The University of Texas Medical Branch at Galveston

School of Medicine
Graduate School of Biomedical Sciences
School of Allied Health Sciences
School of Nursing

Marine Biomedical Institute
Institute for the Medical Humanities
UTMB Hospitals and Clinics

Thomas N. James, M.D., M.A.C.P.
President

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E-mail "Hi" 4/21/96

George Gerbner
Professor of Communication
Dean Emeritus
University of Pennsylvania
The Annenberg School of Communications
3620 Walnut Street
Philadelphia, PA 19104-6220

Dear George:

This is to say that I am thinking of you as we head into March -- the time of the first annual CEM conference. Actually, I've been thinking of you all along and hoping that I could attend. As it happens my own deeply involving work is in conflict with the weekend of March 15 and it is necessary to stick with business here in Texas. I want you to know how important I believe the aims of CEM are. I am often despondent about the whole state of affairs in communications. I care deeply about the issues.

My life in Texas is almost unbelievable regarding the turn of events since that day two years ago when we sat in the cafe at Rockefeller Center talking about my work at NYU and your budding plans for this conference. You counseled that I should seek more challenging work commensurate with my experiences in various aspects of communications. (You did not think much of my considering the post at NYU as assistant professor.) As you recommended, I have found a position which is thoroughly challenging and in which my background is appreciated.

One day--out of the blue--a longtime friend called to tell me about the early development of a set of projects in communications called Open Gates at the University of Texas Medical Branch at Galveston. He said that the president of the Medical Branch was looking for someone to develop the new work and that the person should have considerable experience in the teaching of reading and reading disorders as well as the ability to develop projects in distance learning, interactive video conferencing, telemedicine and basic research.

I came to Texas a year ago with the blessing of my family. All the projects are growing well.

I have discussed various aspects of your work with Dr. Thomas N. James, the president. He would like very much to meet you. Perhaps you and Mrs. Gerbner would come to visit the university. I would like you to give a talk sponsored by the Office of the President for invited faculty.

Sometime after the conference I will give you a call. Meanwhile please know that I am with you in spirit.

Sincerely,

Kate

Kate Moody, Ed.D.
Special Assistant to the President
For Open Gates Programs

Adjunct Assistant Professor
Department of Neurology

KCM/jp

enc:

at University of Texas Medical Branch at Galveston

OPEN GATES: Dream and Reality

ADVANCED TELECOMMUNICATIONS CENTER

FOR THE MEDICAL ARTS AND

SCIENCES IN THE 21st CENTURY

Introduction: Why a Medical Telecommunications Center?

It began with the first gestures, the first grunts and uttered syllables. The gift of language. Our species' passport to humanity. As fluency grew, messages could be communicated to anyone within earshot -- and then, one could send to anyone anywhere who could decipher an engraved tablet, or read a written or printed document. Questions and answers, commands and entreaties, insults and endearments, facts and fictions, news and gossip, invoices and contracts, poetry and legislation, teachings and preachings of every variety. Information. Not only for those immediately present, but across space to audiences in distant places. More than that, across time, through the generations.

In a word, telecommunications, long before anyone thought of calling it that.

Today, more than ever, the world runs on information. And, of course, how well the world runs -- the medical world in particular -- depends largely on how well the information is understood and, even more, on how effectively it is communicated.

Lately, information of all kinds has been arriving in such overwhelming quantities and with such unprecedented rapidity that it sometimes has the feeling of being dumped rather than transmitted. Besides, "information" is not automatically knowledge. It tends to be commingled

with misinformation (erroneous) and downright disinformation (deliberately incorrect or distorted).

The job that radio engineers call "separating the signals from the noise" -- to recognize true or valid information while discarding errors and distortions -- is not always easy. And even when that job is done, there is another, no less difficult: to select what is most worthy of retrieving and communicating from the almost unmanageable volumes of data being generated. (Much of that new data, of course, is produced by biomedical research.)

In the medical arts and sciences, there is no substitute for reliable, accurate and up-to-date information, clearly communicated. It can make the difference between knowledge and ignorance, between understanding and confusion, between health and sickness, between life and death. Today, the urgency is magnified as communication increasingly becomes telecommunication, with its capabilities for instantaneous worldwide dissemination.

Merely communicating over long distances, even around the globe, is not new. The current generations have grown up familiar with the telephone and telegraph, with radio and television. Yet telecommunications is suddenly being treated as if it were a brand new field -- exhilarating, alarming, and challenging -- riveting the attention of the movers and shakers of the Information Age we live in. The proliferation of sophisticated technologies and electronic media, with their multi-layered networks of computer systems, broadcast channels, fiber-optic cables, and orbiting satellites, all converge to create the strange dimensionless universes of cyberspace and virtual reality. It is in this shifting world that we in medicine must learn to navigate with clearheaded confidence, choosing our technologies with care, and making sure it is we who use them rather than vice versa.

Not that information communicated via the printed page or face-to-face is to be devalued or diminished. In fact, these time-honored methods may constitute an indispensable prerequisite for grasping those more recently developed. Even so, the people and institutions who do master the powerful new media will be those best equipped to enhance human health, in its broadest definitions, as we move into the 21st century.

At the University of Texas Medical Branch (UTMB) in Galveston, it is our dream and our intention to achieve this crucial mastery. In fact, the dream is already off to a running start toward reality in a concept and a place called OPEN GATES.

What is OPEN GATES?

OPEN GATES at UTMB is a unique new species of medical telecommunications center -- designed to serve its own locale and region, to be sure, but transcending its geographical boundaries to encompass every site on Earth accessible to the vast, interlocking network of networks known popularly as the electronic superhighway.

The prefix tele simply means "at a distance," as in telephone, telegraph, and television. TELECOMMUNICATIONS, in its current usage, embraces the entire array of technologies that make up cyberspace and the electronic superhighway . OPEN GATES will utilize all these tele-tools and others to come.

Already well launched at UTMB is a strong and internationally recognized TELEMEDICINE enterprise (see p.00), featuring diagnostics, therapeutics and patient care, with TELE-TRAINING the telemedical arts as an integral part of the package. Since UTMB is primarily a university, TELE-EDUCATION, more commonly called DISTANCE LEARNING,

will be among our high-priority topics. About to be initiated, too, is an ambitious TELECONFERENCING program (see p.00), with participants around the world connected in real time via satellite links.

All these, dazzling as they may seem in their leading-edge sophistication, will soon become standard aspects of medical telecommunications. But, for UTMB, which began its pioneering path in medical education more than a hundred years ago, it is especially appropriate that a pervasive theme in its OPEN GATES programs will be a powerful commitment to teaching and learning.

One looming certainty is the need and demand for LIFELONG LEARNING. "Continuing education" traditionally implied a need to renew one's knowledge now and then by catching up with information recently discovered or laws recently promulgated. The new reality is that our entire society, including the health care sector, is in such a continuing process of transformation and flux that individuals may never arrive at a point where they can consider their education completed. This applies to no one more emphatically than to the teachers, who will need to remain a step ahead of the learners. Doing the job under these ambiguous circumstances could be deemed a distressing "problem." But we will do the job better if, as we intend, we not only accept our new condition (though not unconditionally), but help to shape it, and learn to love it -- to retain our respect for the old-fashioned verities, yet at the same time be exhilarated by the prospect of acquiring new skills and new understanding at every stage of our lives. At OPEN GATES, our programs will reflect this exhilaration.

The overriding central focus of these programs will be a strikingly novel one: LEARNING AND TEACHING ... ABOUT LEARNING AND TEACHING.

Wherein lies the novelty? The novelty lies in a searching reconsideration of what education is.

Education may be thought of simplistically as a two-step process: (1) Deciding what to teach and (2) how to teach it. The subject matter is anything but self-evident. It rather tends to be intensely debated, hence is considered the tough part of the process. Indeed it is, and we will join these debates. Yet, despite the difficulties, the "what" of it, once arrived at, must be recognized as only a first step. We have assumed too readily that we know how to teach, because we have allowed ourselves to ignore the varied "hows" of learning. It has now become pressingly obvious that we must truly understand how people learn before we can adequately consider, and only then intelligently decide, how to teach.

The how of learning is something we comprehend more dimly than we readily admit -- though we increasingly understand that what we call education is a highly individualized process. Different people learn differently. There are diverse kinds of intelligence, and those who would teach must learn to transmit their messages over the appropriate frequency and circuitry, as it were, which variously structured brains are "wired" to receive. The burgeoning new tele-technologies do provide us with marvelous opportunities to seek out methods to expand our pedagogic portfolio. To learn and teach about learning and teaching is much simpler to state than to carry out. Thus our mission implies an ongoing and vigorously innovative research program aimed at enlightening learners and teachers of all stripes, everywhere, utilizing the latest discoveries in science and exploiting the latest advances in technology. OPEN GATES will be visionary, yet eminently practical. It will provide not only needed services, but products the world does not yet know it needs. Moreover it intends, in the not-too-faroff future, to be earning

and saving more money than it is spending. The Center's ambitious program in DYSLEXIA (p.00) will symbolize a major exploratory thrust in all these directions.

A Portal to the Future

The designation OPEN GATES derives from the name felicitously bestowed by the Sealy family of Galveston on the classic neo-Renaissance mansion that was their longtime family home, and will now, artfully refurbished, serve as the hub and headquarters for the telecommunications center. So OPEN GATES is firmly rooted in Galveston's finest historical tradition while at the same time stretching ahead to forge its dynamic linkages with the rapidly arriving future.

OPEN GATES!

The name resonates with a sense of free flow, back and forth, in and out. Today, as luck or destiny would have it, the name actually describes, symbolically as well as literally, the elegant structure's new high-tech mission. In the past its handsome wrought-iron gates constituted a two-way flow of caring, personal communication, typifying a hospitality that invited the community in, along with a generous reaching-out to serve that community -- an early information highway, albeit non-electronic. Now the flow will be more than merely two-way. It will be omnidirectional, spreading from OPEN GATES and Galveston to the outermost reaches of the planet and nearby space.

OPEN GATES as Amplifier of UTMB's Healing Mission

OPEN GATES is situated to take maximum advantage of the treasury of resources, human and biotechnological, which UTMB represents. Founded in 1891, the University of Texas

Medical Branch at Galveston is one of the oldest medical schools west of the Mississippi River. Today, it is more than just an outstanding medical school. It encompasses a School of Nursing, a School of Allied Health Sciences, and a Graduate School of Biomedical Sciences. Also part of UTMB are two thriving institutes which, when established in 1972 were the first of their kind connected to a medical school -- the Institute for the Medical Humanities and the Marine Biomedical Institute. All of these operate under a single integrated management.

Under the same broad administrative umbrella, recent years have seen a proliferation of on-campus "centers of excellence," each superbly staffed and equipped, some generously funded with start-up money from the Sealy & Smith Foundation established by members of the same Sealy family that lived in the original OPEN GATES. Among these are Centers for Molecular Science, Structural Biology, Molecular Cardiology, Molecular Oncology and Hematology, Environmental Toxicology, and Aging.

Other recently established centers include five officially designated World Health Organization (WHO) Centers: for Cardiovascular Research, Psychosocial Factors in Health, International Health, Nursing Development in Primary Care, and Tropical Diseases, creating at UTMB a significant international presence. The same is true of its new Space Medicine Center which, in collaboration with a parent organization in Strasbourg, France, serves as a medical component of an international space university. So UTMB's healing outreach was global even before the newly emerging programs at OPEN GATES.

The campus includes seven of its own hospitals, the front-rank Moody Medical Library, already well practiced in advanced telecommunications, and an enviable array of technical facilities, including the largest nuclear magnetic resonance (NMR) units in the Western

Hemisphere, designed for advanced research in structural biology. All this, magnifying the strengths and the rare synergistic environment already present in its core medical school, has attracted to UTMB an impressive assemblage of skilled, creative and dedicated professors, clinicians and researchers, many of international renown, who carry out in ever more innovative ways the university's three-part healing mission:

(l) To educate new generations of physicians, nurses, allied health professionals and biomedical researchers, both basic and clinical, many of whom will themselves become medical educators;

(2) To offer the latest state-of-the-art treatment to a diversity of patients in its hospitals and clinics; and

(3) To enrich, through its ambitious research programs, the pool of basic biomedical knowledge, with a view to enhancing (l) and (2), not only at UTMB, but everywhere.

OPEN GATES, though an integral part of UTMB, will truly serve as a gateway that opens UTMB to the world, and the world to UTMB. This interchange will result in a tremendously amplified impact for UTMB's diverse healing enterprises.

Telemedicine and Distance Learning

Because telemedicine, through interactive audio-video (IAV) technology, brings physicians and paraprofessionals into face-to-face contact with the patient across great distances, it has been half-jokingly referred to as "the virtual house call." Although the house may of course actually be a family dwelling, it is more likely, at this point, to be an outlying clinic with no major medical facility anywhere nearby. But telemedical IAV does allow doctors to consult,

diagnose, and even treat certain kinds of cases (not all, of course) almost as effectively as if they were physically present.

Have UTMB doctors actually been doing this kind of distance consulting? Indeed they have. In fact, Texas has been ahead of every other state in telemedicine, and UTMB is the individual institution that has quickly become recognized as No. 1 in the world, as judged by the sheer number of such consults. This came about largely because UTMB has a contract with the Texas Department of Criminal Justice (TDCJ) to care for the health of all prisoners in the Eastern portion of the state - in all, 50 of its 70 prison units (another 25 are under construction) - along with an advanced, award-winning telecommunications technology developed for other purposes.

UTMB also operates, under the aegis of Area Health Education Centers (AHEC) program, several telemedical networks that link and serve rural and small town clinics over a widespread area. This brings specialty services to areas where they do not otherwise exist, strengthens rural health collaborative networks, and serves to educate professionals and patients alike.

Whether in prison settings or in rural clinics, it has already been convincingly demonstrated that certain kinds of conditions can be diagnosed and treated to the satisfaction of both doctor and patient via telemedicine. Consultations with UTMB specialists can often save a time-consuming round trip to the campus as well as an expensive hospital stay. The savings are even more substantial with prison inmates, where security must be constantly provided in transit to and from the state prison hospital on the UTMB campus.

At present, UTMB specialists have to come to a central array of consoles set up at the hospital. Coming, as they do, from all parts of the campus, they are sometimes delayed - which

of course means a wait on the other end as well. Soon, however, a new generation of more mobile machines, almost ready, will make it possible for the doctor to have the console right in the office, and deal with the distant patient as just another patient in the waiting room!

Feasibility, convenience, satisfaction on the part of both doctors and patients, and positive cost-benefit ratios have been amply shown. Telemedicine is thus moving full-speed-ahead to expand the number of ailments that may be successfully dealt with via IAV. In the process, efficacy will improve and experience in using the technology will lower its costs, while at the same time extending its capacities to answer other pressing needs.

As one example, with discharge from hospitals occurring earlier and earlier due to the financial pressures of managed care, medical professionals may ease their concern by offering followup care and advice to patients and their families, right on their home video screens. Variations of the same IAV technology could provide unaccustomed access for urban storefront clinics or public education centers, and reach out to shut-ins -- the elderly, the handicapped -- or uncertain young parents who have just come home with newborn babies.

On a larger scale, IAV could be of enormous help in disasters or emergencies, augmenting the knowhow of those professionals or paraprofessionals who happen to be on the scene. This could include expert psychological counseling as well as standard telemedical assistance.

Because the confident practice of telemedicine often requires special training for the consulting expert as well as for the physician on the receiving end -- as in a prison clinic, for instance -- an ongoing tele-training program will be an integral ingredient of the OPEN GATES telemedicine enterprise. Though it <u>is</u> tele-training, much of it may be carried out right on

campus, some of it at the facilities of OPEN GATES itself. Much of this research can and will be done utilizing specially adapted facilities at OPEN GATES itself.

Queries have been coming in to UTMB from other medical institutions and state prison systems, as well as from military and corporate executives interested in establishing more efficient health care programs. UTMB, for its part, has not hesitated to take advantage of knowledge developed elsewhere, to cooperate and collaborate with other universities, or to seek partnerships with industry to build better equipment and even design new technologies.

With all this, it must be recognized that telemedicine is still in its infancy, and it, too, calls for a concerted research program to explore its vast untapped potential. The results, richly supplementing standard medical practice, can only mean increased efficiency and savings, and better all-around health care.

Meanwhile, UTMB has been working energetically to set up distance learning projects simply to make standard education in medicine and related health topics available to those who cannot be accommodated in the usual medical-school milieu. These will include continuing education for professionals.

Distance learning is, naturally, another area where we plan to carry out original, imaginative research. We know we can improve the quality and effectiveness of education at a distance, while at the same time taking it into new subject areas as well as geographical regions hitherto deprived of such fare.

OPEN GATES is being born into a most favorable environment. The Texas Department of Information Resources has recently revealed plans to build an ambitious, state-sponsored telecommunications network. Moreover, the passage of new public utilities legislation promises

to create a generously funded Texaswide telemedicine and distance learning system. With these developments added to the advantage already gained by Texas's farsighted jump-start in these fields, the state's preeminence seems assured. UTMB, working with collaborators everywhere, means to remain at its forefront.

What works for Texas is likely to work, perhaps with some tailored modifications, for virtually any other region of the country, as well as abroad. Telemedicine and distance learning programs and systems born in Texas and orchestrated at OPEN GATES, may well produce eminently exportable products and services. The shared benefits will be spread around the globe.

Dyslexia: A Place Where Education and Medicine Converge

Dyslexia is not usually thought of as a medical entity -- as a disease. Many physicians are not only unqualified to recognize dyslexia, but do not even consider it in their purview. Yet it is commonly referred to as a disorder, a disability, a handicap. It certainly militates against an individual's sense of well-being and promotes its opposite, ill-being -- defined as a deficiency of health. Dyslexia, like other learning disorders, can handicap its victims as surely as, say, a damaged arm or leg can; it can rob them of essential capacities, rendering them dysfunctional for normal living in our society.

Dyslexics are not illiterate, but they do have literacy problems, and the problems are usually based in biological or physiological -- often neurological -- factors. The individual's brain fails to process the sounds of single phonemes or syllables well enough. Concomitant other sensory perceptive faults are common as well in the auditory, visual, proprioceptive and tactile faculties. These are not the result of any generalized developmental disability or mental

retardation. In fact, dyslexic students are typically bright and excel in many different intellectual areas -- including (with appropriate teaching) reading.

Our concern should be as widespread as the problem: Some 10 to 20% of the entire U.S. population would have trouble reading and understanding this sentence. Learning disorders differ considerably with the individual. But they are all characterized by deficiencies in reading, writing, spelling, mathematics, or any combination of those - deficiencies that one would "normally" not expect to see in people whose general intellectual capacity ought to preclude such problems.

It's not lack of intelligence, then, or laziness. Dyslexia is an authentic disorder. But, because it is neither visible, like a limping gait, nor audible, like a speech defect, it often goes unrecognized, putting the child at lifelong risk and disadvantage. That's why UTMB has increasingly recognized dyslexia as a condition not to be ignored by any full-spectrum medical university.

Calling something a learning disorder suggests that a remedy might be found in better ways of teaching. In fact, dyslexic children are fully capable of learning, and therein lies the tragedy -- but also the great hope. Here is where medicine and education come together. In medical terminology, we do refer to dyslexia as a disorder. We say it must be diagnosed, its symptoms must be observed, ways must be sought to treat it, and, with further research, find ways to cure it or even prevent it. But these ways are not usually through pills, potions, or surgery; they are to be sought rather in education, often multisensory in nature. On the one hand, proper understanding of the learning problem and its source can lead to the appropriate remedial teaching methods. In that case, education is the therapy. On the other hand, investigation of

specific brain structures may pinpoint the source of specific language deficiencies. In that case, biomedical research will have suggested an educational therapy -- teaching the pupil how to bypass or substitute for the brainblock.

This further illustrates why, in dyslexia and other learning disorders, it is hard to draw the line between medicine and education. And why do we have to? We are dealing here with a disorder that is all too commonplace as well as too little acknowledged and understood. It cries out for wider public awareness, more research, better solutions. We have observed that it is also affected in intriguing ways by the electronic media -- which, it turns out, look very promising as tools for remedial teaching. What better reasons for highlighting dyslexia as a major program at an advanced telecommunications center with a strong commitment to teaching and learning about teaching and learning?

Dyslexia is of course not the only condition amenable to such concentration. But UTMB already happens to have a multidisciplinary program in dyslexia, the success of which, it's easy to see, can be enhanced through a close association with OPEN GATES. Though it may be only the first of many programs that will eventually merit this kind of attention, dyslexia will meanwhile serve as a powerful demonstration of what can be achieved.

Some dyslexics do find their own ways around their learning difficulties. Indeed many have even gained a good measure of fame. But the way need not be so hard, and most children with such problems are not so fortunately endowed with either the opportunities or the wherewithal to run the obstacle course. The sad fact is that a good many, perhaps most, dyslexic children go undiagnosed. They are pushed through school in spite of their troubles. They are considered lazy, or dumb, or underachievers who just won't try hard enough, even though they

may be stretching themselves to their limits. Their fault lies in being different. They perceive differently and learn differently, while we expect them all to be just like the rest of us (as if we were all uniform in our capacities). It's like expecting every child to excel in the same sport without considering that given individuals may be too short for basketball or too puny for weight-lifting -- though, given the chance, they might win medals in track or figure-skating.

Increasingly accepted now is the concept that there are several varieties of intelligence, and that each of us possesses a specific but unique blend of them, causing us to perceive and learn differently. Yet we continue to operate our institutions as if a single I.Q. number or a single kind of test result tells us everything we need to know about a student or a patient.

UTMB has lately augmented its current dyslexia program by streamlining the diagnosis and treatment of dyslexic patients via a strengthened interdisciplinary response team. It is also reaching by actively arranging up liaisons and projects with the school systems, and often with the parents, of Galveston and surrounding communities. It meanwhile collaborates with the hand full of other institutions elsewhere which have strong, innovative programs in dyslexia and related learning disorders.

As we work with new technologies, it becomes evident that, no matter how advanced the electronics or how impressive the audiovisual effects, the users must still ultimately know how to read, just as they must do with the printed page. The information on the computer screen is still most often spelled out in words, and must be responded to in words. So, while it will certainly be possible to teach dyslexics various kinds of subject matter in ways that will bypass their reading deficiencies, alternate ways must also be employed to teach them to really read.

It's not generally realized how large a segment of our population is handicapped by

literacy problems or how sweeping are the medical and societal consequences. Individuals who don't read satisfactorily usually don't do well in school. In fact, they feel frustrated and put upon. They often undergo outright failure, intimidation and lowered self-esteem, and are thus pushed to the margins of the classroom, not to mention the margins of society. It should come as no surprise that too many such pupils drop out of school, suffer all the psychological and social stigmata that go with feelings of isolation and rejection, and are more readily drawn into street life with its myriad opportunities for trouble. What kind of trouble? Jailhouse trouble, for one. Though no one can draw a straight-line graph showing cause and effect (the research just hasn't been done), even the most cursory studies of prison populations make it clear that amazingly large percentages of the inmates suffer from learning disorders.

Those who don't succumb to the temptations of drugs, crime and violence are nevertheless all too often mired in hopelessness and despair. The overwhelming majority of American adults can read, true enough, but many of them only in the simplest technical sense of being able to make out words and sentences. The problem, is that millions of them cannot read adequately -- that is, well enough to do the reading and writing that's expected of them merely to survive, just to fill out forms, follow directions, apply for jobs, take tests, understand bills and the like. Without being able to handle any text of moderate complexity, they simply are not equipped to function as productive and responsible citizens in our society.

Meanwhile, at a time when demands for sophisticated skills - such as those needed to work at OPEN GATES - are on the rise, teachers complain that growing numbers of youngsters don't process language as well as their counterparts did a generation ago. Educators and textbook publishers speak of being forced to "dumb down" the curriculum so that today's students can just

manage to stay in school, with little prospect of being prepared for good jobs or advanced education.

The dilemma is one that we must tackle head-on, because we have the means at hand to solve it, and the costs of neglecting it are unacceptably high. The multi-pronged dyslexia program at OPEN GATES thus promises to be one of our more exhilarating experiments.

The new understanding of multiple intelligences and new findings of how individual brains are "wired" for learning, along with the new availability of potentially remedial techniques and technologies, have opened up many encouraging research routes. Out of the results, we expect to extract greater knowhow for arousing public awareness, improved methods for diagnosing dyslexia, as well as novel and more cost-effective ways to prevent and treat it at the vital points where medicine and education converge. How many more useful prescriptions could we write for society than one that provides even a partial remedy for the legions of the learning-disordered in our midst?

Conferences and Teleconferences

The phrase "advanced telecommunications center" conjures up an image, nurtured by innumerable TV and movie depictions, of a coldly impersonal setting replete with futuristic props. Its vast aircraft-hangarlike spaces are filled with starkly utilitarian furnishings and facilities, mazes of cables, and serried rows of computers operated by nerdy types with eyes glued to blinking electronic screens, interacting with the machinery but not with each other. This popular, media-blessed scene bears no resemblance to OPEN GATES. The futuristic equipment and the talents to use them will be there, but the setting will be anything but cold and impersonal.

The busily engaged, globally conscious staff will be interfacing with the most advanced state-of-the-art machines, but always with each other as well, to achieve their multiple missions.

All the Victorian charm and elegance of the Sealy mansion, with its lovely spacious gardens, will be retained and embellished. Everything will be on a human scale. Warmth and conviviality will pervade the atmosphere. Just as the Sealy home served as the milieu for family parties, recitals, wedding celebrations, reunion galas, and community festivities, so will the current OPEN GATES be the graceful backdrop for a diversity of meetings, for lectures and celebrations, for selected community and university activities. While music and good cheer will prevail when appropriate, and a somber outlook will find little welcome, OPEN GATES will seek to provide optimal accommodations for serious and original scholarly discourse.

Yes, teleconferencing will be a vitally important part of the OPEN GATES undertaking. But there will also be an abundance of old-fashioned person-to-person conferencing - not unlike those traditionally held on or near the UTMB campus, except perhaps for the even greater congeniality of the surroundings. There will of course be nonstop conferring of a sort via mail, phone, fax, cable, interactive audio-video, and the various cybernets, as routine activities. And the center will continue to issue non-high-tech products such as publications in print, films, audio and video tapes, along with the newer items such as CD-ROMs.

As for the officially designated conferences at OPEN GATES, scientific and medical symposia and colloquia are most likely to predominate. Some of them will be international in scope, often focused on the latest basic research and clinical practice, but some of them dealing with health-related topics such as public health policy, health care priorities, biomedical philosophy and ethics. When warranted, as will increasingly be the case, some of these

conferences will go global, utilizing satellites to link any number of desired sites in almost any desired way. And they need not always be taking place in Galveston, even though beamed to the world via OPEN GATES.

UTMB can claim no pioneering priority in developing these teleconferencing technologies, but has already begun to work closely, through collaborations and consortia, with those who are the most advanced. We intend to pool our expertise with theirs, to share knowledge and knowhow freely in order to bring about the most felicitous synergy, and constantly to stretch the boundaries of technical capacity tempered by the wisest and most responsible usage.

As we utilize our conferencing and teleconferencing capabilities, the direct benefits to our own faculty, staff, students and supporters will never be far from our minds. Nor will the benefits for the surrounding community, the state of Texas, and the world at large.

Stretching Beyond...

If our aims sound grandiose, that is a correct perception.

Yes, we do unabashedly admit that we have a vision - a dream - for OPEN GATES. Visions and dreams, by their nature, tend to be immodest. But the times call for immodesty. Not for idle fantasies, mind you, but for realistically imagined scenarios, for dreams we can reasonably hope to transmute into reality.

We are all embedded in this society, on this planet, at this particular moment in human history. The complexity and magnitude of our current dilemmas, because they are occurring simultaneously, each affecting the others, must be boldly engaged, with a view to dealing with

them multiply rather than singly. This does not imply that one-at-a-time solutions are no longer to be sought - only that they are no longer sufficient. Humility and a sense of our limitations will never be absent. But we really don't know what those limitations are - do we? - and it would be a copout to congratulate ourselves too soon for attaining goals too modestly set. We like the words that Robert Browning put into the mouth of Andrea Del Sarto:

"Ah, but a man's reach should exceed his grasp,

Or what's a Heaven for?"

In truth, the intimately interlocking nature of our global problems cry out for immodest ambitions, for thinking on a grandiose scale. For stretching beyond... to become a beacon of healing and enlightenment. How else can we hope to exercise a significant impact, not only on our own health, but on our planet's health, on which ours so heavily depends?

This article on Open Gates was written by Albert Rosenfeld. He is former Science Editor of Life magazine and Saturday Review, author of more than 100 magazine articles, several books, and has won numerous science writing awards, including the Lasker Award for "leadership in medical journalism." He has been a part-time member of UTMB's faculty for 22 years which has enabled him to observe the university's evolution through three presidents. Currently, he serves Dr. Thomas N. James, UTMB president, as a valued consultant on future programs.