

The Foundation of the American Academy of Ophthalmology
Museum of Vision & Ophthalmic Heritage

Conversation Between Gavin Herbert and H. Dunbar Hoskins, Jr. MD
Chicago IL, November 10, 2012



Mr. Gavin Herbert and Dr. H. Dunbar Hoskins, Jr. recorded this conversation on November 10, 2012 during the Annual Meeting of the American Academy of Ophthalmology, in Chicago, IL.



In this excerpt [Mr. Herbert](#) recounts the first Allergan product launch outside of California. (.mp3 file)

Here, [Mr. Herbert](#) discusses doing customer research. (.mp3 file)

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GAVIN HERBERT: I'm Gavin Herbert and it is November 10th, 2012. Hard to believe how many years have gone by since I first got involved in ophthalmology in the early 50s!

DUNBAR HOSKINS: And I am Dunbar Hoskins, it's November 10th, 2012. I was a little later getting involved in ophthalmology, probably the 1960s. But I first met Gavin, as we were just talking a little bit earlier, when I had just finished residency and was going in the Navy, and this was going to be my very first Academy meeting. So I flew to Chicago, I stayed at the YMCA because I was broke, and in those days the pharmaceutical companies had hospitality rooms.

GAVIN: Yeah, and 10-foot booths.

DUNBAR: And 10-foot booths. And the hospitality room did a lot of business. Usually, with the residents and the young ophthalmologists who were looking for free food and drink. And I walked in the door and there was Gavin.

GAVIN: Well, it was fun, in those emerging days in the Palmer House, I believe. We tried to get to know the young ophthalmologists since they were going to be the future. We did have a lot of fun along the way, though, Dunbar.

DUNBAR: We did. But Gavin this is really more about you now and how you got involved in eye care and ophthalmology. It would be great to hear a little bit about your personal history and the evolution of your life through ophthalmology and then Allergan, and even some thoughts on interactions with the Academy and its evolution as you've watched it from a slightly different perspective than many of us.

GAVIN: Well, I was born in Los Angeles, and have lived my whole life in the Southern California area. My father was a pharmacist and he owned a drug store on Wilshire Boulevard not far from where we lived, and it was in a medical building near Wilshire and Western. And, in fact, there were a lot of prominent ophthalmologists in that building including Dr. Sandy Irvine's office.¹ In any event, prior to 1950, ophthalmic products were largely compounded in the pharmacy and they weren't intended to be sterile. Well, the FDA did pass laws just prior to 1950 that required sterility. So that was a key factor...actually several ophthalmology specialty companies began about that time. And, of course, Allergan started a couple of years before, similar circumstances to Connor and Alexander's pharmacy. And they had both been pharmaceutical salesmen, as my dad had been.²

So the way we got involved in starting Allergan was one of my dad's old friends, a guy named Stan Bly, showed up one day and he had some ideas about a new ophthalmology product, an antihistamine product. He had previously been with another small, San Francisco-based pharmaceutical company called Broemel, and Broemel had, I think, the first phenylephrine nose and eye drop on the market called Isophrine. Stan approached my dad about starting a company. He had left Broemel under some difficult circumstances that I don't totally understand. Anyway, when he arrived, we really didn't have any place to create this business. We did have a balcony that was probably about the size of the room we're in, maybe 200- or 300 square feet. So I helped Stan. We built this little lab up there and he formulated the first antihistamine eye drop/nose drop and we called it Allergan. The name came from a contraction of allergy and the compound was neoantergan, so the contraction of the two created the Allergan name.

DUNBAR: You've always had a lot of other interests, as well. And I know one of them was sailing and I think you had some unique experiences on some sailboats early on with some interesting people.

GAVIN: Well, I have had some wonderful sailing experiences and I suppose one of the reasons we ended up in Orange County is because I love to sail. When it came time to move from Los Angeles someplace else, we had spent

¹ A. Ray (Sandy) Irvine, Jr. MD, (1917-1996), Department of Ophthalmology at University of Southern California, Doheny Eye Institute

² Pharmacists Robert Alexander and William Conner founded the company Alcon Laboratories, Inc. in 1947.

time in the Newport Beach area during my youth, and so it seemed like a logical place to be, and we moved to Orange County in 1961.

DUNBAR: And how was crewing for Humphrey Bogart?

GAVIN: Oh, my goodness, I forgot about that! During my freshman year at USC, I went down to L.A. Harbor to sail in the Mid-Winter Regatta, and I was supposed to be on a friend's boat called the Skylark. Somehow either I got there late or they left early, but I was left standing at the dock. It was a terribly blustery, stormy day, and there was this other boat right next to it, and it turned out to be Humphrey Bogart. And so I got an opportunity to crew with him on a few races, including that one, which was pretty wild because we had wind of 25, 30, hail – two inches of hail on the deck, half-a-dozen boats broke their masts, and there was Humphrey with a glass of Scotch at the wheel. And it was wonderful because we won!

DUNBAR: Well, as you stated, it was a new era for ophthalmology, I think. Pre-packaged, sterile drugs and the drop containers, that sort of thing. How did you know what to produce? I mean, picking the product and understanding where to take it. How did you think of all that?

GAVIN: Well, in the beginning, this Stan Bly who was very creative, had really good ideas on preservative systems, etc. He also came up with the idea for the first cortisone eye drop, which we marketed, but only in the state of California. But, sadly, after two years he dropped dead of a heart attack. About the same time, my dad had been hit by a car and was hospitalized for several months. I was a student at USC and my grades were so bad, I got drafted. I had to go become a Naval corpsman down in San Diego. Fortunately I was able to stay there and was able to look after this little fledgling operation. I think we had three or four employees during the couple years that I was a corpsman.

And so when I finished I talked my dad into the idea that I would focus my energies on trying to build this ophthalmology company and shifted from pharmacy as a major to marketing, but then I ended up with a couple of sub-majors. It took me, actually, six years to get a bachelor's degree because I got involved in so many different things, but it turned out, in retrospect, to be a good thing.

You know Allergan really struggled the first seven years. I think by 1957, sales were only \$100,000. So the real beginning was in 1957, when we set out to develop a plan to grow it and created our first product launch outside of California. That was a product called Prednefrin and we did it primarily with direct mail. Prednefrin was a steroid decongestant combination and we focused on a core group of 5,000, or 6,000 ophthalmologists utilizing direct mail. I think we only had one or two salesmen at that time. Launching this campaign was going to cost \$25,000 which we didn't have. So I went down to my local banker and he patiently explained to me that we were bankrupt, however, I got the \$25,000 anyway, and we invested that in the direct mail campaign, and, fortunately, it worked.

DUNBAR: You know in today's world it is all venture capitalists coming in – people give you lots of money so you can go out and be successful. But you basically bootstrapped Allergan, is that right?

GAVIN: We did bootstrap it, and, you know, in retrospect, it was a wonderful education – because it was really hand-to-mouth! And we never really had any adequate investment of capital and so you had to grow it from within. You really had to learn all aspects of business and I wonder sometime with the startups today, that are raising \$50 million or whatever, if they get all that degree of detail and education.

DUNBAR: So when did you decide that research was going to be critically important to Allergan?

GAVIN: Well, I have always believed in differentiated products – whether it's selling products at my Garden Center, Roger's, or the environmental company, Regensis – having a differentiated product has always been critical. When Stan died he had part of the formulas in his head so I recruited a pharmacy professor from USC named John Biles. John had just come to USC from Ohio State and he had to reformulate the products. Actually without John, Allergan wouldn't exist. Well, John went on to become the dean at USC for 25 years and he really was initially the guy that guided me on research and its importance, he helped me recruit consultants. I guess the one good thing I realized pretty early is that I really didn't know anything about starting a pharmaceutical company, and that to be successful, I was

going to have surround myself with some people that did. I have always thought that it is really important to hire people smarter than you are, and in my case, it was easy!

So we rounded up four or five consultants. One of the guys I met early on was Irv Leopold. Irv was then at Wills Eye Hospital and of course he was full of ideas and opinions. I remember in the early days after we had launched our first product, I used to go to the Wills Eye Hospital meeting every year and Irv had a big influence on my thinking in life as he did for many in ophthalmology.

It took 10 years to get to our first million in sales, 1950 to 1960. In 1960 we launched a product called Blephamide, and, again, put all the money on the table. It was a pretty big bet, but Blephamide turned to be our best product.

Incidentally, Blephamide and Prednefrin Forte were formulated in an old theater that we moved to after the balcony in 1958. The family that owned the medical building that Allergan started in was owned by Earl P. Halliburton, the founder of the Halliburton Oil and Cementing Company. I think Mr. Halliburton actually helped my dad open the drug store. They also owned a building in Los Angeles called the Halliburton Building, where the family offices were located, and Earl P. himself was there. They had a theater in that building that had been showing some things that were rather risqué in those days, risqué to a point where Mrs. Halliburton called the vice squad and had it closed down! So the theater sat there empty for a couple of years and when we needed some more space—I think it was 8,000 square feet—the family fixed up the theater as our next move. In that space, I recruited another young man from USC named Malcolm Boghosian. Malcolm was a fabulous formulator and with a staff of about two people he came up with the Blephamide, the Liquifilm vehicle idea and Pred Forte. Interestingly today at the [exhibit] booth a doctor asked me how he could buy Pred Forte directly because they kept substituting generics and they didn't work as well!

DUNBAR: So you have seen about half a century of change in ophthalmology. You have been through the intraocular lens phase, you've been through the phaco phase, you've been through the Lasik phase...what do you see as the most dramatic changes and what is your thinking about

how they came about? I know Allergan was involved in almost all those activities at one time.

GAVIN: Well, looking back, it's pretty incredible to think what's happened in the whole ophthalmology field. I remember when we were at the Palmer House, and the whole Academy, ENTs included, were based in that one hotel. The exhibit area was, I don't know, probably 10,000 or 20,000 square feet. And look what's happened! From contact lenses to intraocular lenses, to all the surgical techniques, the new drug therapies... we've been really fortunate to have been in an era when so many wonderful things have developed.

Looking ahead, I am really excited about the progress we're making in the back of the eye. On Thursday I sat in on the session with the emerging technology companies. There were 25 different companies presenting new ideas in ophthalmology, trying to raise funds to get them to the next stage. I was also amazed that there was an audience of something like 750 or 800 people, standing room-only. This program lasted from 7:30 in the morning until 5 at night and it was crowded the whole time. So I think the future is pretty exciting.

DUNBAR: What's your thinking about some of the issues that ophthalmology has had to face, not just in taking the Academy and trying to grow it and expand internationally, but also the issues between the ophthalmologist and the optometrists, and those types of problems that will continue to exist for awhile?

GAVIN: Well, the issue between the ophthalmologists and the optometrists, I got caught square in the middle of that for a long time because we had contact lens care products that were promoted to optometrists, and obviously ophthalmologists were a core part of our business. The unfortunate intensity of the battlefield as it developed became so bad that, you know, there were threats that if you talked to one the other one wouldn't talk to you. At one time there was actually a subgroup of ophthalmologists based out of New Orleans, that I remember at one convention, actually had guns at their display, that was Dr. Allen's group, James Allen³. That was pretty ugly stuff.

³ James Harrill Allen (1906-1992) was Chairman of the Tulane Ophthalmology Department, 1953-1971. He became involved in politics after his retirement in 1975.

DUNBAR: And aggressive.

GAVIN: And I've always believed that the two should work together, particularly from a political point of view these days. And you know that many of the most successful ophthalmologists' offices incorporate the optometrists as part of their practice.

DUNBAR: And many more are doing it. I think it is about half the offices now have optometrists in them.

GAVIN: Dunbar, how do you the problem can be solved?

DUNBAR: I think it will get solved, and this is just my personal opinion—I, fortunately, no longer have any particular role in the Academy—but I think the marketplace is going to solve it. And I think the manpower issues that are coming...you know, we're seeing the influx of the Baby Boomers, ophthalmic procedures are supposed to double in the next 10-, 15 years and maybe even increase beyond that, and yet the production of ophthalmologists has not increased dramatically. So how do they handle this maybe doubling or tripling of the volume of work that they are going to have to do? And I think it's going to happen through the hands-on technician, the hands-on physician assistant, the hands-on optometrist, who will relieve the physician of many of the burdens he now carries, so that the ophthalmologist can truly focus on what is critically important to caring for the patient's vision. And how that will evolve I am very hesitant to say. You know Al Lemoine? Do you remember [Albert] Lemoine?

GAVIN: I do.

DUNBAR: Yeah, Al Lemoine said we should have just hired them all. He said that around 1930!

GAVIN: That was my idea! Hire them all and then the problem would have gone away.

DUNBAR: Hire them all and we wouldn't have had a problem! Well, that's beginning to happen. And so I think we are going to see more and more of

that as we go forward. And there's Academy data that David Durfee has put together that shows that not only are your number of visits per MD increasing if you have an optometrist in the office, your net take home pay also increases, so that by adding to your volume of visits, you improve your efficiencies and improve your bottom line.

So I think the market will solve the problem. I don't think it is one that can be resolved politically.

GAVIN: Well, I think I agree with you, the technicians are going to have to do a lot more. I was impressed in the six months I spent in the Navy Corpsman School, as to how much they were able to teach those kids in six months. You know, they were really pretty good people. In fact, after that experience, we tried to hire Navy corpsmen as salespeople. For a long time we had quite a few of them.

DUNBAR: When I was in the Navy, I worked as an ophthalmologist, the only ophthalmologist in the Navy in Newport, Rhode Island, and it was a fairly big base then. They had DesLant, the destroyer Atlantic fleet was based there, and OTCS, Officer Training Candidate School was there. And yet I had two optometrist working with me and for me, basically. It was a terrifically efficient system, and we liked it very much.

I think the challenges are going to be where is the line in terms of who gets to do what, and under what circumstances, and that's where the battles are in today's world.

GAVIN: And, obviously, the surgical part of it is key.

DUNBAR: It's critical.

GAVIN: Critical.

DUNBAR: Well, with surgery there is a lot of technical skill that can be taught, but, ultimately, you run into issues where serious judgment and understanding the entire physiology of the eye is important, and so it's being able to handle those problem cases that makes it difficult. I don't know how that will play out. We will have to wait and see.

Well, Gavin, you've experienced a lot of interaction with the government in various forms. And, clearly, last week's election showed that "Obamacare" is here to stay. One of the things that would seem reasonable out of that is that there will be government negotiation on drug prices. How is that going to influence care in the United States?

GAVIN: Well, I'm afraid that what's going to happen is that it is going to impact the research investment that we've all been making. As I look back over the last 20 years or so, drug prices in the United States have been increasing at a more rapid rate than international prices. The reason is that almost all of the major international markets have fixed formulary prices and they have regularly been decreasing those prices in countries like Japan and Germany. It's to the point where pharmaceutical research...as an example, Germany used to be the leading country in the world in pharmaceutical research and today there's virtually nothing going on. They've cut it out. So what happened was that because we had the ability to raise prices freely in the United States, we've been doing that, and the American public have been subsidizing research around the world. I think if you just think about it, the American public have really been subsidizing research. Well, sadly that era is coming to an end. We've seen in the last two years, pharmaceutical research layoffs in the neighborhood of 20,000 jobs and that's really sad to see. Fortunately at Allergan we have been able to continue to increase, in fact, the research budget this next year is going to be right at a billion dollars, a 14% or so increase. We continue to spend about 17% of pharmaceutical sales on research, but if the prices get knocked down, then we'll have to reevaluate, and, sadly, some disease entities are not going to be addressed.

DUNBAR: And this is across the board, not just eye research, but all medical research.

GAVIN: Oh, sure, I'm talking about pure broad pharmaceutical research. I meant Merck and Pfizer, the two biggies, have made huge layoffs and closed labs.

DUNBAR: How about the regulatory environment with the FDA, is it getting more difficult? It seems that it's always a challenge...

GAVIN: Well, it seems to go through waves. You know, first of all, we're dealing in interpretive law here and the FDA Commissioner, in a way, is like the Supreme Court. Changing the Commissioner, which we do about every two or three years, would be like changing the Supreme Court, totally, every two to three years. So to give you an example of the swing that I've experienced, during the 60s we were trying to get Herplex approved – that was the first anti-viral drug that we got approved. The Commissioner at that point was named Sadusk. We had presented data that was statistically analyzed and I met with him personally, and he said to me, "You can prove anything with statistics." My answer was, "Yes." He believed in clinical judgment, but we did get the drug approved.

Six months later George was gone, and the new Commissioner came in. I had the opportunity to meet him about a month after he came into office and his ideas were totally based on statistics. So the whole industry had to shift in a matter of a few months. James Goddard was his name. He became pretty famous as a Commissioner. It was fortunate that I met with him early on and really listened, because he said he was going to insist on biostatistics to prove it. Well, I came home and I said, "I think we are going to have to start over with a lot of our clinical trials," and we did. A lot of companies simply argued for two years. But we were able to approve more new drugs in the following two to three years than all of our competitors combined, I think, because we listened.

DUNBAR: You took a pragmatic approach.

GAVIN: So, you have this interpretive law at the top that shifts, but you even have interpretive law as it relates to the rules by individual medical officers. So you can have huge swings with medical officers as to what their interpretation of the rules are.

DUNBAR: Well, we've been fortunate, I guess, in ophthalmology, with a longstanding person in charge of drugs in the FDA, and we have been able to develop some consistency.

GAVIN: That is very fortunate. He has matured and shifted, and is, I would say, very helpful. I think we're lucky to have him, and he has been there for—what?—30 years now?

DUNBAR: A long time...Wiley Chambers...

GAVIN: Wiley's doing a good job.

DUNBAR: Yeah. So, what other people have you run into in ophthalmology that you remember and stand out in your memory?

GAVIN: Other than Dunbar Hoskins?

DUNBAR: Yeah, other than...yeah, right!

GAVIN: Well, you know, I was able to ultimately lure Irv Leopold to come to Allergan for a sabbatical in the early 70s. At that time, he was head at Mount Sinai. And he had been offered a variety of other opportunities, including the head of the National Eye Institute, and I believe the presidency of a women's college. Anyway, when Irv came out, I knew he liked to play tennis, so we put him in a corner office overlooking the tennis court and he seemed to enjoy being there. I think, though, what convinced him to stay full-time was telling him that I thought he could have more influence on global ophthalmology in a role as Medical Director at Allergan than he could at Mount Sinai, and he agreed to do that. And it was a very controversial decision at the time and Irv was criticized rather broadly for doing that. But I think it was one of the most important things that happened at Allergan. And one of the things I asked Irv to do was to create an advisory group, and I said, "Find the next generation of leaders." And so Dunbar was one of them, Stephen Ryan was another, Mort Goldberg was another. He did a pretty good job.

DUNBAR: Steven Podos.

GAVIN: Steve Podos, yeah.

DUNBAR: That was an interesting time. And, you know, I remember doing that and thinking, "Well, what we're trying to provide is some clinical

insights to a company that is in the position to produce therapeutic results and therapeutic products.” And yet in today’s environment now there seems to be a shift. There is a sense now that you’ve gone to the dark side when you get involved in companies and that sort of thing. Have you noticed that? I mean, clearly, the government has come down on some of the marketing issues around relationships.

GAVIN: I think there were excesses in some of the marketing efforts that took place over the last 10- or 20 years, that have been corrected. Frankly, I don’t recall, let’s say, in the 70s or 80s engaging in some of the programs that did become prolific, in terms of entertaining under the guise of education. And now I’m afraid that maybe the pendulum has gone too far the other way. If this meeting is an example, I can’t go out to dinner with a doctor unless he pays his own way, which is really pretty sad. You know, important communications have taken place at this kind of a meeting over the years.

DUNBAR: Well, let’s talk about that. You have always focused on the customer and you’ve actually spent a lot of time in the customers’ offices and valued that time.

GAVIN: Well, one of things, in looking back, I think that maybe I did right was spend a lot of time out in the field talking to customers. I used to try and spend about 10- or 15 percent of my time out with the field force. Usually, if I’d go out for a week, I’d have two or three questions I wanted to drill in on, and would kind of ask the same questions over and over.

One period comes to mind. I went out, I think I was in the Los Angeles area, and I decided to ask the ophthalmologists, “Tell me what the most common presenting complaint is in the words of the customer. Not the medical terminology that you used to put in your chart, or fill out the market research forms, but tell me what are they telling you.” At the end of the week, the biggest presenting complaint was itchy, scratchy eyes, 19%. And that didn’t show up in the medical reports because in the market research reports, if they thought they were dealing with a placebo-like event they wouldn’t fill it out, so they didn’t consider itchy, scratchy eyes a medical condition.

Well, of course, now, today, the market for various tear formulations is something in the neighborhood of \$2 billion, and at that time it was like less than \$5 million, so that was an interesting one!

David Pyott continues to do a really wonderful job of that, it's sort of in the Allergan culture. In fact, they used to have a rule with the product managers, if they didn't spend 10% of their time in the field, they weren't eligible for a bonus. And we kept track of it! But, David, I think, exceeds anything I ever did in his travels around the world, and I think that is one of the reasons for our continued success.

DUNBAR: Okay. Well, David, do you have any questions or thoughts?

DAVID NOONAN: Well, I'd like to hear just a little more about this international contraction, what's going on with pharmaceutical production internationally, both with Allergan and with competitors. You said that they would curtail their research, but are there any new burgeoning markets?

GAVIN: I think that one of the ways you make up for [fixed formulary prices in Europe] is to capitalize on the emerging markets...you know, the Indias, the Chinas, the Russias in this world. I just returned from a China trip three weeks ago, which was fascinating, and China now is the third largest pharmaceutical market in the world and growing at 15- to 20 percent. So Allergan is expanding rapidly there and we will probably be doing more research there.

You know, Stephen Ryan spends a significant amount of time in China. It's really interesting. He's been involved in training something like 40 ophthalmologists at USC that have returned and are now in leading roles in China, including, I believe, the President of their Academy. There are some really bright researchers working there and I know we have started a research effort in China, as well as India. India is a really great place to do clinicals. Johns Hopkins has had long associations in India, where they have students there on a regular basis and we try and to do clinicals in places where there is a US-trained presence.

DUNBAR: Do you think the actual bench research will move overseas? Lots of clinical trials are being done offshore, but how about the actual bench

research, itself, you know, the type of things that you're currently doing now?

GAVIN: Well, you can hire a really well-trained pharmacologist in China for probably one-third the cost of the United States. China sees pharmaceutical technology as an area they want to expand. Their labor costs are now increasing significantly...I know at the old Allergan plant I visited they expect it to increase 15% a year for the next five years. India graduates more pharmacists than anyplace in the world. I think they graduate 50,000 a year, or some crazy number. In Russia, we just recently established a hundred-person sales force. I think what you need to do to offset the problems of reduced prices in the United States is to work harder on your emerging markets and try and spread the cost of your research globally.

DUNBAR: Do you have any thoughts on how care is going to be delivered? Do you think physicians are going to group together more? Is ophthalmology going to be forced into integrated systems?

GAVIN: My general sense is that they will be forced into integrated systems. That seems to be happening more and more. Dunbar, you know better than I would – what's the percentage of solo or dual practicing ophthalmologists?

DUNBAR: It's been declining for the last two decades.

GAVIN: What do you think it is now?

DUNBAR: I don't know, I haven't looked at the surveys recently, but it it's probably down in the 40s of solo ophthalmologists.

GAVIN: Well, Dunbar, on the international side, you've been involved and led the way on the educational aspect. How many ophthalmologists now are receiving their training materials from the Academy?

DUNBAR: Well, a lot. I understand that the European Board of Ophthalmology has agreed to make the BCSC its fundamental educational product. The ONE network is now available and been accessed by 75,000 ophthalmologists around the world. And this meeting, as you know, is the

biggest annual ophthalmology meeting in the world. So we certainly continue to have an impact. But we are also seeing the evolution of educational efforts in Europe. The ESCRS is growing. The International World Congress is well attended. We're seeing people trying to develop similar types of educational opportunities locally. Depending on what happens with the world economy, as travel either gets less expensive or more expensive, that will have a huge impact on what happens to people coming to, or not coming to, the United States. So I think we've had a wonderful time of expansion, and I think it can continue.

GAVIN: Dunbar, tell me more about what's happening currently with your efforts in the Hoskins Center.

DUNBAR: Well, the nice thing about the Hoskins Center is that they put my name on it but I don't have to do anything! Its purpose, really, is to understand the best ways of managing patient care going forward. They're going to develop a registry that will be sort of like the Society for Thoracic Surgery's registry. That's been going on for 15 years or so and now is *the* place where information about practice patterns evolves. For instance, they were talking about atrial fibrillation and this ablation process and the use of anticoagulants following it, and apparently only 30% of cardiologists were continuing the anticoagulants for the recommended period of time. They did a quick study on the registry, it only took them eight months, and people found out that it really paid off to continue it longer. Now, 80% of cardiologists are doing it.

GAVIN: Wow.

DUNBAR: You know, we talk about the 17 years it takes to get things from the bench to the bedside because of the training required of physicians. These types of centers can shift care dramatically, rapidly and they have good evidence that they can be effective. So the hope is to create this registry for ophthalmology where we can track various forms of treatment and have this publicized and available to people who want to use it.

GAVIN: Well, in ophthalmology, what are the key areas that need attention?

DUNBAR: Well, glaucoma could use some more attention. Retina – as new therapies come through for AMD, particularly, there's going to need to be a lot of tracking and education of ophthalmologists in their use. You know, physicians to some degree are faddists. You know, we jump on a fad and decide exactly how to follow it. If we can accelerate that process with good data that shows that good things are happening when you use this particular process or treatment, then we can shift people from fad to fad more rapidly, and accelerate the adoption of new therapies. So that's what it is all about. Retina and glaucoma make up, and you know the market numbers better than I do, but it's got to be something like \$7-, \$8 billion between the two of them, I suspect. And having that focused in the most effective possible way with the best products is going to be critical.

GAVIN: Dunbar, have you been involved in following the current treatments using stem cell research in ophthalmology, and what are your thoughts on it?

DUNBAR: I think that the Gavin Herbert Eye Institute is going to be a leader in that area! I am looking forward to the results.

GAVIN: Well, it's exciting. One of the things I've learned recently is that there are quite a few opportunities using pharmaceutical-like compounds to stimulate existing stem cells. I saw recent results, not ophthalmology, but in other medical tests, albeit in animals. In fact, next week at Allergan, the key management group is going to visit the stem cell research center and hear some of the latest potential applications. The new Irvine Eye Institute is going to be right next to the Irvine Stem Cell Center. They have a team of 200 people in the center now and they recently received two grants from the California Research Initiative, one was for RP clinicals for \$18 million, and the other relates to clinicals for Alzheimer's.

DUNBAR: One of the exciting things in that area is the identification of a pluri-potential cell. They can start from adult cells and turn into stem cells that can go in any direction now. I think there's still a lot to be done to make that a clinically effective tool, but this gets rid of all the "ethical" area surrounding stem cell if it can be truly pulled off.

GAVIN: Well, if indeed, you are able to have a pharmaceutical compound stimulate existing stem cells, you're going to have a dramatically different interest on the part of the industry than trying to figure out how to make money transplanting stem cells.

DUNBAR: There's also a group in Iceland who has figured out how to make the structure around which the stem cells would grow and create a heart.

GAVIN: I've heard some of this.

DUNBAR: Yeah. I mean, it is really Star Wars stuff and it's a long way from being in the clinic, but the progress that is being made is amazing and the research that is going into it. It is going to change a lot of how things are done, and how the world lives going forward. Tell me a little bit about your eye center.

GAVIN: Well, the concept for an eye center started about 30 years ago when Irv Leopold came and the UCI was just emerging out of the ground. I thought it was appropriate that Irv have an academic situation to become involved in and one where we could do some early clinicals and Phase II. Irv created the first [ophthalmology] department there in the 70s and then after his death things kind of went sideways for a period of time. Beginning about six or seven years ago, with Jim Mazzo's nudging and Roger [Steinert's] arrival, the idea of creating an eye institute reemerged. I thought it was an appropriate thing to support given that Orange County has now emerged as probably the largest area in the world in terms of pharmaceutical research in ophthalmology, not just pharmaceuticals. There is about 20 companies based there now and it seemed like an appropriate thing to have an academic center for them...to be part of the big picture. And so we are up and construction should be complete in May or June, and seeing patients, I think, in August 2013. And that's been fast!

DUNBAR: Wow. Once it got going, it really took off. I was down there, I think, just about two or three months ago, just before the topping off ceremony, and the building looks fabulous. And Roger is really excited.

GAVIN: Yeah, the building turned out better than the architectural drawings!

DUNBAR: That's good. Well, Roger's really in love with this, as you know, and he's been a force behind it. The Academy has even captured some of Roger's skills. You know, Charles Munnerlyn gave us a million dollars to create this laser education center in the One Network, and Roger's heading up that effort.

GAVIN: Really?

DUNBAR: Yeah, so we've diverted him a tiny bit.

GAVIN: Well, Roger Steinert was also one of Irv Leopold's recommended fellows...so he picked a good group, that's for sure.

DUNBAR: Irv gave you a good group, he did indeed.

Well, I think maybe if you just have some off-the-cuff comments you would like to make about anything...that's always dangerous, but go for it!

GAVIN: Oh, gosh, I... it seems like we have covered...

DUNBAR: Well, one thing you have not talked about a whole lot is Regenesis and Roger's Garden. You've always been interested in flowers and horticulture to some degree.

GAVIN: Well, my interest in horticulture probably traces back genetically to my grandmother who was a great horticulturist. During World War II we moved out to a farm in the San Fernando Valley where she planted all kinds of trees and things native to California, but it came with 800 apricot trees. When we moved to this farm in 1944, I think it was, in the middle of World War II...we arrived in June and the apricot orchard was just coming into bloom and the fruit was about ready to pick. I was 12 years old and my dad said, "Well, if you can make any money out of this, you can keep it." So I put an ad in the *L.A. Times*, "Apricots –you pick 'em, \$1 a box." And the next morning, I had 40 cars lined up. So that was my first business – a roadside fruit stand when I was 12. I always just kind of loved horticulture and I got involved in acquiring a retail nursery 35 years ago which I never should have done, but I love to see things happen quickly. That doesn't

occur in the pharmaceutical business, but in horticulture we can see things happen in a few weeks or a few months so that's my justification for Roger's Garden.

DUNBAR: Well, it's been a great success! It's the most popular nursery in Orange County, I suspect, by far.

GAVIN: I think it's the largest single store in the state.

DUNBAR: Now Regenesys is basically reclaiming toxic land?

GAVIN: Well, when I retired a dozen years ago from Allergan management, I got involved almost by accident, I started an environmental company whose products are involved in cleaning up contaminated groundwater. We've cleaned up about 18,000 sites now around the world. We have tried to run it almost like a pharmaceutical company with differentiated products and good research. We inject compounds into the ground that stimulate natural bacteria to reproduce, a processes known as bioremediation and it's a real clean way to clean up contaminates. We started it and have run it like a public company, which some day it may be. Added an advisory group and tried to focus on getting scientific articles published in peer-reviewed journals, which was not the norm in that field. I think that by applying some of the rules that were successful in Allergan it seems to have worked.

DUNBAR: One of things, you have been effective and successful at is picking people. Do you have any kind of advice you would give to people that are thinking of going out and hiring somebody? What should you be looking for?

GAVIN: Well, we spent an awful lot of time, particularly in the early days, on the selection of people because I couldn't afford to make a mistake! So we probably spent two or three times as much time on picking people. And I have been fortunate. I think now about 25 former Allergan team members have gone on to be CEOs, which is one of the things I am very proud of. With David Pyott, we took six months and look what a winner David's turned out to be.

DUNBAR: So what are the criteria you look for, the characteristics?

GAVIN: I'm not sure there is a magic formula. I think maybe I'm lucky and just have a gut feeling. First, you always want to hire people smarter than you are and I said that was easy for me, but I think that chemistry part is critical and that's pretty hard to quantify. That certainly is a big part of Allergan's success – getting the right people.

DUNBAR: Tell me a little bit about Bill Conner [William Conner, founder of Alcon Laboratories].

GAVIN: Well, I got to know Bill Conner very early on. Again, he had a common background to my dad. We were very friendly in the early days, both he and Bob Alexander, but I knew Bill Conner a lot better. In fact, this is a story that I have not told. Bill wanted me to merge with him. This is...he was doing \$6 million, and we were doing \$1 million, and he said I could run the store, but I wasn't sure I was capable of doing that. Anyway, we didn't do it, but that was.....

DUNBAR: That would have changed the landscape of ophthalmology everywhere.

GAVIN: Well, he was a terrific guy and really enjoyed him over the years, he was almost like a father to me frankly.

DUNBAR: He was a wonderful man. I got to visit him a few times at his home down in Fort Worth and he was a delightful person. He got involved in the Pan American [Ophthalmological Foundation]....

GAVIN: Oh, I know, that was his emphasis.

DUNBAR: Yes, he was chair of the Pan American Foundation.

GAVIN: I know. Well, I was happy, there was a period where he was focusing on Pan America and we were focusing on Europe.

DUNBAR: Is that right? You kind of split the markets. Well, not exactly. Gavin, thanks for doing this. We really appreciate it.

GAVIN: I am glad we got it done.