



**ORAL HISTORY PROJECT**

# **Louis Gluck, MD**

**Interviewed by  
Lawrence M. Gartner, MD**

February 21, 1997  
Laguna Hills, California

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## **PREFACE**

Oral history has its roots in the sharing of stories which has occurred throughout the centuries. It is a primary source of historical data, gathering information from living individuals via recorded interviews. Outstanding pediatricians and other leaders in child health care are being interviewed as part of the Oral History Project at the Pediatric History Center of the American Academy of Pediatrics. Under the direction of the Historical Archives Advisory Committee, its purpose is to record and preserve the recollections of those who have made important contributions to the advancement of the health care of children through the collection of spoken memories and personal narrations.

This volume is the written record of one oral history interview. The reader is reminded that this is a verbatim transcript of spoken rather than written prose. It is intended to supplement other available sources of information about the individuals, organizations, institutions, and events that are discussed. The use of face-to-face interviews provides a unique opportunity to capture a firsthand, eyewitness account of events in an interactive session. Its importance lies less in the recitation of facts, names, and dates than in the interpretation of these by the speaker.

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## **ABOUT THE INTERVIEWER**

Lawrence M. Gartner, MD

Lawrence M. Gartner was born and grew up in Brooklyn, New York. His undergraduate education was at Columbia University, followed by medical education at Johns Hopkins University, where he received his medical degree in 1958 and pediatric internship from 1958 to 1959. Returning to New York, he continued his pediatric residency at the Albert Einstein College of Medicine, where he was Chief Resident in Pediatrics from 1961-62. He continued at Einstein, doing a fellowship in hepatology, neonatology and research. In 1964 he became a faculty member, rising to Professor of Pediatrics and Director of the Divisions of Neonatology and Gastroenterology and of the Pediatric Clinical Research Center. During this period he carried out a major research program in neonatal bilirubin metabolism. In 1980, he became Professor and Chairman of the Department of Pediatrics at The University of Chicago and Director of Wyler Children's Hospital. In 1998, Dr. Gartner retired from the University of Chicago. He now lives and works from his ranch in Valley Center, California (San Diego), continuing lecturing and writing in neonatal jaundice, breastfeeding and history of neonatology.

In 1956, he married Carol B. Gartner, who subsequently became Professor of English at Purdue University and Dean of the College of Arts and Sciences at the Calumet campus. She also writes and lectures on the history of medicine, sometimes with her husband. She also assists in the oral history project, with specific responsibility for the video recording and photographs that accompany each oral history. They have two children, Alex Gartner, a movie producer, and Madeline Gartner, a breast and endocrine surgeon.

## Interview of Louis Gluck, MD

Interviewer's Note: At the time of this interview, Dr. Gluck was terminally ill, suffering from pancreatic cancer. His stamina was certainly diminished, resulting in a much shorter interview than his contributions to neonatology merited. Despite his weakened physical status, I was quite impressed with his remarkable ability to relate the story of his life and his contributions to neonatology. I know that he recognized that this was the last time he was going to be able to tell this important story of the establishment of neonatal intensive care and his role in it. He related the material in this oral history with only minimal questions and almost without interruption. Despite the relative brevity of this oral history compared with the others in this series, I am impressed that it is quite complete. Dr. Gluck's death shortly after the recording of this oral history made it impossible for him to review the transcript and correct any possible errors. We are most grateful to his son, David Gluck, and his wife, Gloria, for their assistance with the editing of this document.

DR. GARTNER: This is Dr. Larry Gartner interviewing Dr. Louis Gluck on February 21st, 1997, in Laguna Hills, California.

I have a group of questions and I'm going to try to focus on neonatology and I hope you won't mind if I begin with that, and we'll get back to more personal things later on.

**DR. GLUCK: Fine.**

DR. GARTNER: Just a few things about you and pediatrics. When did you first think of pediatrics as a career?

**DR. GLUCK: When I was actually out in general practice. This followed a very difficult financial way through medical school and so on, with my wife working at the tail end. She became pregnant with our first child, and I had to do all kinds of things. I sold blood; I moonlighted; I sold sperm, anything to keep some food on the table. But it got to the point where I could hardly lift my head off the chair; it was just so tiring, exhausting.**

**I finally accepted an offer to go out into general practice, and it was kind of a surprising one. It was in a coal field in Harlan County, Kentucky, with a group of very good doctors. One of them later became professor of medicine at McGill [University]; one of them is a distinguished surgeon in Illinois. Glenn Austin was one of them, who became president of the American Academy of Pediatrics; and myself, so we were a very honest, undaunted group. We decided that to us it was much more important to have truth and the like.**

Truth in the coal fields meant what we did with all those miners dying of miners' asthma, the way they were in the oxygen tent just gasping away, frankly had silical tuberculosis or in some cases they had a cancer along with the silicosis. We went to court on their behalf in Knoxville [Kentucky]. After we won three cases, the coal companies tried to have us shot; that was a harrowing experience. But just leading up to the fact that what came out of that was the dire neglect of children. How miserable they fared in these low-income families, how poor it was. I just felt, "That's going to be my field."

When I had been an intern, I actually took no pediatrics. I wanted to be an obstetrician. And this was close enough, and it gave me a particular interest in the fetus, and that's what happened. I came out and I finished enough general practice to pay back all my debts. Then I went from there to fellowship at Columbia [University], where it was my very good fortune to become associated with Bill [William A.] Silverman. And that was really a coup. I was his first fellow, had total access to him, and we just had a romping ball. I learned like crazy from this guy, his attitudes and stuff, and the kind of intellectual honesty that he had rubs off on people if you're around him. I can't say that for anybody else; that's it. And anyway, under his influence, there just wasn't any question I was going into this field.

My personal philosophies dealing with this were kind of odd. I looked at the whole field and I realized that these people are restricting themselves unnecessarily; they were taking care of premature babies who were relatively well. Anybody who doesn't have a super fighting chance of existence winds up on isolation on an OB [obstetrical] ward, winds up on a pediatric ward where they don't know what to do with them, and so you have a fragment of babies possible who are living. I said, "You know, it's time to invoke what other specialties are doing. It's time to bring these together, and under some heading where you can organize care for any and all babies who belong in the same unit because that's how you can train people."

Well, that gave me a big horselaugh from all the people I talked to, even from Bill Silverman, because every state had a law forbidding mixing of babies. You couldn't mix newborns and preemies; you couldn't mix medicals and surgicals; you couldn't mix out-borns and in-borns. And if there was any question of an infection you had to send them to East Jerusalem or someplace in order to get them out of sight of anybody else. And it was this predominant view that seemed so bizarre to me since every single place in the world was subject to infecting you.

It was staphylococcus that was the big worry. There had been epidemic after epidemic after epidemic; many of them were the beginnings of what we've learned to talk about as hospital-acquired infections. These were the early severe parts of it. We didn't have the real assortment of antibiotics, didn't understand how to cope with them, so the federal laws that filtered down



through the states just shut down all these units. And it was characteristic for an inspector to come in with his white glove, or whatever, open the door to the nursery, stick his hand on the top of the door, and if they cultured staph they'd close down the nursery. And they developed the idea that in order to prevent it you had to have cohort systems. Only people born on the same day could stay together, because they had equal risk of infection.

It went on and on and on, but above all was the idea that everything was suspect -- the air, wherever you looked, and that just seemed absolutely unreasonable to me. Because it seemed to me there had to be many more susceptibles than there were people actually infected. There had to be. And so we started searching the literature and we found some pretty meaningful things where if they'd done such things as paint the umbilical cord with gentian violet, they could reduce the number of days before infection would occur. That if they followed the nasal colonization, it took many days before they began to colonize. If they followed skin colonizations, it took many days, and so on. Then you can pretty much put them together in a unit and take a look what was absolutely obvious, that there were two things happening. First of all people weren't washing their hands, and second, and a key to this, was the fact that bacteria got into people's noses and vocal cords, and then because people didn't wash their hands, they got transferred all over the place.

So we decided to make an attack on that, and I first talked to Bill who again thought it was funny. And I went on to my first faculty job at Stanford [University], with [Norman] Kretchmer, who wasn't exactly delighted with this. He wanted me to do developmental research and only developmental research. I told him that there was something so big at stake here that there was a chance to change the whole field. And then finally he acquiesced, and in conjunction with [Sumner J.] Yaffe--I'm actually blocking out his name.

DR. GARTNER: Sumner.

DR. GLUCK: Sumner Yaffe. He was a late comer toward the end of the year, and Harold [J.] Simon who's still at UC [University of California] San Diego, or was the last I heard. We entered into this thing where we washed the baby in the delivery room, washed it upon return, made a daily wash using pHisoHex®, and we cultured these babies. It was a controlled study because we only washed one out of every three babies and the other two would sit there. And the evidence began to mount up that what we were doing made it possible to mix any kind of babies. They weren't acquiring anything from each other. And the biggest problem we had is getting people to wash their hands. To this day that's the biggest problem you have. And we tend to cover ourselves with this multitude of antibiotics instead of paying attention to how clean the people are. They'll pick their nose and start playing with babies. That's not an exaggeration; that actually happens.

Anyway, the studies, I thought, were very conclusive. We took them to the head of the infection control committee, a man by the name of Lowell Rantz. I have to say that his pretensions were beyond belief. He used to tell people he came from Placerville [short a], California. And I said, "But everybody calls it Placerville [long a]." He said, "If I said I came from Placerville, who would listen to me?" He was one of those people. Anyway, he got carried away with the idea that we hadn't really shown every single nook and crevice, and he turned down the idea of starting an intensive care unit. And that made me absolutely, out-and-out, totally disgusted. And I felt, "Here's this brand new place, Stanford. We'd moved down from San Francisco; everything was ahead. My God, what a thing we could have started here!" I also that year acquired Phil [Philip] Sunshine as a senior fellow with me, and Sumner, as I said, worked with me.

I fell susceptible to an offer from Yale [University], who tried to get me from Columbia in the first place. And the idea was that I would go and start an intensive care unit; I'd start mixing these babies. Yale was scared as hell. The infection control committee thought that they were really taking a chance. They didn't think that I had proven myself enough, so they sent me to see the head of maternal and child health in Connecticut. I'm blocking out his name, he literally became the head of the Children's Bureau, Louie [Louis Spekter]. I'll think of it someplace. But anyway he listened to this, he looked at the material, and he said, "Well, Yale as an academic institution has always been a reliable, responsible one. If they don't have any big objections I certainly don't have them. But remember one thing, if anything does happen, I don't know who you are."

So this is how I got permission in the first place to start this. And we just went ahead with what we had done, began a study all over again. We settled on 25,000 babies that we were gonna check, about 8,000 of whom would have been washed, and approximately 17,000 who would not. And we were forced after the thing went far enough to stop the study because the differences in the two groups became so apparent to the nurses that they started washing the unwashed babies, and so on down the line. It was like an 8 to 1 difference in acquisition of staph anyplace, and that included elderly. You got around to the anus, the groin, the nose, the axilla, inside the ears. When we published we talked most about nasal carriage and umbilical carriage and stuff. Based on that we started mixing babies, bringing them in right off the bat, starting with the Stanford stuff in October 1960.

We took over a unit that had been run by Bob [Robert E.] Cooke as a premature unit. He had long since passed on to Hopkins [Johns Hopkins University], where he became chair, and of course did a spectacular job there. But it was a nice little unit and it made sense. It had the latest incubators, and this kind of stuff, although they were nothing that you would

want to use today. Except I should say the infrared supplemental heater is still a great unit. There are so many problems where people burn themselves on that; but, I don't think we ever exceeded that unit. It's excellent. That was made by Air-Shields [Inc.].

Anyway, in 1962 a man named Ed [H.] Hon showed up with miles and miles of fetal EKG [electrocardiogram] tracing. He had heard what we were doing here, and felt that we'd have some sympathy for his work. He was at that time at White Memorial [Medical Center], which was part of the Loma Linda [University] system, the Seventh-day Adventists, and they just shunned him, kept him out. He had all his own money and other moneys invested in these monstrous computers. There were light bulbs this big in there. Remember the old computers; it took a room to do something that a hand computer could do in about two minutes today? Anyway, I welcomed him with open arms and we set up an observation room for him and all the rest of the stuff.

Two years later, in 1964, the chairman of OB retired, and we brought in Ted [Edward J.] Quilligan, who was the guy that we really wanted, and he was just a joy. With him we started the first perinatal center. We had the first fetal evaluation center, and so on. We began our early work on the L/S ratio, started all this work on mixing babies and it was an interesting thing. We had interesting residents like Phil [Philip] DiSaia, the guy who was chair at Oregon; Leon [Leandro Cordero, Jr.], bearded guy, endocrinologist, guy that's at Vanderbilt [\*no record was found of Dr. Cordero being at Vanderbilt], so many of these guys are up there. And it was kind of interesting too, their spin is, "We were there when you did it."

Can I slow down for a little bit?

DR. GARTNER: Do you want some water?

**DR. GLUCK:** Water will be fine.

DR. GARTNER: Please take your time.

TAPE TURNED OFF FOR A MOMENT.

DR. GARTNER: Let me go back a little bit on your history. How did the University of Chicago influence your career, particularly with regard to the neonatology and perinatology area. Did it have any influence on you?

**DR. GLUCK:** Of course, it was the beauty of the full-time academician. That was really the only place in the country that you could find it at the time. They'd just abandoned Rush [Medical College]. They'd concentrated all their efforts even at a tremendous loss of endowment

**moneys and things like this. But the beauty of seeing these thinkers allowed to work in an academic setting was such a beautiful thing to me. And after my first taste of practice I realized, "No, I wanted academics." I'm glad I had a taste of practice but I needed some nourishment for the soul, so to speak, not just for the pocket. That was an important aspect. No, the University of Chicago had a profound effect on me.**

**DR. GARTNER:** You were in the MD/PhD program. And did you do some basic research in Chicago?

**DR. GLUCK:** Oh, yes, as a matter of fact, if you trace back far enough you'll find I'm the first guy that separated the digitalis alkaloids with a new technique that had just come out about two, three years before, named paper chromatography. [laughs] And I'd been involved in some other stuff too.

The big thing it did for me it taught me how to work in a lab. It taught me how to think in terms of projects and so on, so I wasn't at a loss. I thought it did some good stuff. To mention a couple other papers I can't even find in the 1949, 1950 period where I was one of the contributors to the paper. We worked with a guy named Wally [Wallace W.] Tourtellotte, that became very famous as a neurochemist, and with a lot of other interesting people. One of the most interesting people I met for her later non-contribution, was Frances Kelsey, who became part of the FDA's [US Food and Drug Administration] thinking on whether or not they're gonna release--what was that sedative?

**DR. GARTNER:** Thalidomide.

**DR. GLUCK:** And knowing Frances Kelsey, and the fact that she had held it up, I knew it was only for one reason; that was indecision. She couldn't make a decision if her life depended on it. She was one of the interesting people; I think she really made a contribution because of that personal characteristic. But, there are a number of other people that went through there that became of some importance, and all had an influence on me. No, Chicago was a very important thing. We were privy to people like Konrad Bloch who won a Nobel Prize because of his discoveries of cholesterol and what it did. There were so many people down there. The guy who became chairman at Hopkins and won a Nobel Prize because of his work on mitochondria. Al..

**DR. GARTNER:** [Albert L.] Lehninger. [Editorial Note: No record could be found of Dr. Lehninger winning the Nobel Prize]

**DR. GLUCK:** We worked with him, so I mean, it was great.

**DR. GARTNER:** And they were all in Chicago.

**DR. GLUCK:** All in Chicago at the same time.

**DR. GARTNER:** I didn't realize that.

**DR. GLUCK:** Even the great Anton J. Carlson, the great physiologist, on his opening day remarks to us he kept getting wilder and wilder and crazier and crazier and louder and louder and louder, till he finally capitulated his speech by yelling, "Loafers get out!" And I mean everybody sat there and trembled in their seats; they didn't know what he was talking about. But this was the great A. J. Carlson, the great basic physiologist.

But we also saw all the basic stuff on sleep that later came to my student that's now at Stanford, the head of sleep, Bill [William C.] Dement. It was just a great time to be there. And they had gotten off the floor because they had lost this huge amount of money out of their disaffiliation with Rush. But it was a marvelous thing.

There were all the old initial cruelties of attendings, they'd like to take and just pick you to pieces. You say one thing wrong and you'd be there for the rest of the rounding hour, being picked to pieces. They were such sadists, some of those guys, so you learned how not to be an attending, and things like this. It had a great influence on me.

**DR. GARTNER:** You didn't get your PhD.

**DR. GLUCK:** No, that had to do with the initial part about where we just ran out of money. And I really would have had to do a thesis on the alkaloids; that would have been enough. But it just turned out to be a short paper.

People didn't understand chromatography at that time. About two years later [Archer John Porter] Martin won the Nobel Prize for that, but right at the start it's a new technique and interesting. What I did was I built a radioactive hot house and I grew my digitalis plants in there. Instead of trying to identify them by eluding off compounds, it's very easy to pick off where the radioactive bands were, and then look at the compounds, and then go through what was known about testing at that time. That's how I did it. So I thought it was kind of interesting and clever.

**DR. GARTNER:** You mentioned Bill Silverman as one of the major influences on you as he was on me. Who were the other people in medicine or science who influenced you in terms of perinatology and neonatology?

**DR. GLUCK:** I have to give Kretchmer some due here, because he was after me about the most important thing is developmental research, developmental research. It stuck with me; that's what I wound up doing

largely due to him. On a personal basis I was not a great friend of his. He did a lot ultimately to hurt me with grants and things of this kind, a lot of personal nonsense, until he finally one day threw a birthday party for me. We were on some kind of location, and he apologized, and he became kind of a different guy. And he said, "You really made it big."

DR. GARTNER: [Laughed]. Yes you did.

DR. GLUCK: Let's see, who else? Yeah, Nelson [K.] Ordway, because of his honesty and straightforwardness. He was kind of the Bill Silverman of Yale. I just loved that guy.

DR. GARTNER: Anyone else at Yale? Or at Columbia?

DR. GLUCK: Mel [Melvin] Grumbach always remained a close friend; gave me a lot of good advice.

DR. GARTNER: One of the pieces you wrote about history mentioned Virginia Apgar. Was she a particular influence on you?

DR. GLUCK: Very much so. She taught me the importance of pediatricians wandering the delivery rooms. I learned not to depend on the obstetricians to come out in time to be able to resuscitate anything. She taught me the techniques of resuscitation, although there's a big flaw in what she does that makes it difficult. I hate to say this about the revered Virginia, but she didn't realize how high up the voicebox of babies was, and so she used to extend the head. That meant that you had to go up and then down to get into voicebox. If you just flex the head you're falling into the voicebox, which is one improvement that I made in collaboration with a guy named Fred [Frederick W.] Hehre. Fred had been an anesthesiologist who had worked with her and he came to Yale, particularly during the era with Hon and all these guys, so we had a real first rate team up there.

She liked me enough that she wanted me to join her team. Stan [L. Stanley] James at that time had just joined a team, and I don't know whether that was the point at which some estrangement took place or not, because I think Stan liked monopolizing Virginia. When she asked me he became very discouraging and became a little estranged. We'd been good friends up to then because we helped him with his research, these initial studies of the CO<sub>2</sub> rise and things of this kind, proving his point that every baby in order to breathe suffers some asphyxia. I thought that was one of the most important contributions he ever made, so on that basis I thought we were friends. But when Virginia asked me about joining the group, Stan became somewhat less of a friend, and through the years it didn't get any better.

I found the other thing was that he was a bitter enemy of Bill Silverman--bitter enemy--and he couldn't stand the idea that I was close to Silverman. Here I was working with Apgar and I was a friend of Bill Silverman. So I became one of these "no-man's land" people that he had. He had a lot of "no-man's land" people.

On the other hand, I really admired his intellectual curiosity. I felt that he'd gone out and gotten training in putting catheters in sheep and this kind of stuff, that it was kind of remarkable all the way around, that he brought so much to the field. I thought that after awhile he began to ask silly questions and he was way off the beat. For example, he'd spend two to three years finding out how hot sheep fetuses became and how did the mother disperse the heat. Well it's an important question, but it doesn't deserve that much time. I mean, that's the way I felt about it; there's so much more to do.

But as I looked at all these people, Dorothy [M.] Horstmann was another woman. In fact, with her we were the first ones to describe the German measles, the signs and symptoms. We did that, did you know that?

DR. GARTNER: No I didn't know that.

DR. GLUCK: The only thing we missed was the bone marrow findings. Otherwise, the petechia, the spleen, the whole works, we put together as a syndrome. Yes, I always had a great regard for her. She was such a nice, powerful thinker.

The one person at Yale that I really found myself at total loggerhead with was Dav [Charles Davenport] Cook. When Cook came and replaced [Milton J. E.] Senn, it was such a blow. He started dabbling in everybody's business; he wanted to change everybody's research. He would even go on the ward and if I had a feeding order for a baby he didn't like, he'd change it. That's how petty and ridiculous he became. He was ultimately the reason I really left Yale; I couldn't stand him any more. It got to the point where it was hard to come to work, and when you get to one of those situations you're better off leaving. If you aren't in a position to control a situation it's time to go, and that's what I did.

The transition for about ten months in Miami was wonderful because that's the point at which [William L.] Nyhan was asked to come out to LaJolla as the chair. And, of course, he said he definitely wanted me to come out as the first man to start the unit out here. In fact, you remember we originally existed in pieces of the biology buildings and so on down the line. Eventually everybody thought that was such a good idea that they did away with a department of medicine. It just became a division of biological sciences; you could work in anybody's lab. So I was actually in a basic science building and biology and so on down the line, and that was the greatest opportunity in

the world. That was really the big opportunity to flex my muscles all over the place, and it was just great. Just no restrictions, no anything.

A similar opportunity had occurred at Yale because I'd raised several million dollars and we'd built the first perinatal center there. That was recently dismantled in favor of more efficient nurseries. [laughs] Well, what I had suggested was still the most efficient, but they're the most cluttered also. And they became sometimes unsightly and people began to feel that their freedoms were being restricted. But you do a whole lot more, you can bring any machine, anything. You can do anything you wanted right on the spot; but that's another part of the story we can talk about.

At LaJolla we went ahead and we just moved at full pace. We recruited Ken [Kenneth J.] Ryan who I thought was a mistake because his interest was in going back to Harvard, not staying there. But he brought along Sam [S.] Yen who had a big influence on me and my thinking, and a number of other people. The basic faculty at UC San Diego was somewhat short of spectacular, some of those people. Kenneth Lyons Jones is pretty hard to beat, pretty hard to beat. So these people I made good friends with and we worked together as a team and made sure that everybody was available to everybody. You know it was just an ideal working situation. And we finished up our first project on the L/S ratio.

Now my movements in research may be somewhat peculiar. I started out after learning what I did from Bill Silverman, the idea about babies and being careful about the illnesses and what you give them and so on down the line. I became firmly convinced that if we could only figure out a system of really taking care of these babies, we could solve most of the problems and prematurity, and that led to the NICU [neonatal intensive care unit].

But I shortchanged the field, there's so much more to it than that. So the next step was: well, supposing we found out a way to eliminate prematures. Supposing we looked at their lung development and kept them from being born until their lungs are ready. And that led to the L/S ratio, and ultimately led to the real finite cause of it which I believed to be infection. We were the first by far to publish the first papers on that, as we also did on the work on oxidation of tissues. If you look at work done by [Ola D.] Saugstad and by others who worked with me, they preceded by at least ten years other work that was written on that. And we tried to pull together as a common disease the necrotizing enterocolitis, the RDS [respiratory distress syndrome], the damage in the eye, things of this kind; feeling that we're looking at the same disease, the oxidation.

This is a weird story but I tell it anyway. Having read some things in the physical chemistry literature, I ran across one article by a chemist at the University of Georgia who set out to find out why bananas get rotten. He



watched them go from green all the way to black, and he watched them soften in there. So he started doing a bunch of chemical tests on them, and he isolated  $H_2O_2$ ; he isolated the whole series of enzymes that related with it. The banana in my mind solved that whole issue. You could add other things on top of it, but what he did he never got an acknowledgment for. I'm the only guy that ever goes around saying I got my inspiration from a banana. [laughs]

DR. GARTNER: What was the name?

DR. GLUCK: The chemist? I'm trying desperately to think of it. But it's a wonderful story.

DR. GARTNER: What years did he do this?

DR. GLUCK: This was in the early 1970s. That's when we had contact with Gösta Rooth. By the 1980s he sent Ola Saugstad because he had this spectacularly similar interest to what I had. He said, "I have just the man for you." And Saugstad was wonderful. Even though he stayed only a year, he kept coming back and forth and made a tremendous influence. But, once again, he's not noted where he should be. Maybe it's his funny European style of writing or something, because he insists on editing his own stuff; but he was the one that foresaw this.

If you ever see the diagram of the breakdown of ATP [adenosine triphosphate], the question I asked was a very simple one. One of my heroes was Ron [E.] Myers. He taught me the difference between slow asphyxia and immediate asphyxia by clamping cords. The intermittent asphyxia is the one that damages the brains in babies. And he made one colossal mistake and this is that he attributed it to lactic acid. We poured gallons of lactic acid and could never show any lesions like that, never. Even faced with that kind of evidence he wouldn't back off. So, we felt that we had to look someplace else.

If you sit down and you look at the scheme of glucose molecule, remember glucose and oxygen provides everything; the mitochondria, nothing functions without the thing. And either depletion looks pretty much like the other one. Supposing everything is great, the feeding, the mother's glucose and so on down the line; what are you doing? Well, you're building up colossal amounts of ATP. Now what happens if you take away the oxygen? You're making something hypoxic. What happens to that ATP? That was the whole key; that was the whole goddamn key to what happens. It's the re-perfusion, the re-everything; that's what it's contingent on. And I asked that simple question of Gösta Rooth, because he'd been working with ATP. You remember him?

DR. GARTNER: Vaguely.

**DR. GLUCK:** Sweden, he's an older guy, one of the real pioneers in acid base metabolism. Lot of people had spent time in his lab, he did a lot of sheep work and so on, phenomenal old gentleman. He sent Saugstad asking the same question, and there's a scheme that's classic, it's always quoted, for how the breakdown occurs until you get down to HX [hypoxanthine], that last compound that has to be, has to have oxygen, it becomes uric acid.

So anyway, the work went apace, and then Gloria had her stroke, and that was it. But in 1981 we were working like hell on that project. With a little luck we could have gotten a little prominence out of that, because we sure had the right idea. But to this day a lot of obstetricians and a lot of pediatricians don't understand the role of oxygen. They don't understand what it is, how a fetus gets damaged; that's different from clamping a cord. Stan James never understood it, and neither did Geoffrey [S.] Dawes, and really prominent people in this field. I guess maybe Karlis Adamsons [Jr.] understands a little bit, but not that much.

**What the hell is the name of that compound; now I'm really upset!**

DR. GARTNER: It'll come back to you, I'm sure.

**DR. GLUCK:** But it's the one that you can show easily that to metabolize it you need oxygen, and then it spins off two oxygen radicals on its way to uric acid.

DR. GARTNER: I don't remember. Maybe I never knew [laughs].

**DR. GLUCK:** It's the real key to that whole thing; the key compound that causes the damage.

DR. GARTNER: Do you think that oxygen free radical injury is the core of the damage that occurs to the brain?

**DR. GLUCK:** You bet it is, you bet it is. And it's spun off in this way; the progressive hypoxia that leads to the breakdown of ATP. Each time it breaks down it gets a little more difficult to recover, and eventually it breaks down to where you have no oxygen at all. Instead of getting 38 molecules of ATP, you only get three, and that's in a system that's vital to our life. It isn't just some other system, you know, sort of keeping your shoes from being too tight. I mean, this is the core.

DR. GARTNER: Do antioxidants play an important role in this?

**DR. GLUCK:** Some of them.

DR. GARTNER: Which ones do you think...

**DR. GLUCK:** First of all, the body protects itself pretty well. The most important is the fact that oxygen is an unstable compound, and gives off the free oxygen radicals that are pretty much picked up by a number of systems, superoxide dismutase system and so on. Under normal circumstances it usually copes with it pretty well. Certainly it allows the transition for a normal baby. It goes from a  $pO_2$  of 18 to room air, 154 or whatever it is, and there's enough in there from that. But not much more, there's not a lot of reserve; that's a carefully built-in program by nature. By the time the overwhelming superoxide dismutases you have all these catalases, these catalases and peroxidases that will pick it up, and barring that, and you can't control it anymore, it goes to hydroxyl radicals. That's what kills; that's what really kills.

We knew about hydroxyl radicals a long time ago, but never paid attention to them. Radiation damage and iron poisoning were the two classics. And we learned since then that every place you look there's hydroxyl damage. But picture the business of a baby who has a  $pO_2$  now close to zero, who's being born, and you give it 300  $pO_2$ . What's it gonna defend itself with? I mean, what? So you convert all the HX into uric acid; you damage the hell out of the brain, and it always stays there. An obstetrician will tell you, "No matter how soon I get in there when I get these funny, prolonged waves and get the baby out, there's always damage." I said, "There's always gonna be damage; there will always be cerebral palsy because you use 100% oxygen." It's as simple as that, there isn't any mystery beyond that. It's an inevitable thing; you cannot avoid damaging a baby's brain and having cerebral palsy. You can't. The amount of cerebral palsy is gonna vary all over the place. You have predilected areas, and the watershed areas of the brain; you have other places. So you can't tell the amount. But you can have a guy from all the way from taking a pencil and pecking on a computer and going through law school to a guy who's just clumsy and oafish and stumbles over chairs that are sitting. There's a full range of cerebral palsy. But it will always be there, you simply cannot avoid it by the way we practice. And those are some of the things that we were going to tackle, until Gloria's stroke occurred and took me out of circulation.

**Hypoxanthine.** That's the compound, hypoxanthine. That was our key.

DR. GARTNER: It's a central compound.

**DR. GLUCK:** Oh yeah, but to so many other diseases, to [Lesch-Nyhan disease, to all these others. It turned out to be a gold mine, but unfortunately I dropped out too soon to be able to mine anything out of it. I'm mentioned in some references and that's about as far as it goes. It's a

shame because we had a handle on it and it's never changed. It's never gotten better or more information about it, just more things that add to what we said was happening. The basic thing was there.

DR. GARTNER: After Gloria had her stroke, did you close your lab?

DR. GLUCK: No.

DR. GARTNER: You still had your lab going.

DR. GLUCK: For a while. But the output was so anemic and so punky it might as well have been closed. We finished a few papers. We finished the one on infection as the triggering mechanism for labor, and things of this kind. How in premature labor how much more quickly it occurs and how much more vulnerable the premature placenta is up until about 32 to 34 weeks. It was a very clear-cut thing.

We did one more thing that I never got involved in it; it happened about the same time. We got a hold of an ultrasound machine for Raul [Bejar], and he started looking at baby's heads. And no matter how you cut it, no matter who tries to steal that one, Raul was the guy who did all that work. He was so far ahead and then he got cremated at one of those December conferences by [Jonathan S.] Wigglesworth, who started talking about, "Well, in England we see different kinds of species of birds and we don't recognize that some of these birds are dark blue in the winter and they come out and become quite light. So it's easy for people to start looking at heads and come up with all kinds of different colored birds." And he demolished poor Raul. Raul doesn't know how to fight back, so he just sank into a chair. Just awful, just awful.

DR. GARTNER: Raul?

DR. GLUCK: Bejar.

DR. GARTNER: He's the first one to look at the heads with ultrasound?

DR. GLUCK: He came to me and he said, "I've never been able to document what people do with ultrasound and heads. I've seen some publications of stuff in there, but it's not been identified, not worked out. You know I'd like to do work on that." And Raul was one of the smartest guys I ever saw. So we borrowed one of George Leopold's old beat-up machines, and he started looking at heads. He began spotting hemorrhages; he began spotting all kinds of things. He began looking in the books; he got more and more excited.

**Pretty soon he developed a whole atlas of what was happening, how you could identify the bleed in the head. And who did he piss off, that lady that was doing CT scans for bleeds in the head. Do you remember, from Arizona? Italian lady. [Editorial Note: Probably LuAnn Papile] Her absolute enmity, because he'd just taken away her whole field of work. He could in two minutes find out what had taken her days; it was awful from her point of view. She hated me, hated him. But I was part of that original investigative team, although Raul took the lead. But again with Gloria's thing that was kind of the end of that. There just wasn't time; I couldn't do everything.**

**DR. GARTNER:** Just to look a little more broadly at neonatology and its development, what do you think were the major changes, the really big developments in establishing neonatology to where it is now?

**DR. GLUCK:** I'm going to tell you something that will probably surprise the pants off you, I think the biggest thing that ever happened. After we started publishing some of our original work and some voicing around and talking at places, Jerry [Jerold F.] Lucey got into the field. He took a piece of adult ICU [intensive care unit], in about 1963 or 1962 or thereabouts, and he actually had a little NICU going, and was reporting good results. A few other people got in on it a little later, and a little later and a little later.

**But there's one piece in this puzzle that was missing; that was insurance pay. So we had an absolutely delightful lady who was the social worker, probably the mother of the field, Ruth Breslin, who went to Hartford and started campaigning for paying. Up to that point they only paid beyond the first 15 days. If the baby survived then they would get paid; if he didn't survive, tough, "That's the way it is; these babies aren't worth paying for." It took her years, I mean years. Finally in 1971, the assembly bill was passed in Hartford and picked up by a lot of states throughout the country. Joe [L. Joseph] Butterfield did his thing of bringing together the American Academy of Pediatrics and the American College of OB [Obstetricians and Gynecologists], and they put their kiss of approval on it, and once the insurance started paying for it, every hospital wanted one of these. That was the big advance, no matter what anybody says.**

**DR. GARTNER:** [laughs] It's always dollars.

**DR. GLUCK:** Why would a guy take some unknown field and all these folks are fooling around, if they're not gonna get paid for it? Why take a chance on all these babies being transferred and losing their asses? Why would they want one? Once insurance paid, boy, did every hospital begin opening up and looking at them. So really it was 11 years before the thing really sort of took off. There were places, academic institutions, that took

chances. I spoke of the University of Florida for example; they started a unit. There were a number of others, like Cincinnati; but it was like wildfire once they started to pay.

That's when Ross [Laboratories] got into the game with their ICU plans and stuff. I wish they'd stayed the hell out of it, because they introduced that big table that sat in the middle and took up all this space and got rid of the flexibility of the place. We made an attempt to figure that if we left all the space uncluttered, and left the facilities all over, that we could take care of a baby anyplace. We developed nurseries in the regional sense that all the supplies for that part of the nursery were right there; you didn't have to go running to anyplace else. And it worked fine until you got too many babies, then it got so cluttered that you couldn't see anything. And, finally, even I had to back off that concept. Although variations of it still can be found at LA County [Los Angeles County/University of Southern California Medical Center], and at a number of places where they followed that kind of thing. But I wasn't right in everything; nobody could be.

One of the things we developed was the radiant warmer. Now, surprisingly, even though Ohio [Medical Products] made all the money and built the units, the first unit was built for me by Air-Shields. They built it and they looked at this thing, and they looked at how we were using it, and said, "This will never take off." So I said, "What can I do?" He says, "It's yours. We made you an experimental thing, have fun." So we took it to Ohio and talked to them, and I went and visited them in Madison [Wisconsin], where they were. They had old abandoned anesthesiology equipment and that's what finally became that radiant warmer.

DR. GARTNER: This is the open warmer, or the closed?

DR. GLUCK: Open, open. The closed one came much later. We spent three years developing that thing getting it down to temps. And it was really for growth. It was a silent, waterbed-type thing, where it's very hard to cool off the baby. You could open it and the baby was still getting warm, and do things to it. That was a big success financially for them, although I got nothing out of any of these. That big fancy transport with the stuff on that; we helped develop that. That came out of our place, too. So we've been involved in a lot of things.

We found the fatal flaw in Ohio's original incubators. They would have taken over the world instead of Air-Shields, but they had a flaw in their heating. It came up to a point and clicked off. They had put in a faulty kind of thermostat in there. We detected that for them, and our original units all had Air-Shields in there, not Ohio, even though we'd been working with Ohio. They took it in good grace. They felt we had saved them a fortune,

because they would have gotten all those things out and then have to take them all back.

END OF SIDE ONE

**DR. GLUCK:** He [William A. Silverman, MD] is an easy guy to talk about, and you have to use two words to describe him: intellectual truth. That was it. Even if he was dead wrong, he had the ability to back off and show where he'd made a mistake. He analyzed himself like anybody else; he tried to learn as much about scientific methodology as possible and apply it in a clinical setting. He was so ruthless in seeking truth that he would demolish anybody. He took one of Stan James' experiments apart at a grand rounds, and you don't do that to a guy like Stan James. But never have I seen anybody so completely honest.

DR. GARTNER: Still to this day.

**DR. GLUCK:** Absolutely, crusty bastard.

DR. GARTNER: Who invented the labels, neonatology, neonatal intensive care, perinatal.

**DR. GLUCK:** I always had the idea that it was a guy from Hershey. Big heavy guy that worked with Clem Smith, he became chairman at Hershey.

DR. GARTNER: [Nicholas M.] Nelson.

**DR. GLUCK:** Nick Nelson. Nick Nelson as you know was a word magician. He really wrote beautiful sentences and so on down the line. I remember at one meeting that was called, he says, "Intensive care means to care intensively." That's where I think that came from; that was the key thing. Everybody started using intensive care. As far as neonatology, I have no idea where that came from. That kind of fell in on the scene, and I've just never been able to put that one together.

DR. GARTNER: How about perinatology? Who drew up that label?

**DR. GLUCK:** I suspect our gang at Yale did that. Just took liberty from different definitions and put this together. But I think you can't underestimate guys like Quilligan and [Kurt] Benirschke and Ed Hon, in their role in shaping the field. They added innumerable things to it. They were critical; they came and they stood by. They began to learn how fetuses get into trouble, just something spectacular. I don't know if you're aware, but in the early days you used to draw the Liley curve [Lileygram]. Many of us at Yale actually used to do the punctures, get the thing out. We used to

draw our grids and stuff like that. I used to do it with a guy named Clarence [D.] Davis. The fields were much closer together. At one point I feel confident in the fact that I could have transformed neonatology into perinatology. Then for reasons unknown to me, except I've blown my brains out 20 times since then, I did not do that. What a great coup it would have been for all of us.

DR. GARTNER: How would you have done that?

DR. GLUCK: Become part of Quilligan's department, along with the guys who do endocrinology, guys who do cancer, guys who do this same kind of thing. He's an extremely benign, wonderful guy to work with, and we could've worked out any kind of system; there was never any problem about that. Hon was a little testy, but, Jesus Christ, I learned so much from this guy, standing in there with a room full of these machines that couldn't do as much, as I said, as a little hand computer could today. And then there was the famous concept that no two heartbeats are exactly the same. You know he had a total, through the years, of about 90 Chinese guys that he had imported over here from Australia and other places. Hon used to talk about how his Chinese coolies counted a million beats. Hon is Chinese; that was a fascinating business. The one criticism I've ever had about Hon is he couldn't take criticism well. If you weren't giving him positive feedback you were an enemy. People had to realize that very early in dealing with him, or else you didn't get along. He lost his appointment at USC [University of Southern California]; so many things happened that were so horrible to this distinguished guy.

DR. GARTNER: I didn't know that. What were your feelings about the development of a subspecialty of neonatology? Do you think that was a good thing, a bad thing?

DR. GLUCK: The best thing that could have happened. It's really been set off all by itself and out of pediatrics. It is as affiliated as surgery is to medicine, because they do depend on each other, that kind of thing. The field would have advanced more, I think, if we could have started looking at sub-specializing surgeons, the real pediatric neonatology fetal surgeons. There are so many things I think that could have been done. But the American Academy of Pediatrics can be a strange animal. They can put their backs up and with the collective personalities of some of those guys, nothing much gets done.

If you look at the whole field of managed care, which I hope I get a chance to comment on, they could have done something. Instead they chose to build their building and ignore the field. Even my very good friend and co-resident, Birt Harvey, I had to really, really insult the hell out of. As soon as he sees me he says, "Go to hell, Gluck," the second he sees me.



DR. GARTNER: Is that why you left the Academy of Pediatrics?

**DR. GLUCK:** Because I so totally disagreed with them. They weren't looking at what was so obvious in a field and happening all around, and just sickeningly sticking to one kind of thing. And they started putting in, I thought, very bad people that were running the Academy. Very limited kinds of people, and then they depended on other limited kinds of people. It just got to be something that I felt that in intellectual honesty, I had to stay away from. I never was a political guy in pediatrics; I stayed away from it. I suspect that's probably what cost me the [Virginia] Apgar [Award], I don't know. American pediatrics never looked at me particularly. I've had honors all over the world, but not in the United States. I'm a fellow of the American College of OB-GYN, have all kinds of things showered on me, but not from American pediatrics. So it's a two-way thing. I don't like them; they don't like me.

DR. GARTNER: How could the Academy have contributed to neonatology?

**DR. GLUCK:** I think they should have recognized that all the fields are disappearing, especially as managed care came in. A child endocrinologist was soon also looking at adults and vice versa. All aspects of this field were diminishing; moneys were getting less. Primary care had become the important thing, general practitioners; I knew what they were and didn't think much of them, and so on down the line. And they never did anything. They never said, "You know, we're in dire danger. Let's look at our field; let's recognize right now that we have one pure field that's neonatology. It's the biggest, can become bigger and bigger. Let's start out with that as kind of our leader, and then let's piggyback on it."

Even if you have to split just pediatrics off into something else that's affiliated with them, we've got to do something. We've got to confront these payers; you gotta show them that there's a limit. Children aren't little adults and neonates aren't little children. And they never did anything. They built their building; that was the whole thing. Birt Harvey's my last -- I'm lashing out at Birt Harvey.

DR. GARTNER: How do you feel about the neonatology boards, about having subspecialty boards?

**DR. GLUCK:** Well, they're OK. You have to have some kind of a test; it's just that they started out on the wrong foot. A number of us were involved in preparing the original exam, and then Bill [William H.] Tooley took it. He said he wanted to make it into a real test. After all, his mother was an educator. He turned it into one of these tests where, all it tests is, "Do you know how to take a test?" It wasn't fair; it didn't cover anything. I

decided to take it and I barely passed it; that's how hard it was, and so on down the line. I thought it was on the wrong foot, and then it fumbled for years; it didn't get any better.

Finally, I think there's a real test there, something that's substantial. I think it's fair and honest. But I also think that the boards did a great disservice when they decided to add a third year, at a time when they couldn't stand a third year. It's a third year of research. Foundations are drying up; the NIH [US National Institutes of Health] is drying up. What are you doing; why are you doing this? So what they do is they start limiting the numbers. The only people they got back were this huge number of people already in the system, who were grandfathered in and who came from India, Mexico, Taiwan, and wherever they came from, and left our American graduates at a real disadvantage, I thought. I talked to Tom [Thomas K.] Oliver and he told me essentially to go have intercourse with myself. So, he was not exactly an open-minded guy either.

DR. GARTNER: [Laughs] What about the fellows you trained; how have they contributed?

DR. GLUCK: I think they've done very well. We've trained them both to be able to handle lab work, even though they may not become the world's greatest researchers, but also to be spectacular clinicians as we saw them. And out of this has come an awful lot of important leaders. We have [Alan H.] Jobe and Mikko Hallman are pretty undeniable. I'm not a big friend of [T. Allen] Merritt; I never include him as one of the people even though he runs a major unit. Joan [C.] Richardson at [University of Texas] Galveston, Jeffrey [J.] Pomerance until he got fired, poor guy. There are a lot of them. And then there are a whole host of guys who went into practice groups that do beautiful jobs, beautiful jobs. And a lot of guys that gave academics a try and didn't like it. So I know one thing, we sent out well trained people, and I think they've contributed. They, in turn, have bettered the fate of medicine wherever they've been.

DR. GARTNER: So you're not upset by having trained people in research and then having them become full-time clinicians.

DR. GLUCK: No, not at all, not at all. I think today the marketplace demands that if they can sneak in some research they're lucky, by the way things are going. We tried to offset this several years ago. We put together a practice scheme for universities by getting out into the community and showing how they could use clinical moneys to support research and the like. The university thought that was just trash, just crap. So we went out and did it anyway, and we built a big practice group that was bringing in 15 to 18 million dollars a year in practice funds, a minimum of a million dollar budget a year, things of this kind. And still the university let itself become

**bankrupt and still wouldn't look at this kind of thing. Amazing. Amazing to me, but that's the same attitude I think that came out of the American Academy. "Happen to us? It'll never happen to us. Managed care? What do we have to do in managed care?" Bullshit! Ask not for whom the bell tolls, buddy; it's tolling in your ear.**

DR. GARTNER: [Laughs] What do you think will happen with the insurance and managed care situation over the next five years or so, and what effect is that gonna have on academic medicine?

**DR. GLUCK: There are two ways of answering that. First and foremost would be to say that it's going to kill itself off at the rate it's going. All these acquisition groups and making bigger and bigger groups, and fewer and fewer of them. I was going to make an appeal this February, until I found out that I had a little something growing in my belly, to try and organize all the academic units. I'd still like to do it; I think as I get better I get more zeal for this thing. They should be organized into essentially a practice research dichotomous group who don't pay these heavy, devastating amounts of money to departments but use it for research and to maintain academics. They would then announce to the public because they've got enough people for coverage and are affiliated with enough groups saying, "We're at the university of such and such; we're the best guys in this whole part of the country. We're gonna give you our brand of medicine. It's better than anybody's for exactly the same you're paying for those other guys." And that's how you absolutely kill them off. It's not hard to organize, we had so much experience in organizing and so on down the line. Eventually Pediatrix [Medical Group] bought out a lot of our group. They didn't buy me out; I don't want any part of them.**

DR. GARTNER: Pediatrix with an x?

**DR. GLUCK: They saw us as the only big force in the country that could in any way damage them, and they went all out to buy us out. We got people who were living on the edge. They remembered the days we were making massive amounts of money. They were still spending that kind of money, and Pediatrix promised it to them, so they went. And then I got sick, and that was kind of the end of that.**

DR. GARTNER: It's too bad.

**DR. GLUCK: But I'd still like to put an offering on the table someplace of at least discussing, being part of a board, something that can show the way. We had so much practice experience with so many different groups on how to capture hospitals, how to capture populations, how to capture doctor groups. We are very experienced in this. We could show how this could be done beautifully through academics, save academics and put a**

**dangerous rent into managed care, of the kind that should be there. Big heel-kick right through it.**

**DR. GARTNER:** It's a good idea.

**DR. GLUCK:** Well, I'd be willing to be picked on that. I felt so bad. I was going to come up to Monterey, but I'm not in any shape at the moment.

**DR. GARTNER:** Well, maybe you'll get there in the near future.

Tell me what you did at the San Diego Zoo. What was your involvement there?

**DR. GLUCK:** That was wonderful. Kurt [Benirschke] and I got involved at the same time, and I remember the great introduction I had down there; I was just captivated by the thing. And one day we got a call from the zoo vet [veterinarian]. He said, "We got a couple pygmy chimps that are sick as hell here and I don't know what to do for them. I don't practice exotic medicine; I'm a plain old veterinarian. Could you come down and take a look at them?" So I came down, and both of them had pneumonia. We set up oxygen tents for them, took care of them, and I stationed nurses and interns and others around the clock down there.

We found such ugly things as, in came a red kangaroo with a chest full of puss. My intern at the time, who's a chair at New York Medical College in Westchester, was Lenny [Leonard J.] Newman. He was a gastroenterologist. Did a pleural tap, drew out all the thing, and the red kangaroo was ready to kick him to death. He showed no gratitude. An ostrich came in almost dead from diarrhea. I mean, that's how it started.

I got so entranced by the whole difference in there, and how much a neonatologist could contribute to these non-speaking people. So I formed a strong alliance with them. I was down there all the time. We helped design that new hospital, the new ICU; all that stuff we helped design down there; all kinds of new ways of taking care of people.

But we did one thing that was more important than everything. We talked Murray [Fowler], he was the dean at [University of California] Davis School of Veterinary, into coming down and spending a year there. And he got so entranced that that became now a part of every curriculum of every vet school. They all have to do an internship in a zoo.

Maybe that's how I influenced the field better than anything. It was a great thing. I talked to Chuck, the veterinarian. He called Murray and he said, "You know, my partner here is giving me a good idea. What do you think about this?" He said, "Hey, sounds like a good idea. I've got a sabbatical coming up." So he came down to the zoo. There were these little lemurs,

with the big eyes. In fact they have these adapted teeth for combing other lemurs; they comb each other. The first time he saw them he thought he would die, he was so startled by this.

Our greatest coup after a disaster was we had tiger cubs that were born, and the mother rejected them. You never hear that; tigers are bound into motherhood like you wouldn't believe. I took a look and this animal wasn't doing well at all. The whole bowel was obstructed. So we got one of the pediatric surgeons, who operated on the animal, cleaned out the bowels almost like cystic fibrosis and the animal died. We come to find out that all tiger cubs are born that way, and the mother takes this big fat paw and squeezes all the feces out of that and that's how they function. So I'm just thinking of the stray things, yeah.

One day I resuscitated a pigmy hippo. You know they're born under water and then they float up to the top. The mother stepped on it and asphyxiated it. It came up with the hemorrhages in the eyeballs and everything. I had this giant garden hose and I was busy resuscitating it. It didn't live; it resuscitated but didn't live. But just so many things of that kind. We took all the nurses that took care of newborns, and they went to our unit. We even had a white-handed gibbon as a patient there, who had RDS [respiratory distress syndrome]. It looked like an ugly preemie, you know. So I had 15 years of wonderful interaction before we came up here. I had many really nice citations from them, was on many of the committees, etc. I think if I stayed there long enough I would have become one of the trustees. But that was a marvelous experience.

DR. GARTNER: It is a great place. Did you do any research at the zoo, or get any research going?

DR. GLUCK: A little bit, mostly we supported others in that, make sure that they were done. I felt I was pushing things. Although we did do lots and lots of amniotic fluid taps on them. I can give you the profile of any gorilla or chimp or anything like that, how they look. We did a lot of service like for the LA [Los Angeles] Zoo. They had, I've forgotten what her name was, it was a vicious gorilla. She ate her first offspring and pounded the second one to death. So she became pregnant again. Here's this fertile gorilla, they put her to sleep, got amniotic fluid, and when the fluid became mature we delivered Cesar and then Brutus. So the two big gorillas at the LA Zoo we had a hand in.

Perinatology is an absolutely fabulous thing. Managed care is gonna realize that in order for them to survive in the field of obstetrics with these high-priced neonates, they're gonna have to have some kind of preventive arm in their system. That's where perinatology will flourish. That would be the time to bring neonatology under perinatology again. It would be such an

ideal time for that to happen. Neonatology is still riding the crest of the fact that it's a mysterious science. People don't know what to charge; they don't know what the diseases are. They come and they say, "It's time for this baby to go home." The neonatologist says, "You're telling me! I'm the neonatologist. We'll sue the pants off you." So they leave them alone, this very costly part of medicine. Not that it's not deserved, but that's the way it is.

They're going to catch on that there's something more to this. Already they're beginning to form teams that go out and evaluate. They're picking some good people to do the evaluation, paying them well, and they're going out and they're starting to get some muscle. Once that happens neonatology will be a deflated science, because they'll barely make their own. That's the worst possible scenario. I think if we all band together as in one giant academic practice in the United States, really build it up and affiliate appropriately, we could ward off all that crap. And you'd see medicine would come in, surgery would come in, and pretty soon there wouldn't be any managed care except that they would be subservient. All they would become would be a pass-through organization; they pay the bills, that's all. That's all I want from them. I don't want their thoughts; I don't want them. As I see it, that's the only way to achieve it. It takes fabulous strength, fabulous power, but it can be done.

DR. GARTNER: There hasn't been any real change in the prematurity rates, low birthweight rates in the United States probably in 60, 70 years. Why do you think that is, and do you think we're going to be able to prevent prematurity, or are we not gonna be able to crack that nut?

DR. GLUCK: No, you'd have to become a socialist I think, and a full blown one, in order to be able to do that. You have to be willing to share the wealth. You have to be willing to go in and clean out these despicable slums, give the people some kind of high class training, put them in high class housing, teach them hygiene, teach them eating properly, and so on down the line. Then I think you can make a dent. But in my mind it's a political thing. I don't think there are enough people in here that want to become committed socialists for that to happen. I don't want to share my wealth; I'll be very honest. But it would have to be something major. And right now we have an economy that's so prosperous, that's making so much money in the stock market and the like, and everybody is investing in it. The rich are getting 20 times richer than the poor; it used to be only a fifth as poor, now 20 times as poor. I don't see that happening. You'd have to have a breakdown of the system. The Republicans would have to be replaced; there'd have to become many, many bleeding hearts. Bring back the McGoverns, this kind of thing. You're not gonna see it.

DR. GARTNER: Do you think prematurity is all a social phenomenon, not biochemical or genetic?

**DR. GLUCK:** It is a social phenomenon onto which all these other things are hooked. The reasons they get their infections, their malnutrition, all these other things, has to do with the political problems they've created.

My big story is still that a whole gigantic variety of low-grade infections causes prematurity. I'm still dedicated to that. But look at the people who don't eat, they have filthy habits, the husband is in there screwing his wife five minutes after she delivers. I mean, the most unthinkable practices are occurring. That used to be the big thing in Kentucky, they'd ask the nurses, "How soon after babies are delivered do they have intercourse?" And she'd look at you and say, "Is that a ward patient or private one?" That was the big thing. And that still goes on, it goes on all over.

I'm not trying to skew the value or the importance of the infection. That's how it actually happens; that's the final mechanism. But why it doesn't change, why there are always all these infections and all these things, that's a political issue I think. Of course, the population has allowed itself to degenerate. There's more goddam dope around. Who remembers to wash his hands when they get horny if they've been on cocaine, you know?

DR. GARTNER: Back in 1985 we celebrated the 25<sup>th</sup> anniversary of neonatology, as you recall. What more can we do to retain the history of neonatology?

**DR. GLUCK:** I think a good documentary would be in order about the changes, the different people. In the media, you could find enough movie stuff to pull together a good documentary I would think. Then go back over the history. That would be two hours of the most delightful entertainment, I would think.

DR. GARTNER: What would you include in that documentary?

**DR. GLUCK:** I think most of the ones I've covered pretty well. Millie [Mildred T.] Stahlman and Bob [Robert B.] Cotton in 1950, 1955, she once put a baby on a ventilator; that was the start of intensive care. It may have been putting a baby on a ventilator, but that was not the start of intensive care, that was something different. So there's always been a discordant note out of Nashville. But, I certainly would try and get as much as I could. That would really be for the archives; a really good, new process film that doesn't fade. That would be such a nice thing. Real professional job, maybe your son can do it. Little bit of nepotism never hurt anybody.

DR. GARTNER: Tell me a little bit about your children.

**DR. GLUCK:** Stephen [L. Gluck], the oldest, is a Yale and UCLA graduate, and is currently a professor of medicine at Washington University in St. Louis. And a very distinguished guy in the kidney. He traced the hydrogen ion around the body; it is found in all different kinds of organs. To find one of his publications you have to go to the Academy of Arts and Sciences, stuff, the *Journal of Bio-Chem* [*Journal of Biological Chemistry*] is probably the lowest one. He's really a high powered character.

David [L. Gluck], the second guy, got a PhD. in marine biology, but because the pay was so lousy, became a businessman. And that's what he does. He sets up businesses; he organizes them. He's doing a whole thing on a new way to look at daycare.

**DR. GARTNER:** What is he doing about that?

**DR. GLUCK:** They have a whole thing, a combination of parent involvement, a teaching demonstration, beautiful houses that these are housed in. He's hired some of the country's most impeccable people in this field, very interesting. In fact it would probably be worth somebody talking to him, because he may have something that could be incorporated into the general field, something very nice. He's in Santa Barbara, David.

And then Clifford [D. Gluck] is a Stanford and UCLA graduate. He's a urologist in Boston, that cold shitty place. [Laughs] He comes down here periodically to warm up.

**DR. GARTNER:** That's a good thing to do.

**DR. GLUCK:** For a guy who grew up in California to be faced with the exigencies of Boston, I don't understand that. And Ferris [E. Gluck], who has several degrees from the University of California, also has one from the New England Conservatory, so she's also classically trained. She writes all kinds of music, and composes all over the place; and she plays because she has to keep bread on her table.

**DR. GARTNER:** Tell me about Gloria.

**DR. GLUCK:** Well, she had a stroke in '81, and did very well for about five, six years. Then she had a second stroke that really incapacitated her. Up until that time it was easy to travel; we did a lot of things together. But she's a tough old bird. She relearned the use of her limbs through fractured hip, fractured ankle. She does very well. Nice, nice lady.

**DR. GARTNER:** Wonderful person. I remember Gloria very well. She's here?



**DR. GLUCK:** Yes, she's off to the Adult Day Health Care Center. She gets physiotherapy and speech therapy; spends most of the day there. Nice social milieu for her.

DR. GARTNER: Anything else you want people to know?

**DR. GLUCK:** Do I have the right to call you?

DR. GARTNER: Sure. Absolutely.

**DR. GLUCK:** I think I covered most of what I want.

DR. GARTNER: You answered all of my questions, and I guess maybe the only thing we really didn't talk about in any detail in the neonatal/perinatal area, is the issue of regionalization. You touched on it, but you didn't really address that.

**DR. GLUCK:** It was a wonderful concept as long as the medical schools and the teaching hospitals were the only places we could get definitive care. When people were well trained and went out into communities and were denied access to this, that was the time regionalization should have quit. Now there's a time for regionalization again. That has to do with the fact that there's been all this self-selection, adverse selection of physicians, to where in a given area you might find garbage as the only kinds of people taking care of you. I mean real garbage. So it's time once again to reassess this and look for real centers where they can take care of the real problems. So I've had to go back to my original position, but for a different reason.

If you look to see how managed care does things, you begin to realize why regionalization would be a very good thing right now. Some poor son of a bitch out in rural areas has no chance to have some quality care. Finally they started pulling up things. They had this kid with cystic fibrosis that was denied access to children's hospital here, to children's hospital there; the child finally died. And they could have prolonged the life so much more. Managed care said, "No, we don't send you to specialists. We take care of cystic fibrosis." That's a classic example of what I'm talking about.

DR. GARTNER: Big problems. It's true. Well, I don't want to tire you out too much.

**DR. GLUCK:** It's been a pleasure to see you Larry.

DR. GARTNER: It's been wonderful and I really thank you so much for this. It's incredible how much you covered, I guess it's really only about an hour and a half.

**DR. GLUCK: Is that right? I didn't think I had the energy to talk that fast.**

DR. GARTNER: You really covered an enormous amount, but if there's anything else you want to put on the tape, we'd love to have it. You will get to edit it, but as I say we hope that the editing will be just to sort of clean up spelling and not take the essence out of it. We don't want to lose the spirit. So it's all there; it's pure Lou Gluck at your best. [laughs] All the fun we used to have and still have. That's great.

**DR. GLUCK: I'm so glad to see you Larry, you always were one of my absolute favorite people, I thought you had a very honest approach to everything, you did good work. A good thinker and a very nice guy personally.**

DR. GARTNER: I think I have to stop the tape before you go on any further. [Laughs]

END OF TAPE

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## CURRICULUM VITAE

### LOUIS GLUCK, M.D.

HOME ADDRESS: 5578 B Luz Del Sol  
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BUSINESS ADDRESS: UCI Medical Center  
Department of Pediatrics, Bldg. 29A, Rt. 81  
101 The City Drive South  
Orange, California 92668

TELEPHONE: (714) 456-6932

DATE OF BIRTH: June 18, 1924 - Newark, New Jersey

MARITAL STATUS: 1947 Married Gloria Gitomer  
Children: Stephen L. Gluck, M.D.  
David L. Gluck, Ph.D.  
Clifford D. Gluck, M.D.  
Ferris E. Gluck, M.P.H.

MILITARY: 1943-46 Army of the United States

EDUCATION: 1942-43 Rutgers University, New Brunswick  
1946-48 B.Sc. Major in Zoology  
1948-52 M.D. University of Chicago (Graduate Student  
12 months, in Pharmacology-Biochemistry)

MEDICAL PRACTICE EXPERIENCE: 1953-54 Group General Practice -  
Harlan County, Kentucky  
Black Mountain Clinic  
1954-56 Solo Family Practice -  
Lakewood, New Jersey

TRAINING: 1952-53 University of Chicago Clinics-Rotating Intern  
1956-59 Babies Hospital, Columbia-Presbyterian  
Medical Center, New York  
Pediatric Resident & Fetal Life Fellow

#### ACADEMIC POSITIONS & HOSPITAL APPOINTMENTS

1948 Teaching Assistant in Genetics, Rutgers University, New Brunswick, New Jersey

1959-60 Instructor in Pediatrics, Stanford University School of Medicine, Palo Alto, California

1959-60 Director of Newborn Services, Stanford - Palo Alto Hospital, Palo Alto, California

1960-64 Assistant Professor of Pediatrics, Yale University School of Medicine, New Haven, Connecticut

1964-68 Associate Professor of Pediatrics (tenured), Yale University School of Medicine, New Haven, Connecticut

1960-68 Director of Newborn Service, Yale-New Haven Hospital, New Haven, Connecticut

ACADEMIC POSITIONS & HOSPITAL APPOINTMENTS: (continued)

- 1967-68 Acting Program Director of Perinatal Clinical Research Center, Yale University School of Medicine, New Haven, Connecticut
- 1968-69 Professor of Pediatrics, University of Miami School of Medicine, Miami, Florida
- 1969-72 Professor of Pediatrics, University of California, San Diego, School of Medicine, La Jolla, California
- 1972-84 Professor of Pediatrics & Reproductive Medicine, University of California, San Diego, School of Medicine, La Jolla, California
- 1969-84 Head, Division of Neonatal/Perinatal Medicine, University of California, San Diego, Medical Center, San Diego, California
- 1984- Professor of Pediatrics & Obstetrics, University of California, Irvine, College of Medicine, Irvine, California
- 1984- Head, Division of Neonatal/Perinatal Medicine, University of California, Irvine, Medical Center, Orange, California

CERTIFICATION

Medical Licensure - California, Connecticut, Florida, Illinois, Kentucky, Nevada, New Jersey

Diplomate - American Board of Pediatrics (#8878, 4-63)

Diplomate - American Board of Pediatrics, Sub-Board of Neonatal/Perinatal Medicine (#121, 11-75)

HONORS AND AWARDS

- 1973 Phi Beta Kappa, Alpha Omega Alpha, Sigma Xi
- 1973 Headliner in Medicine, San Diego Press Club
- 1973 Honorary Fellow, Chicago Gynecologic Society
- 1974 Honorary Life Member, San Diego Zoological Society
- 1974 Golden Rule Award, California Association for Retarded
- 1974 Honorary Fellow, Peruvian Pediatric Society
- 1976 Honorary Fellow, Dallas Southern Clinical Society
- 1976 "Gentlemen of Distinction", Kappa Kappa Gamma Sorority and Cystic Fibrosis Foundation
- 1977 Professor Arvo Yippo Award, given every 5 years by Finland, presented at the World Pediatric Congress, New Delhi, India
- 1977 Honorary Fellow, Columbian Pediatric Society
- 1978 Medical Alumni Distinguished Service Award, University of Chicago
- 1978 Joseph Bolivar DeLee Humanitarian Award, Chicago Lying-In Hospital
- 1978 Honorary Fellow, San Diego Gynecological Society
- 1979 Award from Medicina Perinatal Academica, Mexico City, Mexico
- 1979 Award medal and honor by Universidad de Navarra, Pamplona, Spain
- 1979 Corresponding Foreign Member of Peruvian Association of Perinatology
- 1981 California Perinatal Association Award
- 1983 Honorary Fellow, American College of Obstetrics & Gynecology
- 1983 Award from American Academy of Cerebral Palsy and Developmental Medicine
- 1984 Award from Year Book Medical Publishers for outstanding service
- 1984 Research Achievement Award from United Cerebral Palsy Association

### ORGANIZATIONAL RESPONSIBILITIES

Consultant, Connecticut Perinatal Mortality Committee  
Consultant, Division of Health & Medical Facilities, USPHS (1967-69)  
Consultant, Health Services & Mental Health Administration, National Center for Health Services Research & Development (1969-70)  
Director, Neonatal/Perinatal Medicine program approved by American Board of Pediatrics for Fellowship Training  
Subcommittee Member of Prevention of Fetal and Perinatal Disease of the Fogarty International Center (1972)  
Member, ACOG Perinatal Review Committee  
Member, Advisory Board of Southern California Chapter National Foundation for Sudden Infant Death (1971- )  
Member, Medical Advisory Board on Educational Film Production  
Special Committee on Conservation through Reproduction of San Diego Zoological Society (1970-76)  
Member, Animal Collection and Conservation Committee of the San Diego Zoological Society (1976-80)  
Chairman, Special Section in Neonatology for combined SPR & APS Annual Meeting (1968-71, 1980)  
Chairman, Section in Neonatology for WSPR Annual Meeting (1977)  
Member, Steering Committee for Comprehensive Health and Planning of San Diego, Imperial and Riverside Counties  
Appointment by San Diego County Board of Supervisors to Developmental Disabilities Board for Area Thirteen (July 1971 - December 1976)  
Chairman, Developmental Disabilities Board for Area Thirteen (January 1973 - June 1975)  
Principal Investigator, Research Grants funded by NICHD, NHLI, SCOR of the National Institutes of Health, The National Foundation-March of Dimes, and various other sources  
Consultant, Program Project Site Visits, National Institutes of Health (1972-73)  
Chairman, Panel Program for the 26th Postgraduate Association of New York State Anesthesiologists (1972)  
Organized and directed outreach program on Newborn Intensive Care in Las Vegas, Nevada (1974- )  
Chairman, International Symposium on Modern Perinatal Medicine, Town and Country Convention Center, San Diego, California (1974)  
Member, Major Review Committee, San Diego Foundation for Medical Care (1974-76)  
Chairman, International Symposium on Intruterine Asphyxia and the Developing Fetal Brain, Town & Country Convention Center, San Diego, California (1976)  
Member, Task Force on Predictors of Fetal Maturity for Consensus Development Conference on "Antenatal Diagnosis" at National Institutes of Health (1978-79)  
Member, California Medical Association Health Planning Task Force on Pediatric Services (1978-79)  
Member, Board of Directors, Association for Holistic Health (1977-79)  
Member, Council of California Perinatal Association (1977- )  
Co-Chairman, Annual Symposia on Perinatal Medicine, Las Vegas, Nevada (1976)  
Member, International Pediatric Association Advisory Expert Panel (1977- )  
Chairman, Annual Pediatric Conferences, Vail, Colorado, (1979- )  
Chairman, 78th Ross Conference on "Obstetrical Decisions and Neonatal Outcome", Vacation Village, San Diego (1979)  
President, California Perinatal Association (1979-1980)  
Chairman, First Southern California Conference on Perinatal Research, Vacation Village, San Diego (1980)  
Consultant Member, CMA Subcommittee on Alternatives in Birthing (1979- )  
Member, Committee/Working Group of Assoc. for Advancement of Medical Instrumentation (AAMI) (1979-81)  
Chairman, 2nd Western Conference on Perinatal Research, San Diego, (1981)  
Member, National Advisory Committee, Robert Wood Johnson Foundation (1983- )

ORGANIZATIONAL RESPONSIBILITIES: (continued)

Member, Graduate School of Public Health, San Diego State, Advisory Committee to the Maternal & Child Health Division (1983 -)  
Member, Maternal & Perinatal Committee of Orange County Medical Association (1985 -)

OTHER STAFF APPOINTMENTS

Consultant - Lecturer, Department of the Navy, Naval Regional Medical Center, San Diego and Camp Pendleton, California  
Consulting Staff - Pediatrics, Full in Specialty, Grossmont Hospital, La Mesa, California  
Senior Consultant - Children's Hospital and Health Center, San Diego, California  
Provisional Staff, Department of Pediatric, Mercy Hospital and Medical Center, San Diego, California, 1987  
Courtesy Consultant Staff - Pediatric Section, Donald N. Sharp Memorial Community Hospital, San Diego, California  
Consultant - Department of Pediatrics, the Stamford Hospital, Stamford, Connecticut  
Consultant - Field of Neonatology, Department of Health, State of California, Sacramento, California  
Courtesy Staff - Department of Pediatrics, Mercy Hospital and Medical Center, San Diego, California, 1978 -  
Consultant - Sunrise Hospital Medical Center, Las Vegas, Nevada  
Adjunct Faculty Member - San Diego State University, College of Human Services, 1980-

EDITORIAL SERVICE

Editor-in-Chief, Current Problems in Pediatrics, (Year Book Publishers, Chicago)  
Co-editor, Journal of Perinatal Medicine, (Walter de Gruyter, Berlin-New York)  
Guest Editor, Pediatric Clinics of North America, (W. B. Saunders, Philadelphia), May, 1973  
Guest Editor, Clinics in Perinatology, (W. B. Saunders, Philadelphia), September, 1976  
Editor, Modern Perinatal Medicine, (Year Book Medical Publishers, Chicago), 1974  
Editor, Intrauterine Asphyxia and the Developing Fetal Brain, (Year Book Medical Publishers, Chicago), 1977  
Executive Editor of Editorial Advisory Board, Perinatology/Neonatology, (Brentwood Publication, Los Angeles)  
Co-editor, Advances in Perinatal Medicine, (Plenum Publishing, New York)  
Editorial Board, San Diego Physician, (San Diego County Medical Society Publication), 1980-81  
Editorial Board, The Journal of the California Perinatal Association, (California Perinatal Association), 1981  
Editor, Year Book of Perinatal Medicine, (Year Book Medical Publisher, Chicago)  
Editorial Board, Clinica Pediatrica, 1983  
Associate Editor, The Journal of Maternal-Fetal Medicine, 1991-



PROFESSIONAL SOCIETIES

American Academy of Pediatrics  
American Pediatric Society  
Society for Pediatric Research  
California Chapter of American Academy of Pediatrics  
Western Society for Pediatric Research  
Perinatal Research Society  
Los Angeles Pediatric Society  
San Diego Pediatric Society  
Society for the Study of Reproduction  
California Association for Maternal and Child Health  
American Association for Advancement of Science  
American Thoracic Society  
American Institute for Biological Science  
American Institute of Chemists  
California Thoracic Society  
New York Academy of Sciences  
American Oil Chemists Society  
San Diego County Medical Society  
San Diego Foundation for Medical Care  
American Fellowship Society  
California Perinatal Association  
California Medical Association  
Neonatal & Pediatric Respiratory Therapy Forum  
Chicago Gynecologic Society  
Peruvian Pediatric Society  
Columbian Pediatric Society  
San Diego Gynecological Society  
Peruvian Association of Perinatology  
American Holistic Medical Association  
Association for Holistic Health  
Society for Gynecological Investigation  
American College of Obstetrics & Gynecology

HONOR LECTURES AND FILMS

- 1965 Visiting Professor and Lecturer in Human Development Course,  
Chicago Medical School, Illinois
- 1966 Visiting Professor in Developmental Medicine, University of Florida,  
Gainesville, Florida
- 1966 Visiting Professor, University of Oklahoma, Oklahoma City
- 1967 Visiting Professor, University of California, Los Angeles, California
- 1967 Visiting Professor and Lecturer in series of Applied Basic Science,  
University of Maryland, Baltimore, Maryland
- 1968 Visiting Professor in Perinatal Medicine, Boston University, Massachusetts
- 1968 Visiting Professor in Developmental and Perinatal Biology, Washington University,  
St. Louis, Missouri
- 1968 Journal of Pediatrics Educational Foundation Lecture, University of Hawaii, Honolulu, Hawaii
- 1968 Visiting Professor, University of North Carolina
- 1968 Visiting Professor, University of Arkansas, Little Rock, Arkansas
- 1969 Visiting Professor, Albert Einstein College of Medicine, Bronx, New York
- 1969 Arthur Weiland Lecture, Variety Children's Hospital, Miami, Florida
- 1970 Parmlee Memorial Lecture, Los Angeles Pediatric Society, Los Angeles
- 1970 Professors Inaugural Address, University of California, San Diego, La Jolla,
- 1971 Louis and Amelia Bloch Lecture Series, Mt. Zion Hospital and Medical Center, San Francisco
- 1971 Harold C. Mack Symposium on Physiology & Pathology of Reproduction,  
Wayne State University, Detroit, Michigan
- 1972 Visiting Professor, Emory University School of Medicine, Atlanta, Georgia
- 1972 Journal of Pediatrics Lectureship, New York State University Downstate  
Medical Center, New York
- 1972 Swanman Lectures, Emanuel Hospital, Portland, Oregon
- 1972 Sir Joseph Barcroft Centenary Symposium, Cambridge, England
- 1972 Symposium on Fetus and Newborn, New Mexico Obstetrics &Gynecological  
Society and American Academy of Pediatrics, Los Alamos, New Mexico
- 1972 The Shufelt Society of Santa Clara County, Seminar on RDS, San Jose, California
- 1972 Fifth German Congress for Perinatal Medicine, Berlin, Germany
- 1973 Holmes Lecture, Chicago Gynecological Society, Chicago, Illinois
- 1973 Visiting Professor, Tripler Army Medical Center, Honolulu, Hawaii
- 1973 VII International Congress of Obstetrics & Gynecology, Moscow, USSR
- 1973 The Sixth Diabetologic Days of Vals-les-Bains, France
- 1973 Dr. Louis W. Sauer Lecture, Evanston Hospital, Evanston, Illinois
- 1973 Inaugural Seminar in Perinatal Medicine, McMaster University, Hamilton, Ontario, Canada
- 1974 VII Congreso Peruano de Pediatría, Chiclayo, Peru
- 1974 American Heart Association, First Science Writer Forum, Marco Island, Florida
- 1974 Julian Waldo Ross Memorial Postgraduate Course, Howard University, Washington, D.C.

HONOR LECTURES AND FILMS: (continued)

- 1974 Third Annual Meeting, Fetus & Newborn Committee of District II, American Academy of Pediatrics, Montauk, Long Island, New York
- 1974 III International Symposium of Early Diabetes, Madeira, Canary Islands
- 1975 Visiting Professor, Case Western Reserve University, Endowed Lecture, Cleveland, Ohio
- 1975 Visiting Professor, Hebrew University and Medical Centers in Jerusalem, Tel Aviv, and Beer-Sheba, Israel
- 1975 Third International Post-Graduate Seminar in Neonatology, Athens, Greece
- 1975 Spring Conference of Dallas Southern Clinical Society, Dallas, Texas
- 1975 Special Program on the 50th Anniversary of ISSTE & the 10th Anniversary of Gonzalo Custaneda Hospital, Mexico City
- 1975 Inauguration of new Women's Hospital, Salvador, Bahia, Brazil
- 1975 Universidad de la Republica, Facultad de Medicina, Professor R. Caldeyro -Barcia, Montevideo, Uruguay
- 1975 VIII Congreso Latinoamericano de Obstetricia y Ginecologia, Havana, Cuba
- 1975 Visiting Professor, Universite Rene Descartes, Hospital Port Royal Paris, France
- 1976 VIII World Congress of Gynecology & Obstetrics, Mexico City
- 1976 Annual Mercy Medical Day, Des Moines, Iowa
- 1976 Symposium on Recent Clinical Advances for the Practicing Physician, Louisiana State University, Pediatric Department, Baton Rouge, Louisiana
- 1977 Grover Powers Lecture, Yale University, New Haven, Connecticut
- 1977 Chair session on Fetal Lung Maturation: International study group by Royal College of Obstetricians & Gynecologists in London, England
- 1977 Il Curso Internacional de Perinatologia, Cali, Columbia
- 1977 Honored Speaker, Perinatal Symposium, Hotel Otani, Tokyo, Japan
- 1977 Special Visiting Lecturer, Children's Hospital of Beijing, Peoples Republic of China
- 1977 Principal Speaker, Perinatal Symposium, Bangkok, Thailand
- 1977 Award Recipient Lecture, XV International Congress of Pediatrics, New Delhi, India
- 1977 Principal Speaker, Perinatal Symposium, Melbourne, Australia
- 1977 Principal Speaker, Perinatal Symposium, Auckland, New Zealand
- 1977 Il Curso Internacional de Perinatologia, Cali Colombia
- 1978 Fourteenth Congress for the Pan-Pacific Surgical Association, Honolulu, Hawaii
- 1978 Visiting Lecturer, Department Obstetrics & Gynecology, Sint Radboudziekenhuis Faculty of Medicine, Catholic University Nijmegen, The Netherlands
- 1978 Visiting Lecturer, Academisch Ziekenhuis Gasthuisberg, University of Leuven, Belgium
- 1979 Journal of Pediatrics Lectureship, Boston University, Boston, Massachusetts
- 1979 The Shufelt Gynecological Society of Santa Clara County, San Jose, California

HONOR LECTURES AND FILMS: (continued)

- 1979 Honored Speaker, International Symposium on Intensive Respiratory Care of the Newborn, Mexico City
- 1979 Invited Speaker for Plenary Session of SPV-APS Annual Meeting in Atlanta, Georgia
- 1979 Honored Speaker, International Course in Perinatology, Pamplona, Spain
- 1979 Speaker, The 2nd Annual Galuska Memorial Perinatal Lecture  
Baystate Medical Center, Springfield, Massachusetts
- 1979 Honored Speaker, International Perinatal Conference, Buenos Aires, Argentina
- 1979 Honored Speaker, CUP, First Course in Perinatology and CLAP,  
Scientific Activities, Montevideo, Uruguay
- 1979 Honored Speaker, First Asian Conference on Perinatology, Singapore
- 1981 Robert F.Chinnock Pediatrics Lectureship, Loma Linda University,
- 1981 Warren Wheeler Lecture, University of Kentucky, Lexington

FILMS

"Two Months of Life", in two parts, on the 21st Century Sunday night series on CBS with Walter Cronkite, aired March, 1969, Lasker Award

Science Special on Health Care narrated by Jules Bergman, Science Editor of ABS, aired March 1973

Video Tape Program, "Hyaline Membrane Disease; Assessing Lung Maturity", Network for Continuing Medical Education, New York

Video Tape Program, "High Risk Pregnancies - Avoiding Surprises", Networking for Continuing Medical Education, New York

"Miracle Months", first in a series on The Body Human on CBS, produced by MEDCOM, aired March 1977, Emmy Award

CBS National television program MAGAZINE, Cesarean Section filmed in NICU and Perinatal Unit, University of California Medical Center, San Diego, June 1978, aired October 2, 1978

"A Question of Warmth: Thermoregulation and the Critical Care Infant" - filmed by Ohio Medical Products, UCSD Medical Center, Infant Special Care Center, 1983

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