measure physiological responses has available a number of scientific instruments, yielding highly refined numerical measurements, which might serve as criterion measures. There are also many tests and scales available to measure psychological or sociological phenomena.

Because of the lack of descriptive research about individual and patient behaviors, judgments of quality are often incomplete and based on partial evidence. Measurement scales need to be developed that

discriminate different levels of patient response. One problem in scaling that must be solved is the way in which difference components on the measurement scale are to be weighted in the process of arriving at a total...

Public Health Aspects of Climate in Cities, *WHO Chronicle,* Geneva, 1971, No. 4.

The problems of urban climatology, and the related ones of air pollution and its effects on human health, are of enormous complexity. Nevertheless, some progress is being made towards solving them.

A problem that deserves serious consideration is that of increasing background pollution. Carbon dioxide concentrations in air have increased substantially during this century, and there is evidence of similar increases in the concentrations of other more serious pollutants, such as carbon monoxide and the oxides of nitrogen. Studies are needed to determine whether these concentrations may ultimately reach deleterious levels not only locally but regionally, or even on a global scale.

Another problem is the lack of detailed knowledge of the climatic factors capable of preventing the efficient dispersion of domestic and industrial pollutants. A greater understanding is also needed of the relationships between pollutant concentrations outside and inside buildings and of the local factors influencing pollution at various heights close to tall buildings. More studies are needed on the beneficial effects of open spaces, parks, and hedges and on the possible effects of air pollution on vegetation. Warning systems must be established to forecast conditions (such as prolonged and localized inversions) that are likely to lead to disasters in industrial areas or on certain roads. Predictive models would be very useful in these situations. More work is also required on the transport of pollutants that are normally present in low concentrations, such as pollen, bacteria, and asbestos dust.

Finally, there is an urgent need to define much more rigorously the physical properties of the urban surface, particularly its thermal and aerodynamic properties. Observation sites must be selected more systematically so as to ensure that the results obtained in different investigations are comparable. Analytical models based on field investigations and theoretical studies need to be developed for a variety of geographical locations, in order to study the influence of different climatic variables.