The Second Annual James P. Dearing Memorial Lecture
Presented by Louis S. Toth
April 21, 1989
Medical University of South Carolina
Charleston, South Carolina

From Vision, To Here, To Where?

INTRODUCTION

I sincerely appreciate the opportunity to present the 2nd Annual James P. Dearing Memorial Lecture and to share with you several of his visions, experiences, and memories ... for indeed it is that vision which is responsible for our being here today. We are all part of that legacy that he left.

We are not here just as a commemoration, because commemorations simply look backward. We are here as a continuum of his early vision of perfusion education. His vision has affected not just those gathered here, but also many dedicated physicians, perfusionists, nurses, health care professionals, and patients.

I have entitled my talk, "From Vision, to Here, to Where?" because I will take you back to when perfusion was not a profession. I will share with you a bit of nostalgia, an insight into the past vision, and an explanation of the rationale behind many historical actions and controversies regarding the professional job description and certification. Then we will take a glimpse into the future.

Since I have used the word "vision," let me explain my distinction between a vision and a dream. Dreams appear to be personal things. They can be described and perhaps vicariously shared, but they cannot continue while they are being shared. However, a vision appears to be a dynamic thing. If it is caught, it can cause you to look in the same direction, it can cause the future. A clouded vision can be cleared as it is discussed, debated, and clarified. It can stimulate and can be embellished, added to, and personalized somewhat differently. Yet the new vision maintains an adherence to the common vision. So do not close your eyes and dream, but rather open your eyes to the vision of a professional in the realm of extracorporeal technology as we will now exploore it.

WHO AM I ?

I have frequently asserted that if you know where a speaker is coming form, you can predict where he is going to take you. So let me begin by telling you briefly from where I am coming. And I will relate a melding of visions.

Jim Dearing and I were responsible for developing the Circulation Technology curriculum at Ohio State University. This curriculum was the first such baccalaureate program in the country, probably in the world.

Some of the thoughts that I will relate have never been described in public. But I will share them with you. I will describe some observations of your professional world and organizations as I have seen, experienced, or understood them. These are simply my views and interpretations and are not meant to publicly criticize any of the people that may be mentioned in the discussions. However, I hope that in the next few minutes to give you an insight into the politics, people, and organizations of your profession.

My discussions may be similar to the story of a little old lady, who, as she had been watching the Memorial Day parade with all the armed forces marching through the town, picked up her broom, put it upon her shoulder as the rifles of the troops, and joined in the parade. Several of the crowd started laughing at her and called out, "Hey, old lady, you cannot be a soldier with just a broom." She grinned and replied, "I know that, but at least you can see whose side I am on."

I am not here to do battle; however, there have been several sides to the development of the (shall we say) extracorporeal or perfusion, or Circulation Technology profession. Perhaps as we examine which "side" I am on, we may find several sides that are in violent agreement but have never been listening long enough to understand that.

VISION IN THE MAKING

The story starts with a vision in the making. A vision of a profession that could bring the new life support systems of extracorporeal technology to the patient. A vision that started with Jim Dearing and Dr. John Vasko.

Historically, Jim Dearing had worked as a perfusionist

with Dr. John Vasko at Johns Hopkins University. When Dr. Vasko joined the staff at Ohio State University Hospitals, he invited Jim to join him. Jim agreed only on the condition that he be allowed to develop a real training program since they both had supported the informal training efforts at Johns Hopkins. Dr. Vasko, an aggressive cardiovascular surgeon and researcher, was able to secure a grant from the National Institutes of Health in 1968. However, a hospital based training program could not be developed within a Medical College that had an established School of Allied Medical Professions. Jim still did not have his own baccalaureate degree, but he was about to be responsible for creating new one.

It was May of 1968 when I joined the happy group. I was just completing my first Masters degree in Electrical Engineering with a BioEngineering option. It became Jim's and my responsibility to design the curriculum for this new Allied Medical Professions' program. Jim took responsibility for the life sciences developments. I took responsibility for the physical sciences developments. We spent most of the time in the middle, defining and developing the curriculum to join these two disciplines where glass, plastic, stainless steel, and other physical junk tried to replace physiological organs and functions.

Jim and I took on a bit of philosophy - which I still believe:

Prepared people perform
Un-prepared people pretend.

The corollary is:

People like to do what they can do.
People who are unhappy with their job,
may not know what they are doing.

But back to the original statement. It is to these issues that Education and Certification work together to perform two functions:

FUNCTION	RESPONSIBILITIES
1. Prepare people	Education
2. Eliminate pretenders	Certification

Note the issue of "job protection" is not of concern in either of these functions. Neither Education nor Certification are created to keep your competition out. They are created to assure that a proper level of standards have been applied to all who would claim to be your competition. They also exist to make sure that you will have competition and that new personnel are being prepared for the professional practice. When I read discussions in the American Society of Extracorporeal Technology (AmSECT) editorials which express concern that their job may have competition or that their salaries may be deflated, I wonder how the practices and goals of certification (or recertification) got turned around to protect the grandfathers instead of the patient. It appears that the group has lost sight of the goal to provide patient care in favor of providing job security.

Actually I should not wonder that they created protectionism, because the goals of job protection were the ones that AmSECT membership were requesting before we ever developed certification. But let me not get ahead of the story.

DEFINING THE CIRCULATION TECHNOLOGIST

Just naming the new baccalaureate program was itself a difficult task. We wanted it to reflect the scope of the profession. We considered several words; however, they seemed too limiting for the vision that was established.:

NAME	PROBLEM WITH NAME
Extra-corporeal-	some day it may be internal artificial organs & support
Perfusion -	it is too restrictive - cardiac assist and hemodialysis must be included.
Technician -	the degree would be a professional who was "other than" the physician - not "less than."
Pump operator -	diagnostics and monitoring of circulation related functions will be included also.
Clinical practitioner -	the professional must take responsibility for clinical practice of course, but also for research, academics, and possibly industrial support.
Circulation Technology -	OK

The name Circulation Technology was chosen to reflect all aspects of the circulatory system and all aspects of the technology. A bit later I will explain the job description that evolved.

THE EDUCATIONAL CURRICULUM OF THE CIRCULATION TECHNOLOGIST & ITS RATIONALE

I would like to spend a few minutes explaining the development of the curriculum and the rationale behind it - partly because it became the basis for choosing the "sides" in the subsequent battles, but also because I hope that several of you become responsible for developing some educational programs and will work at developing understanding rather than developing stronger sides.

Educational researchers have broken the objectives of education into three domains of human performance:

DOMAIN	FOCUS OF THE DOMAIN
Cognitive -	understanding
Psychomotor -	skills
Affective -	feelings or attitude

The domains may get further broken down like a taxonomy used to describe the hierarchy in increasing complexity within the cognitive domain as:

COGNITIVE LEVEL	STUDENT BEHAVIOR	REQUIRED FOR TECHNICIAN?
Knowledge -	states facts	yes
Comprehension -	can relate two or more facts	yes
Application -	can use the fundamental principles	yes
Analysis -	breaks down complex situations	no
Synthesis -	builds up complex solutions	no
Evaluation -	makes judgements	no

COGNITIVE

The importance of this "educationalese" as some people have called it, lies in the assertion that evaluation, the highest level of the hierarchy, requires mastery of the lower levels first, and is the most difficult to achieve. The realization that graduates would have to make judgements regarding the adequacy of patient care and evaluate the appropriateness of new technology for clinical use, meant that the curriculum had to sets its foundations well and build up all these capabilities in the students. They are still a valuable way to make distinctions between technicians and technologists as we will discuss later.

The issue about making judgements may not sound like much now; however, heart surgery was not very old in 1968 and many devices were just starting to be offered for research and clinical evaluations. Note, the Kay-Cross oxygenator in this operating room scene. Organ transplantation was just starting. And everyone wanted to measure, understand, and reduce the traumas of bypass.

SKILLS

The skills required of the psychomotor domain were only partially known. New skills were being developed, and new procedures, techniques, and equipment were constantly being tried. I will not try to list them for you since you probably have already had your history lessons regarding the equipment.

However, I would like to make a point of the fact that we considered hemodialysis to be an integral part of the skills and of the professional purview of Circulation Technology. Dr. Eric Jurrus joined the faculty to provide additional emphasis on the clinical and research applications in dialysis.

Many principles of Extracorporeal technology were the same between bypass and hemodialysis, and this field was just evolving also. Organ preservation became an end point in the continuum. Whereas the bypass procedures replaced one or two organs in support of the rest of the body; organ preservation procedures replaced the rest of the body in support of one or two organs. All the procedures seemed to use similar circuits and encounter similar problems with blood handling, and all seemed to require more knowledge than was known at the time.

AFFECTIVE

The Affective domain is a particular problem in education. It is not enough to know how to do a task or job, a person must want to do it to elicit that action. Thus we were concerned about, "How do we make a student want to learn?"

I will relate one of the ideas that we explored. Jim reported, that in Nazi Germany during Gestapo training, it was said that students were given a puppy at the start of training to raise as a constant companion and trusted team member. At graduation time, each was called in and told to kill it with his bare hands. Anyone who hesitated to obey the order failed to graduate. The training was expected to have established the attitude of unquestioned obedience,

So what does that story have to do with perfusionists? Well, we considered the possibility of requiring students to raise a puppy during the junior and senior years of the CT curriculum. Before graduation, the student would have to provide cardiopulmonary bypass support for his own animal with the clear intent for survival.

Most curriculum development persons thought the idea was gross; however, some educators conceded that knowing they would be responsible for life support for their own personal friend may be more motivating for students than the knowledge they would be responsible for someone else's father or relative.

Well, that scenario never became a requirement; however, I often wonder if it wasn't really a good idea. Have the students really wanted to learn? Have they graduated with the proper level of patient concern in addition to the proper level of cognitive and skill attainment? I believe the answer is, yes; but it is difficult to prove. When they restrict access to education or certification just for their job security, I find it harder to believe.

The CT curriculum was designed through a great deal of lesson exercise development and testing in the clinical and research laboratories. Dr. Pannagouras Karayannacos, a visiting medical researcher who subsequently went back to lead medical research at Athens, Greece was a great friend and colleague in this early activity. Our research with him and Dr. Vasko was often the foundation of laboratories required as coursework. The University officials finally approved the curriculum, and the first CT class started in 1969.

Well, so far all we have stated are the foundations of curriculum development.

The graduates have proved to be able clinical practitioners, educators, and researchers. But when do we actually get to have a professional identity?

EMERGENCE AS A RECOGNIZED PROFESSION

Now I want to address the efforts that were required for the emergence of a recognized profession. I, of course, will show you my views, or my side, of the development of the profession and the confrontation that I will refer to as the Battle at Atlanta in 1976.

As I stated, initially perfusionists were persons who just happened. They were from many backgrounds and a varied clinical or laboratory experiences. Many perfusionist and hemodialysis personnel had joined together under the organization of AmSECT which was officially incorporated about 1968 - the same year the CT curriculum was being developed. We worked extensively with AmSECT in trying to align it with the goals that were being established for the profession through the CT program.

I will share with you some of the gory details after we look at this schedule of players in this scenes that will develop. Note the start of the first class in 1969, and a brief period with Charlie Reed on the faculty.

The recognition of the establishment of a new Allied Health Profession is rather influenced, if not totally controlled, by the American Medical Association through its Council on Allied Health and the Committee on Allied Health Education Accreditation (CAHEA).

The AMA and CAHEA do not recognize societies or labor groups which claim to be professionals because such action would simply support what may be a guild or labor union. Their activity is to establish "essentials" for the accreditation of academic programs which are developed to prepare students for the emerging profession.

Granted, there is a desire to assert that such a profession is needed and worthy of developing academic programs to assure that there is a mechanism to keep it from extinction through the infusion of new and qualified persons.

DEVELOPMENT OF PROFESSIONAL IDENTITY & CERTIFICATION

In order to establish the professional identity several wickets have to be crossed. These are:

1. A recognized body of practitioners of the profession
2. Need - and projection that it will continue
3. Educational programs to create more practitioners
4. An established Certification or Licensure program for peer review.

PERFUSION TECHNOLOGIST

AmSECT, I believe, on behalf of its membership, filed the necessary documentation to have the perfusion technician recognized as an emerging health care professional. No recognized educational level credential was required and educational programs could be hospital based with some formalized instruction. This technician professional level was being supported and stated to be limited to the support of heart surgery in the operating room. The job description was stated as:

Perfusion Technologist Job Description

A perfusion technologist is an individual who operates the heart/lung machine required for total or partial cardiopulmonary bypass for surgical correction of various types of cardiac defects and surgical repair of diseases of the heart and abnormalities of the great vessels. ...

... The perfusionist is responsible for the management of extracoporeal circulation which requires the highest degree of discretion and judgement, because during the period of extracorporeal perfusion, the patient's life is totally dependent on the adequacy and correctness of support so provided. ...

... Extracorporeal circulation is never performed except in relation to open heart surgery, surgical repair of diseases of the heart and abnormalities of the great vessels, and for acute respiratory failure. ...

CIRCULATION TECHNOLOGIST

The association of Circulation Technologists, which had formed as an organization of Ohio State graduates, and I, as the Division Director of the CT program, at the request of CAHEA and on behalf of the Ohio State University and the Circulation Technology program, filed the necessary documentation to have the baccalaureate degree recognized as the professional level. This level and scope included all of the technical and patient care practice domains of the CT program which was used as an example of what such accreditation essentials might be expected to contain. The Circulation Technologist job description has been defined as:

Circulation Technologist Job Description

Provides patient care in the support, treatment, measurement, or supplementation of the circulatory system. Such care includes but is not limited to performance of elective and emergency perfusion, cardiac and respiratory assist, dialysis, monitoring and diagnostic measurement, and treatment of the cardiovascular, renal, or any patient requiring those or related procedures as prescribed by the physician. Performs and evaluates techniques and laboratory functions which support the clinical application or pre-clinical clearance of devices and instrumentation. May direct and supervise the activities of perfusionists, cardiovascular and/or dialysis personnel, and related assistants. Evaluates cost effectiveness of programs and makes recommendations. Acts as a resource person for medical, nursing, and other personnel. Supervises related equipment safety/maintenance programs.

CERTIFICATION

Part of the Essentials for establishing an emerging profession is the requirements for a certification program which is administered to validate the preparation of the graduates of the educational program (or other entry criteria) to join the practice of the peer group. If the state takes on the administration of the validation or testing process, licensure rather than certification is the terminology used.

AmSECT:

AmSECT initially developed both perfusion and hemodialysis certification exams. However, it lost its resolve to represent dialysis, and rescoped the professional domain focus in favor of the expediency of addressing the needs of the surgeon groups that would give them the most support. Cardiopulmonary bypass or perfusionists were "leading AmSECT" or at least had the most influence. I may be using the term "leading" a bit loosely because it was not always clear who was being represented; or if leadership or avoidance were the issues.

I participated in the development of both tests, and performed validation studies on the perfusion exam as part of the academic research activities that I was doing for my doctoral degree at OSU. [See atthorization letter in Appendix A.]

IBOCT

In order for the OSU program to apply for recognition, a certification process had to be developed for the scope job description and the baccalaureate attainment level. The certification program was developed for the Circulation Technologist under the International Board of Clinical Technologies (IBOCT) at the request and assistance of the Association of Circulation Technologists (ACT). IBOCT has administered the testing since 1975. The Board recognized two options for eligibility to take the certification exam.

REQUIREMENTS FOR CT CERTIFICATION ELIGIBILITY

Option 1 was graduation from the OSU CT program.

Option 2 was a baccalaureate degree from an accredited University or College and satisfactory completion of an academically based examination consisting of evaluation in:

1. Basic math, physics, and chemistry
2. Fundamentals of life science
3. Foundations of extracorporeal technology and instrumentation
4. Applied concepts of all of the above

The examination program(s) could be: 1) a single evaluation battery developed through joint efforts of three or more academic programs, or 2) two separate evaluations by individual programs without their collaboration.

At no time was the certification program exclusive to the graduates of OSU. However, even though interest had been expressed in the development of the academically based exam(s), they never became a reality.

As graduates of OSU established their versatile roles in the hospital, their value to the hospital or clinical setting was asserted, many AmSECT "leaders" and membership felt threatened. A subtle but intense effort was established to generate animosity among AmSECT members by declaring that the CT was out to take over the old perfusionists job and to subordinate the faithful grandfathers. The hate effort focused at ostracizing the CT and establishing criteria which would make the CT ineligible for AmSECT membership or professional participation. The number of clinical cases or time in employment or various criteria were proposed as effective methods to stop the CTs as a threat and to defuse the Association of CT s as a viable technical or leadership contribution.

Because AmSECT was being directed by certain vested interests who either mistrusted or hated CTs (or possibly the CT faculty), and the handwriting was clearly on the wall. The confrontation came in in Atlanta in 1976 at the AmSECT national convention and business meeting.

Not only was the CT position still not accepted, it was assailed in the business meeting. When I tried to explain the facts a rather strange trick was played. I was an active AmSECT member, but the President declared that I was no longer an active member and thus ineligible to address the AmSECT business meeting. My dues which had been paid up were to be refunded to me, and I was silenced at the meeting from explaining the CT program and the IBOCT position. As I recall Jim Dearing was at the front table but was unwilling to become involved and unwilling to explain the CT job description that he had helped create and had also proposed to AmSECT earlier.

For you Bible scholars, Jim was a bit like Moses, he wanted to lead the "pump techs" out of the wilderness into a technology professionalism. He envisioned the promised land. he saw it developing, but he could not enter it. He could help others attain the CT degree and credentials that he could not have. It was a strange enigma. It undermined his allegiances. He had drawn a professional circle that shut him out. Charlie Reed had drawn a circle that put him at the center. I just wanted to draw a circle that included the patient.

This letter that I will present was written in August 1976 to the President of AmSECT as a partial rebuttal to the letter he sent to Ohio State accusing me of all sorts of radical behavior.

[Read the position paper that was sent to Mike Dunaway from Lou Toth; 25 Aug 76: See Appendix B.]

EMERGENCE AS A RECOGNIZED PROFESSION

The progress toward defining the professional identity at the baccalaureate level suffered a severe setback when Joe Mandal took over as the new director of the OSU Circulation Technology program. From my observations, Joe felt threatened by the CT professional identity since he neither created it nor felt that he could join it; therefore, Joe withdrew the CT's program application for recognition from the AMA and CAHEA.

CAHEA then had no evidence of the existence of a baccalaureate program educational preparation for the professional practice. The essentials for the Perfusion Technician were approved around 1977.

THAT WAS THEN .....
WHERE ARE WE NOW ? .....
WHERE IS THE HERE TO WHICH THAT INITIAL VISION HAS BROUGHT US ?

I am not going to try to describe all the fun and frolics that AmSECT has had in trying to discredit the CT program and graduates. Nor am I going to try to explain why now the Academy of Cardiovascular Perfusion, many of whose members have decried the CT as elitist and evil, have taken up the "elitist" baccalaureate banner under their own guidon bearer.

What I would like to do is show you where the IBOCT position is. With respect to the Circulation Technology certification, it is just where it has always been. It has continued to function under Option 1 eligibility as a peer review program since it began CT testing. However, the stalemate regarding the original mechanism for Option 2 certification testing eligibility appears to have been broken. The CT equivalency test development has started.

When IBOCT started CT certification testing, CAHEA accreditation was not in place, and only OSU was graduating baccalaureate students. Today that distinction no longer exists. However, the CAHEA accreditation still does not require a BS degre nor does it require the rigor scope of the degree as does the CT certification eligibility.

The figure (p.48) of "Circulation Technology: Certification Paths" illustrates the Board's current working position. There is a pathway under consideration for the Registered Nurse (RN) in which the BS is not a requirement; however, the CT equivalency exam would be required. All of the issues are not resolved and all the pathways have not been formally established. However, it illustrates the intent that the CT certification testing eligibility can be met with several pathways. It further illustrates that the CT professional domain is still considered to encompass many applications of the technology. These specialized application areas are generally being called life support technicians. I anticipate that there will be speciality certification of each of these life support technician specialities developed within the umbrella of the overall fundamentals and practices of the Circulation Technology certification activities of IBOCT.

TO WHERE ?

I hope that I am not able to tell you where the profession will go; because I hope that you catch the vision and enlarge it far beyond where our thoughts have taken it. I do hope that you see that technology continues to expand, and thus new clinical practices and procedures are being incorporated into the list of potential patient services.

I believe that you see the value of the increased breath and depth that the baccalaureate preparation has provided you. And I hope that you will take advantage of the opportunity to be certified at the baccalaureate level and within the scope of the full practice of the profession as a Circulation Technologist through IBOCT.

The ill winds are shifting and calming, whereas the baccalaureate graduate was the odd ball, now it is probably closer to the norm. I am told that 50% of perfusion related programs educational programs are at that level.

A draft of a paper being developed by a former AmSECT officer states:

...The future of perfusion will lead to a "stratification concept" with at least 3 levels that may be considered analogous to nursing.

On the uppermost level will be the perfusion managers, executives, supervisors, chiefs, leaders, and administrators. These will be people who have the higher education with a minimum of a baccalaureate degree. This person will need the education to excel in a future that promises complicated expansion of the technology, equipment, and range of services. They will become the certified or true perfusionist of tomorrow....

I would encourage you to keep the practice of the technology organizationally and technically within your related hospital and professional organizations. The synergism of the contrasting applications and research provide a very dynamic platform from which to develop better patient care as well as careers. The important point that I would make here is that the profession has grown out of a need to provide safe and effective patient care. The profession will continue as long as it keeps responding to that charter. When it discards parts of the patient care activities because it is too busy to apply its analysis, synthesis, and evaluation capabilities to these new problems, it has amputated part of its reason for existence. A profession cannot continue to amputate itself for a very long time and still survive.

The set of discarded patient care activities and associated personnel cannot be expected to develop the full set of criteria required to become a new emerging health care professional and request CAHEA accreditation unless we have a Jim Dearing and Lou Toth out there who will relive the story that I have related and will start another professional identification.

Those who keep assigning the new clinical practices and responsibilities to other "lesser trained" personnel who are without the benefit of a professional umbrella or career development, may do so because they themselves are unprepared for the responsibilities or supervision of such "lesser trained" personnel. Those who are content to let the professional domain fragment should be sure they know why they feel that way, and then should be sure that that is a professionally defensible reason.

PERFUSION ASSISTANT VS. TECHNICIAN

There appears to be a bit of controversy regarding an emerging need for a "perfusion assistant." The description of this individual appears inconsistent except for the fact that he makes less money than the perfusionist. To justify paying him less, there are those who claim the assistant can do all of the perfusion tasks except "run the pump head." However, others who argue in favor of having two perfusionists in the room (or available) would see little benefit if the assistant had to shut off the pump head because he was not allowed to run it in case of emergency. My view of perfusion assistant is probably closer to what I will describe as "student-in-training."

Let me address directly the issue of perfusion technician and student-in-training. Jim Dearing and I, since the beginning, advocated the multi-level professional structure with the technologist, technician, and student-in-training levels. This structure is still present in the figure shown of IBOCT's current working position. The technicians identified now have increased in number, but not in kind or under new principles of science or physiology. The number of clinical cases may be greater now, and the equipment may be different, but these are not new ideas. I can remember the agony of turning off the heart lung machine when long term respiratory assist was tried with bubble oxygenator but the blood had been damaged so badly that more harm than good was resulting. Sure we wanted a membrane oxygenator, but we did not want it for some other technician to run, we wanted it for our patient. There is a difference.

The point here is that perfusion technicians, and all life support technicians must be capable of offering safe patient care. They need not be capable establishing the standards of patient care: of analyzing the uniqueness of this case, planning new circuits, or evaluating the benefits of various techniques. However, they must be capable of performing the standards of practice which are already established in the hospital or care area. They must be trained to the application level of the "cognitive taxonomy" discussed earlier.

The student-in-training will eventually be capable of offering safe patient care. Ultimately he must be under the supervision of the physician; but for professional oversee, the technician or technologist acting as the clinical instructor is responsible for permitting the student to perform up to the level of his current abilities. Eventually that will include running the pump head and total patient management.

An assistant who is not actually in training for the profession may frequently be necessary to assist technicians in the preparation of the circuits or instrumentation. These assistants should not be called "perfusion assistants" because they are only casually supporting the profession and are not required to know and be proficient in its principles and fundamentals. Operating room technicians, scrub nurses, or other medical specialities may be able to assist in such specific tasks, but should not be confused with the practice of the profession.

Nevertheless, with the risk of incomplete vision of the future, let me present a few of my aspirations for it with some specific statements about certification.

FUTURE FOR EDUCATION & CERTIFICATION

TOPICS	FOR THE FUTURE
Education	Continue producing entry personnel. Develop curriculum for new performances. Provide additional professional education
Research	Build more into the body of knowledge both Academic & Clinical
Certification	Focus on the individual - not of the job; capability to perform does not mean that all are tasks are being done in this employment.
Recertification	Focus on continuation in professional growth or practice.
Currentness	Demonstrate individual has passed specific evaluation criteria recently for clinical practice.
Circulation	Continue to encompass the total Professional
Technology	Domain.
Life Support	Any one of the many speciality areas within the Technician Circulation Technology domain which can be established as "certifiable."

I believe Certification to be a process of evaluation of the individual and not one of evaluating his job or current employment. Therefore, what a person does after he graduates or is employed is not the basis for denying certification.

It is, however, important to continue to grow in the profession and in its applications. Recertification processes typically attempt to assure that the individual has made special attempts to continue to study or participate in activities with the peer group. These objectives appear to be met by lessons, courses, or workshops.

Several groups have hoped that certification and recertification would assure that the individuals were "competent" and qualified to perform patient care. Although clearly such is the intent of education, certification, and

recertification, the ability to measure the concept of competency is still evasive.

It is desirable to operationalize the concept of competency into a mensurable activity and to then measure individual performance to assert currentness in the practice of those skills and knowledges. The ability to operationalize such measurements has been limited to conventional, oral, and some practicaltesting. But, practical testing has been difficult to achieve and even more difficult to standardize.

However, in the not too distant future I expect that we will be able to create cases and performance of clinical situations and decisions in computer-based simulations and evaluations. The future will try to eliminate the politics and subjectivity from professional certification and put the issues of the technology and the safe applications of patient care ahead of job security.

CLOSING THOUGHTS

LEADERSHIP

In the realm of future leadership, I certainly do not mean to be disrespectful; however, the greatest things that walked the face of the earth yesteryear, are today's dinosaurs. The yesterday's are fading out. Circulation Technology started as John Vasko MD, Jim Dearing, and Lou Toth. None of them are teaching or practicing in the profession today.

Perfusion is what others have made it; the profession is what you collectively will make it. If it is time for evolution, don't be caught as a dinosaur.

1. Do not look back for leadership. You may get some vision from recall; however, leadership must be created for today and tomorrow from today.

PATIENT ADVOCATE

2. The patient really needs everyone on his side. Try to put the patient high (hopefully the highest) on your professional concerns for each day.

JOB SECURITY

3. Do not make job security be the basis for including or excluding peers or patient services.

NEW TECHNOLOGY

4. Do not be too busy to care about the other application of the technology. Be sufficiently informed to understand it.

HARD WORK

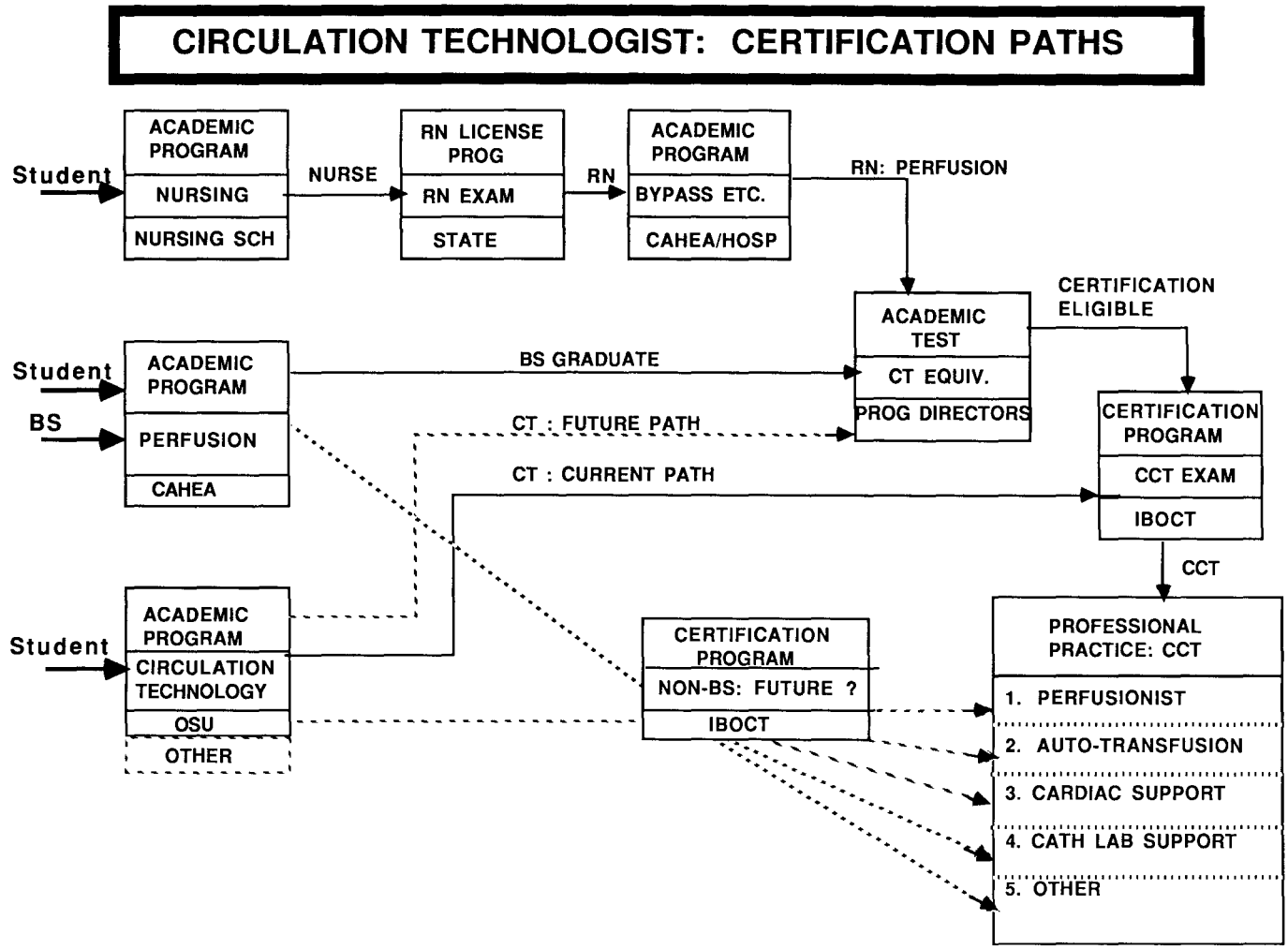
5. If you don't plan on putting in 8 hours a day, I am ashamed of you; and if you don't put in 8 hours, and you still make a good living, you are overcharging.

I am not here to preach a new morality; however, do not lose sight of your old ones.

Remember, there are two basic truths:

1. If you say you can, you are right.
2. If you say you can't, you are right.

Your professional life is up to you. Catch the vision, and go for it!


CIRCULATION TECHNOLOGIST: CERTIFICATION PATHS
Student
ACADEMIC PROGRAM
NURSING
NURSING SCH
NURSE
RN LICENSE PROG
RN EXAM
STATE
RN
ACADEMIC PROGRAM
BYPASS ETC.
CAHEA/HOSP
RN: PERFUSION
ACADEMIC TEST
CT EQUIV.
PROG DIRECTORS
CERTIFICATION ELIGIBLE
Student
BS
ACADEMIC PROGRAM
PERFUSION
CAHEA
BS GRADUATE
CT : FUTURE PATH
CT : CURRENT PATH
CERTIFICATION PROGRAM
CCT EXAM
IBOCT
CCT
Student
ACADEMIC PROGRAM
CIRCULATION TECHNOLOGY
OSU
OTHER
CERTIFICATION PROGRAM
NON-BS: FUTURE ?
IBOCT
PROFESSIONAL PRACTICE: CCT
1. PERFUSIONIST
2. AUTO-TRANSFUSION
3. CARDIAC SUPPORT
4. CATH LAB SUPPORT
5. OTHER

APPENDIX A

AUTHORIZATION LETTER:

AmSECT to Louis S. Toth

AMERICAN SOCIETY OF EXTRA-CORPOREAL TECHNOLOGY, INC.
NATIONAL OFFICE
Suite 907, 1815 North Fort Myer Drive, Arlington, Vlrginia 22209
Area Code (703) 527- 2757

FROM: American Society of Extracorporeal Technology (AmSECT)
TO: Louis S. Toth
SUBJECT: Authorization

Authorization is hereby given to Louis S. Toth, as per Board vote on 15 July 1973, for the following purposes

1. to access the AmSECT National C ertification Exams [both H/L and Dialysis] keys, and examinee responses
2. to analyze test results - statistically, item analysis, factor analysis, etc.
3. to access biographical and performance information regarding examinees including surveys and site visits if necessary
4. to perform reliability and validation studies
5. to make recommendations regarding exam revision and educational requirements
6. to release only general information about exam content and intents except to qualified researchers and professionals with a "need to know". General release of item information will not be permitted unless the item is discarded from the exam and such release would benefit discussion of the exam or development of study guides for future exanlinees.

This authorization is construed to mean permission and spiritual accord; AmSECT budget, if necessary, will require further Board action.

Charles C. Reed, President, AmSECT 14 August 1973

Madeline Massengale, Secretary,AmSECT 16 August 1973

APPENDIX B

POSITION PAPER:

Louis S. Toth to Michael Dunaway

25 August 76

Mr. Michael Dunaway
Perfusion Services
Shadyside Hospital
532 S. Aiken Avenue
Pittsburgh, Pa. 15232

Dear Mike:

Joe Mandl gave me a copy of your letter dated 20 Aug 1976 addressed to him. If I did not regard you as an honest individual, and if I did not value your friendship, I would not bother writing this letter. My intentions herein are to explain my action, involvement, and concern for AmSECT that I feel have been misinterpreted.

Historically, I have worked with and for AmSECT since about 1968 when I joined the Circulation Technology staff. In those days there was a lot of talk about lack of AmSECT leadership, purpose, etc. Jim Dearing and I fought many of these small fires and encouraged individuals to get involved. Jim and I discussed virtually every correspondence and action of AmSECT and the problems with presidents, board members, and individuals, and I usually reviewed proposals that he was considering. There was an air of suspicion and distrust of "Ohio State" at every move that either of us made. His leaving here cleared him but not me.

The accreditation and certification proposals that he submitted to AmSECT in Detroit (1969) and New Orleans (1970) were for recognition of more than one level of professional. An "alienation" similar to the one at Atlanta ensued. However, concession was made to attempt initially to certify "safe perfusionists' and work toward the more academically qualified certification levels later.

I worked with Jim Dearing in editing and proofreading the initial grandfather certification tests offered in 1972 and 1973. The distrust of "Ohio State' was strong at every move and the initial tests were to be printed in New Orleans and were "graded" by Katherine Hargesheimer and some graduate student she hired. She admitted to a rather untenable grading scheme that she used but no one wanted or was allowed to do the work at that time.

It soon became apparent to the Board and Certification and Education Committee that some drastic changes had to be made in order to create and defend a valid certification testing procedure for a pass/fail basis.

I was empowered by the AmSECT Board in July 1973 to perform analysis of grandfather test results and make recommendations regarding exam revision and educational requirements (see enclosed letter). Natresources offered the same service for $10,000. The revised AmSECT Certification Tests offered in 1974 were written by Jim Dearing and myself as a result of the analyses that I did. At the time Jim, I, and several Board members thought it might be advantageous for me to act as an external educational consultant and evaluator in performing analyses rather than as an AmSECT member who could be accused of not being "objective". To attain that external credibility" was the only reason that I let my active membership drop. In no way did my interest or participation decline. I spent considerable time and my own money in the analyses and test development for which I received neither payment nor thanks. But neither of those were necessary. I had hoped to use the data for a dissertation but the data was not amenable to a research-type question and was not allowed; however, I continued my efforts in the hopes of strengthening the development of the profession in which I had a vested interest and several friends.

I am truly sorry that I am not a very close friend of any individual in the leadership of AmSECT. There are even past AmSECT presidents who are not very close friends with the leadership of AmSECT. I have tried to be, but I don't know the rules. I never meant to speak in educationalese or condescending tones, and I apologize. However, if something I said made the C and E Committee realize the need to think and act and then called upon its friends, Jim and Charlie, to help it, then I am pleased (as I recall, it was a fairly unresponsive committee - - remembering how slowly contributed questions came in for the initial test development).

I have worked for, not against, establishment of an extracorporeal professional identity. AmSECT until last year believed in it. I continue to discuss the professional on a cognitive foundation; AmSECT has discussed his employment rather than his academic capabilities. Therein lies the total distinction in our approaches. As you develop the baccalaureate programs, I believe you will have to use the former approach also.

I would be remiss in my obligation to the academic program at OSU and to its graduates if I did not see that the AMA received information regarding the curriculum and graduates as John Naughton suggested. I had been in contact with the AMA for quite some time as you state, regarding the guidelines for development of emerging health occupations. It was an important part of our federal grant as I saw it. The AMA never discussed their feelings about AmSECT to me prior to the June 1976 information that we both have.

I tried to discuss the AMA information with you at the regional meeting in Cleveland where you expressed interest in AmSECT starting (taking over?) accreditation instead of the American Board of Perfusion Technology. At that time I volunteered to be of any assistance that you requested. You appeared to accept but never requested.

I assure you that I am not angry at anyone as you suggest. The scoring of exams through the Ohio State facilities was a task I was happy to help Am SECT with. By calling it faculty research there was no direct cost to the Circulation Technology Division after we went to computer scorable answer sheets. However, since I never received a nickle for my efforts, I was not sad to find the task could be done elsewhere.

I am additionally not angry at Charlie Reed. I have no aspirations of running AmSECT. My interests in its board meetings or Continuing Education Committee were only to add facts that might have been overlooked (about AMA or testing, scoring, creation of learning experiences, etc.) I desire no coupe or embarrassment of AmSECT.

I think AmSECT is embarrassing itself by proposing its "professional status" can be gained in a six month (non academic institutional) training and a six month internship taught by perhaps certified grandfather perfusionists which as a group had a mean of 32% on their own certification tests. Your own admonishment that the place of the self-taught perfusionist must give way (AmSECT Newsletter Fall 1976) has little assurance through the minimum standards suggested. I am not saying the CT standards are ultimate perfection, but I don't believe clinicians should be teachlig beginning physiology either.

Back to the facts. I did not form the Association of Circulation Technologists. As far as I know, I am not even eligible for membership. I was informed that the people granting the use of the room in Atlanta knew exactly what the room would be used for. I was instrumental in forming the certifying board and see no problem with the chairman not being certifiable. Very few hospital administrators do surgery yet they administer surgery programs. This Board does not accredit, nor does it wish to give one test which would be tantemount to proficiency testing, a four year academic program. It would be feasible that graduates from other four year programs could be certified Circulation Technologists by this Board if there were such graduates or programs; however, I am not aware of any. I have already apologized for the "supervision" controversy. The instrumentation which "leaves you cold" is medical electronic instrumentation and monitoring equipment and is a part of the talents of the "pump technician" as advocated by the Inter Society Commission for Heart Disease Resources.

If you or AmSECT are interested in outside input or opinion, the leadership may actually have to make its own decisions rather then depend on a few "friends" who will continue as the only source of knowledge. If individuals can control when the floor is open to speak, to whom, and for what discussion, only one viewpoint will ever be reflected in what could have been a great Society. There was an era when the AmSECT leadership considered the membership unable to think or participate in decisions. I would hope that era of benevolent dictatorship is past.

I remain willing to be friends and willing to help. What more can I offer?

With best personal regards, I am,

Sincerely,

Louis S. Toth
LST:mgr

Encl.