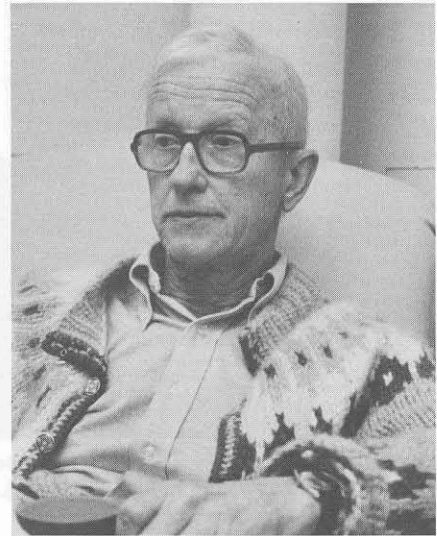
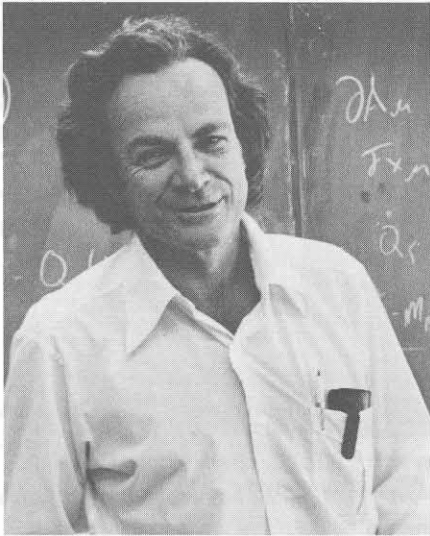
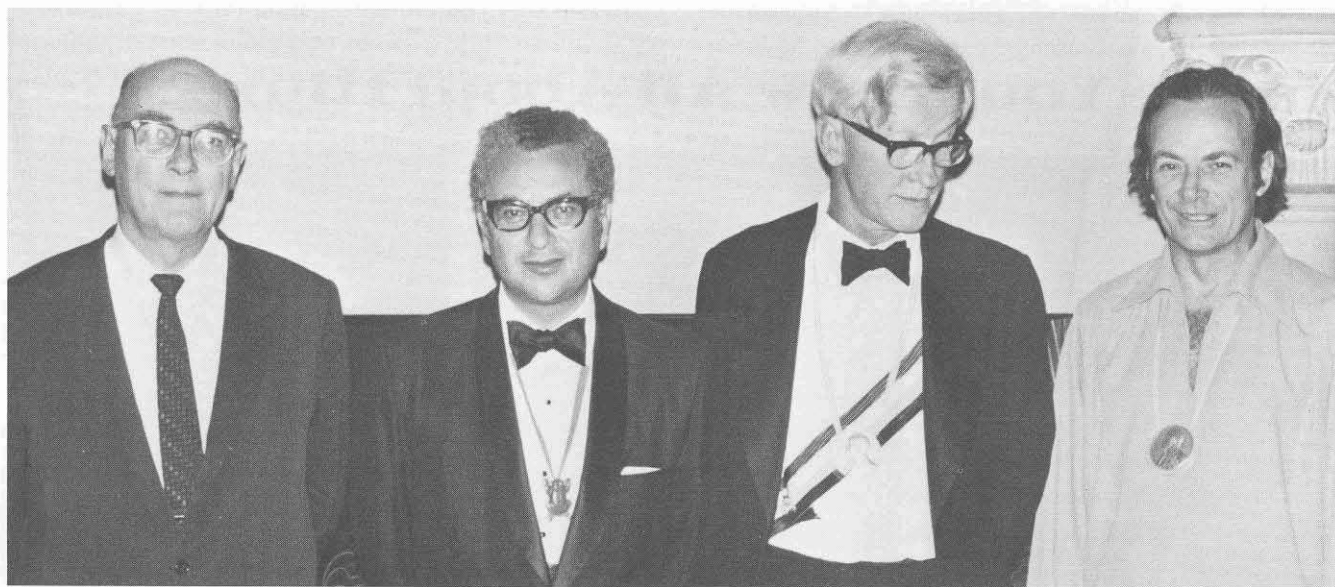


# Maybe You Know All About Him —



**But  
What  
About  
Her?**

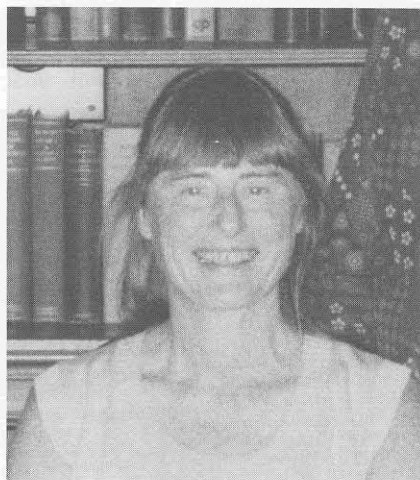




Caltech's Nobel prizewinners in 1970: Carl Anderson (Physics, 1936), Max Delbrück (Physiology and Medicine, 1969), Murray Gell-Mann (Physics, 1969), Richard P. Feynman (Physics, 1965)—at a Caltech faculty dinner honoring the 1969 prizewinners.

## The Life of a Nobel Wife

*Earlier this winter the Caltech Y presented a program especially designed for graduate students' wives in which they got an opportunity to interview and question the wives of some of Caltech's Nobel prizewinners. (At the moment, there are four —Lorraine Anderson, Manny Delbrück, Gweneth Feynman, and Margaret Gell-Mann.) This article has been adapted from that program. We start with Manny Delbrück.*



Manny Delbrück

*Manny:* I think I'll begin by telling you about myself from childhood on. I grew up on Cyprus Island in the Mediterranean, where my father was a mining engineer and was manager of the copper mines there. Our first home was a Greek monastery. I went to a one-teacher school at the mine, and then my two brothers and my sister and I went to high school in Beirut — a boarding school — which was also small. We had six in my high school class. We had to create our own traditions.

After I graduated from high school, I came to California, partly because the company that owned the mines was located here. I immediately entered Scripps College, which was terrifyingly large to me — 200 students. I went happily through Scripps, and at the end of that time I met my husband, who was a Rockefeller Fellow at Caltech.

As soon as we were married, we went to Nashville, Tennessee, where Max was teaching physics. During that time he taught physics, but gradually he was worming his way over into biology. We had seven quiet years there

while he did that, and the war went on, and I did various jobs like being a newspaper reporter and working in a hospital. At the end of that time Max came back to Caltech as a biology professor and stayed here from that time until now.

I was thinking a little about the four of us here, and in many ways we are quite a bit alike. Margaret and Gweneth and I all grew up abroad. We all like to go camping. We all like home life and children. None of us has been hell-bent on a career. We protect and pamper our husbands. We have all been happily married for some time. Gweneth and I even both organized libraries at our children's schools.

If any of you have children in school, that's one thing I would like to recommend. Take part in the schools! It's fun and helps you to get into the community and to see people outside of Caltech. I've done that a lot, and I'm still doing it. You'll notice, the children who succeed, and the schools that succeed, are the ones where the parents take part.

We have four children. The oldest boy is 29, and then a girl 27. After a

while they seemed to be disappearing, so we had two more children. They are 16 and 14, and they are in public high school in Pasadena and still very much at home.

*What did you study at Scripps?*

*Manny:* Humanities. Everybody at Scripps studies humanities, mostly. Besides that I studied social science to the extent that I decided that was something I certainly did not want to go into. I did go on and take a Master's in the History of Art and enjoyed that, but I didn't make a profession of it.

*You must be able to use a lot of your education in connection with your travels.*

*Manny:* Yes, we lived in Germany for two years at one period, and at other periods for three or four months. We go to Europe often. Max was born in Berlin. He became American many years ago, but he still has strong ties to Germany, and over the years I have developed strong ties there, too. We all speak German and feel very much at home there.

*May I ask what first attracted you to your husband? Was it his extreme intelligence and good looks?*

*Manny:* No. It was one of those things that just grew better as time went on. We met at my German professor's home, and what I remember is that Max

read Goethe to me, and I thought, at least life wouldn't be dull. I knew I was taking a chance.

*Lorraine:* I remember that I was attracted to Carl because he was very handsome and very intelligent and had brilliant, brown, sparkling eyes. And we had many things in common — Swedish ancestry, tennis, bridge, riding bicycles, and we both liked poetry and he quoted a good deal of it to me.

*Tell us some more about you.*

*Lorraine:* OK. When I was in high school, I wrote an essay on "Nobel Prizewinners in Literature." I certainly never knew then that when I grew up, a Nobel prizewinner would ask me to marry him. Let me say quickly that that's not the reason I married Carl. I met him five years before he received his prize, when he was a postdoctoral fellow at Caltech, and with me it was love at first sight.

*You grew up in southern California?*

*Lorraine:* West Los Angeles. I was one of a dozen or so of his friends who met him at Burbank Airport when he arrived from New York after his voyage on the Queen Mary, home from the Stockholm ceremonies and festivities. That was in 1936. On an early date he brought me to Pasadena to meet his mother. They lived at the corner of Granite Drive and Lake Avenue. We three had dinner in the Athenaeum, and I was so thrilled. On another of our dates he took me to see his cloud chamber on the third floor of Guggenheim. This was during depression days, when dates were simpler. It was during our engagement that I met Robert and Greta Millikan, and I became very well acquainted with these grand people.

After some time we were married following an eight months' engagement. His mother wasn't well enough to attend a large wedding, so Carl and I decided to get married in Santa Barbara. So, one Sunday after a wedding breakfast my mother and father gave for us and Carl's mother, we went off to Santa Barbara to find a church open and

a minister to marry us. I told Carl about two weeks before that we should go up and pick out a church and a minister, but Carl said it wasn't necessary because all the churches were open on Sunday. Well, we discovered all the churches were closed on Sunday afternoons, but after a few phone calls, Carl found a Seventh Day Adventist minister in his church, who was willing to marry us. After that phone call, someone greeted Carl on his way back to the car. When Carl got in, I said, "Ask your friend to come to our wedding." He did, and the man and his wife followed us to the church. That's where I first met Jim Page, who was then chairman of the Caltech Board of Trustees, and his wife, Kate — and a Mrs. Wilson, whom the Pages were trying to entertain that Sunday afternoon. The Pages invited us to their Montecito home after the ceremony for a champagne wedding reception on the balcony overlooking their estate.

By the time we were married we didn't have the money problems that young graduate students have. But when Carl was a graduate student and a young postdoc he had a mother to support, on a tiny income. I had a very good relationship with Carl's mother; I was very fond of her. She taught me to knit and crochet, and we went places together.

We have two children. Our elder son is a mathematician who works for a government agency and lives in Maryland. Our younger son is a physicist and works for Aeronautics and lives in Newport Beach.

Carl spent a lot of time with our sons when they were growing up — fishing, swimming, hiking, playing baseball, and most of all, being with them and discussing all kinds of things.

I think this is an interesting thing: Carl is the middle link in a chain of professors and students who won the Nobel Prize in Physics. Carl is Millikan's student, and Donald Glaser was Carl's student. One day while Carl was talking to Don on the phone, he pointed this out and said, "Let's keep the chain going, Don." Don said, "Wait a minute," and after reviewing a list of



Lorraine Anderson



Gweneth Feynman

his current graduate students, said, "I'll try, but I'm not at all certain it will be successful."

*How about you, Gweneth? When your husband won his Nobel prize and you went to Stockholm with him, what was it like there? What experiences did you have?*

*Gweneth:* Richard didn't want to accept the prize, you know. He really didn't. He just didn't think he could face the ceremony and all the big starched speechmaking.

*He just wanted them to put it in an envelope and send it?*

*Gweneth:* Yes. So he was in a terrible state. Before we went and when we got there, I had to tread on eggs all the time. He was a nervous wreck. He had to give a 10-minute acceptance speech, and a scientific lecture. The scientific lecture didn't bother him. He knows what he's talking about. But the acceptance speech — he agonized over that day after day.

*He knew ahead of time he'd have to do all these things? Do they send you the schedule?*

*Gweneth:* Yes. He had like a diary with everything written down. I think we were probably there eight or nine days. I enjoyed it. It's not true that Richard didn't enjoy *any* of it. He sort of liked it after it was over — and he loved the thing where they blow the trumpets —

these long, long golden trumpets. That was kind of fun. And then the students entertain you. They have a ball, and that he enjoyed very much, because it was very loose and we were dancing all over the place. Afterwards they took us into a beer cellar somewhere and the group sat there and drank beer until six the next morning. Our next appointment was something like 8:30.

We had to be dressed up almost every night so Richard bought a new tuxedo, which was very elegant. I think he's worn it once since. We do get invitations to things I'd very much like to go to, but since Richard will not wear a tuxedo we just don't go, because I refuse to get dressed up when the men are just in suits. No argument, I just say I don't want to go.

*Were there any members of either of your families there?*

*Gweneth:* No. Just the two of us. You don't really have time to think very much. They take care of everything. You have your personal attendant, a junior diplomat, who is always married, so the wife took care of me. He's like a sheep dog — he makes sure you get there, where you're supposed to be. You have to go for fittings for your tails — come on let's go to the tailor, kind of thing. And he always reminds you of the next thing to do. They'd just come in and out. We did go to their house for dinner. They were a delightful couple — really very nice. Very young — just at the bottom of the ladder.

*Manny:* We went to Stockholm at the same time as the Gell-Manns. It was a big party. There were two other co-sharers of the prize with Max — Luria and Hershey. Max had worked with both of them. They were the friends of our young days. Max brought me and our daughter Nicola, and his three sisters from Germany. The Hersheys and Lurias each brought their son.

*Margaret:* We just brought ourselves . . . Oh, and Murray's brother, that's right.

*Manny:* All together we occupied the whole top floor of the Grand Hotel and



Margaret Gell-Mann

gossiped as we got into our gowns and tails. The Swedes have dramatic talent; they take four days to build up the show and then let down just at the right rate. Often prizewinners who go there don't know each other. Worse than that, they may be deadly enemies. We were lucky that way. We'd get together after the official parties and discuss what the King said to us, and so on.

I think both Margaret and I had expected something either boring or rather stiff, but it turned out beautifully. One reason is that the Swedes all had such a good time.

*Margaret:* The long winter is just setting in, and they're going to have three months of it — and to hold a celebration in December is a good idea. Also, the Nobel ceremonies are so much a habit with the people who organize them, it's natural to become a pawn in the game — say the proper thing and wear the right clothes. As Gweneth said, they also supply a young watchdog from the foreign service for each Nobel prizewinner — to make sure your husband has all his buttons on and the right tie. Ours was a very pleasant young man. One day when we were supposed to take some official trip, Murray said, "That's simply enough ceremonies for this week; I'd rather spend the day in the country." Our Foreign Office man said that he was a farmer's son and had a little place in the country, and why didn't we come and spend the day with

him. Well, what he had was a 5,000-acre estate with a 17th-century mansion. We spent a splendid day there watching birds and eating delicious sandwiches that they'd brought out from Stockholm, and examining the runic tombstone they had on the property.

*What was required of the wives, generally? Did you have to do anything in particular?*

*Margaret:* One thing that was required of me on that occasion was to sit between the old King Gustav Adolf and the then Crown Prince, who is now King, at a formal dinner. So I went around asking everyone I met at the hotel what the king was like, and what you said to him. They said, "Oh, he's a dear; you'll absolutely love him" — and they told us stories like this: He was doing some Christmas shopping at a department store near the palace in Stockholm, and as it was hot in the store, he had taken off his overcoat and someone was standing apart holding it. He was just wearing an ordinary suit. Some very indignant lady came up to him and demanded, "Are you the floorwalker here?" He took it very politely, and never explained who he was.

And indeed he was a dear. I sat down next to him after hearing myself formally introduced, and the first thing he said was, "I'm very deaf, so you'll have to shout." I thought, Can I bring myself to shout at the king? But it was a question either of that or of having no conversation at all, so I shouted and we got along very well. He was an archeologist by avocation, and became king late in life. He had done field work in archeology and we had some acquaintances in common, which was a fact I knew because I'd done my homework. That made conversation very easy. He had something sensible and intelligent and very much to the point to say about everything — any subject in or out of what you might think was his ordinary province.

*Gweneth:* I sat between the king and Prince Bertil — the one who just got married a few weeks ago. The king was

marvelous, he really was. Conversation was no problem at all. He's so practiced he could talk to anybody. He did ask me how many members of the House of Representatives there were. I told him, I'm sorry, I don't know. I think it's something like 500.

Richard enjoyed sitting next to Christina, the present king's sister. But he did have a little trouble with the old king's daughter-in-law, Sibylla, who was the epitome of a queen or a princess. White hair — not a smile — extremely dignified — ramrod straight. She really wasn't his kind of — girl.

*Margaret:* In 1969, Murray was seated between Princess Christina, aged 26, and her mother, Princess Sibylla. In his right ear Princess Christina was complaining of the length and tedium of Nobel banquets, which she must attend every year. She went on to tell him of one exhilarating occasion when a new laureate, instead of making his way around the immensely long head table to make his acceptance speech, had summarily scrambled over it, to her great delight. At the same moment, in his left ear the dignified Sibylla was recalling in tones of shocked decorum

the banquet at which some unmannerly lout of a prizewinner ("An American, I think.") had actually climbed over the table on his way to the podium. Even Swedish royalty has its generation gap.

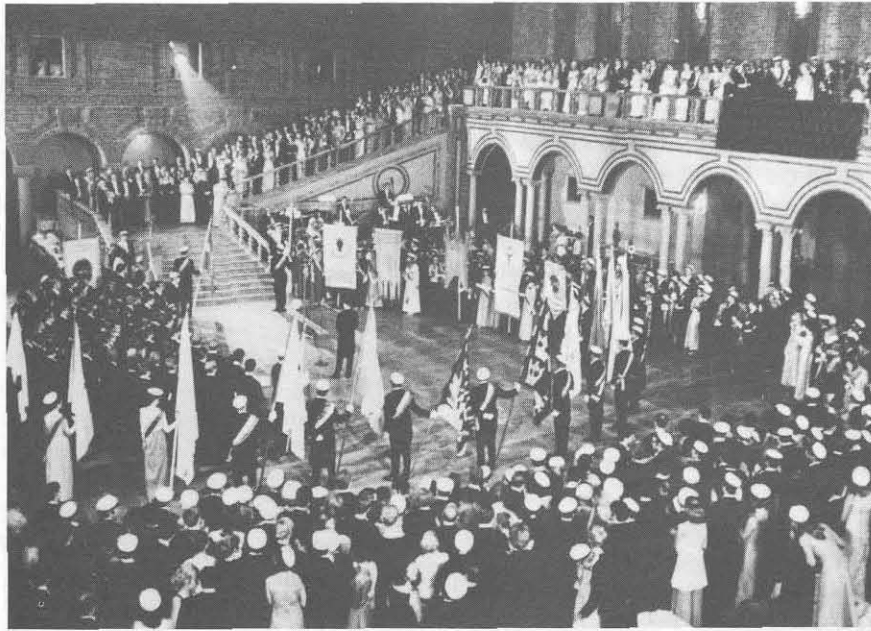
*Did your husbands prime you at all on things to discuss?*

*Margaret:* No, I think we had a much better time than they did because we were not completely scheduled. We never thought of Max being anyone's younger brother until we saw his three older sisters actually arrive. Murray's brother, who is a very pleasant fellow, was there, and he and I did a lot of things together while Murray was off being presented with scrolls and such, and making speeches at various functions. I think the families had much more fun than the laureates themselves.

*Gweneth:* I enjoyed the trip we took to Uppsala. That was beautiful. It was the first time we saw the sun in seven days. There was a constant cloud cover; it felt like it was ten feet above your head. It was piercingly cold, with snow on the ground, and it was dark, dark, dark, all the time. Depressing. But as soon as the sun comes through those clouds, it just



Nobel banquet in Stockholm's City Hall, December 10, 1969. Margaret is next to the King.



Nobel banqueters are received with some ceremony at the university students' dance.

changes the whole world around you.

*Even though you weren't in on the Stockholm festivities, Lorraine, you've probably heard all about them.*

*Lorraine:* Yes. Carl's told me a great deal. One of the things I remember distinctly is that King Gustav V's salt and pepper shakers and the back of his chair were taller than the salt and pepper shakers or the back of the chair of anyone else at the table. That must be the true meaning of king-size.

*Carl's family came from Sweden, didn't they? When he went to Stockholm, did he meet any of them?*

*Lorraine:* Oh, yes. All of them. His father's twin brother, as tall as Carl's father was. Way up there. More uncles than you could count — and 26 cousins.

*Did they all come to the festivities?*

*Lorraine:* No, the festivities weren't all that open. But he saw a lot of them. One of the most amusing memories Carl has of the affair involved his trunk. It didn't arrive in time, and he had bought a whole outfit in New York — top hat, tails, and all. So, at the last minute, he had to rush out and rent clothes in Stockholm. And all over Europe after-

ward, the trunk followed him. It didn't catch up until after he was home again.

*What happened in your household, Manny, on the day your husband was nominated, or won the prize?*

*Manny:* I was sound asleep — everybody was sound asleep. It was about 4:30 in the morning when the telephone rang, and I finally woke up and went to the phone and thought, Oh my God, it's probably my mother dying or something like that — so I rushed to the telephone full of fear and a voice — from Stockholm — said, "This is Reuters. Your husband has just won the Nobel Prize!" So I went back to bed and told Max. Max said, "Good! Let's go to Moscow afterwards." (He wanted to try and help a Russian friend in political trouble.) We did go on to Russia for two weeks and did see this old friend. Those first weeks after the news were exciting. Everybody you ever knew in your former life responds. Later you have to avoid being put on a pedestal; family democracy helps.

*Gweneth:* It was really funny how we heard about it. We'd been to a party the night before — I guess it was a Thursday morning. We didn't get to bed until half-past two, and at four o'clock the

phone rang. Of course there are occasions when the phone rings at three and four and five. Not often, but sometimes students in high spirits decide to call Richard. Big joke. Also, some are desperate — they're on a downer and really need help. It has happened. So when the phone rang on Richard's side of the bed he picked it up, yawned, said, "Call me back in the morning," and put the phone down. So I said, "What was that?" And he said, "I won the Nobel Prize." I said, "Oh, go to sleep!" Richard has a very dead-pan way of making jokes and 9 times out of 10 I know that what he says is not so. But this was one time it was true. Then the phone rang again, and he said, "It's four o'clock in the morning. Call me back later." And I wondered who it was who would call him back again. So he put the phone down, and I said, "Is it true?" and he said, "Yes." Then the reporters started to call from New York. So we were lying there wide awake after an hour's sleep with the phone off the hook and Richard said, "I have to get up." When he's thinking he always has to pace the floor. He went downstairs to his study and banged around for a while, then he said, "I think I'd better put up the phone" — and RING!!!

So then we decided we just had to get up, because the *L.A. Times* called and the *Star-News* called and reporters were on their way. So we got up. Those reporters were there at five. Of course it was a full day afterwards. There was a press conference and the phone was going all day long and people were coming over and we didn't get to bed until midnight. There was a long day.

*Margaret, how about a little background on yourself?*

*Margaret:* I was born in England and went to Cambridge University where I studied first classics — Latin and Greek — then archeology. I was lucky to have as a fellow student the daughter of a distinguished archeologist who was excavating in Mycenae after the war, so I spent two summers when I was an undergraduate in Greece, digging up

among other things the first Linear B tablets at Mycenae. It was one of the most exciting experiences I've ever had or probably will ever have.

Toward the end of my time at Cambridge I began to wonder what I should do next. At that time people with Classics degrees had great trouble getting jobs in England unless they were willing to teach in the high schools, and I didn't think I wanted to do that, any more than I wanted to sell men's neckties at Harrod's, which seemed to be the alternative. So I went to see the job counselor one wet day when I had nothing else to do. When I went to her office, she threw up her hands and said, "Oh my God! Not another Arts degree? . . . Why don't you go to the U.S. for a while?" — trying to get rid of me. She handed me some forms to apply for scholarships, which I did, and I ended up spending a year at Bryn Mawr as a graduate student in archeology. At the end of the year there I hadn't learned much archeology; I was too busy gapping at the American scene and trying to learn to speak the language. The only thing I realized was that I hadn't really encountered anything which you could call typical of the U.S. At least I *hoped* Bryn Mawr wasn't typical of the U.S. I wanted to see a little more, so I got myself a job at the Institute for Advanced Study at Princeton as a research assistant to an elderly archeologist who was writing a long book, and while I was there, Murray and I were introduced by a mutual acquaintance. Somehow we took to each other instantly, although we're very, very different people and always have been, both then and now, and sometimes have trouble finding the same wavelength to communicate on. But we were very much interested in each other from the very first meeting.

I was running the cash register in the Institute lunchroom, which I often did to earn a free meal, when Murray first appeared. As I checked his order, he started to tell me about his upcoming trip to Scotland, and how, as well as attending the physics conference, he planned to go bird watching in the Hebrides. So I drew him a sketch of a puffin,

which is a quaint black-and-white sea bird that nests on some of the Scottish islands. I was the first girl he had ever met who knew what a puffin looked like. He still has the sketch.

Later that summer I had to go back to England because I had a cable from my father saying that my mother was seriously ill and if I wanted to see her I should go home. So I made arrangements to give up the job at least temporarily and fly to England. It so happened that Murray was also traveling to London from New York that day, and as he passed through New York from Chicago he had an hour or two between planes, so he called up the Institute at Princeton and asked to talk to me. He got hold of a friend of mine who said, "Well, she's just left for England today." He asked why and she said, she didn't really want to tell him. But he gathered that I was likely to be in the airport at the same time he was. So he had me paged and left a message for me, which terrified me, because I had no idea what he wanted. I was sure it was some further terrible news. It was my first plane trip.

We were on different planes and he arrived in London an hour ahead of me, and he met me at London airport and held my hand while I called up my father and found out the news. And then two or three weeks after my mother's funeral, when his meeting in Glasgow was over, and my immediate crisis was over, he telephoned me and said, "Why don't you come to Scotland for a while?"

Now, this kind of thing, in my family, was absolutely unheard of — going to Scotland with a young man that you hardly knew. But I took advantage of the fact that my father and brother were in a state of shock, and I went. And from then on there just wasn't any doubt that we were going to get married. We did a lot of bird watching in Scotland — and I should say that we were extremely decorous throughout the trip! We only saw one puffin.

In due course I went back to Princeton and he also was on the East Coast that autumn, so we got engaged, and subsequently married.

I had wanted to get married in England for sentimental reasons, but that proved to be difficult because Murray's a very impatient person, and always was, and he didn't want to sit around my ancestral village while the vicar read the banns for three successive Sundays. He couldn't think of anything he'd do for those three weeks, so he said, "Well, what can we do to shorten this process?" Someone said, "You could get a special dispensation from the Archbishop of Canterbury, but you have to have a very good reason." At this point my family got rather nervous that anyone would even think of bypassing the usual means of doing things. Anyhow, we were finally married in Princeton, and we didn't have any honeymoon at all. (We've been trying to make up for it ever since.) We set out the day after our wedding to drive across the country and that was how we spent our "honeymoon," driving our possessions from the East to the West Coast.

*Manny:* Well, I can tell you that Max took a whole week off from his experiments to get married. He couldn't wait to get back to Cold Spring Harbor.

*Margaret:* We didn't feel very comfortable in southern California then. We still tell people that though we've been here for 21 years they can expect our departure at any moment, although one of our children has grown up here and gone away.

*Manny:* I happen to know that Dick Feynman first saw Gweneth in a polka dot bikini at a beach in Geneva. Afterwards he told me he thought he was going to marry this English girl — he said, "Murray's had such good luck with *his* English girl!"

*Margaret:* It wasn't only the English girl, it was also a small brown dog that we had. When he acquired Gweneth he *also* acquired a small brown dog — which turned out to be a much better bargain than Murray made, in the matter of dogs, at least.

*Is this all true, Gweneth?*



Margaret Gell-Mann and King Gustav Adolf

*Gweneth:* Yes it's true. It was summer. Richard was in Geneva for the Atoms for Peace Conference. And I was — well, I'd better go back to the beginning.

I had a very uneventful life — very straitlaced — in Yorkshire, England. Nothing really happened, I went to school and started to be a librarian, and then I would go to the continent for summer vacations. I really became somewhat dissatisfied; I thought, is *this* all I'm going to be? Am I going to get married and then stay here in the same town all my life? And I couldn't take that, so I got a one-way ticket to Geneva. I didn't take enough money to buy a ticket home — on purpose — so that I had to find a job in Switzerland. And I did, and that's where I met Richard.

*Were you there a long time?*

*Gweneth:* Almost two years.

*As a librarian?*

*Gweneth:* No, I was an *au pair*. I had a good time there. Then my idea was to move on and eventually go around the world — just wherever I felt like going.

*And what changed your plans?*

*Gweneth:* Well, Richard can be a very smooth talker. He told me all about California, how nice it was. I didn't realize then that you have to get a sponsor to come here, and it's not too easy to find one. I didn't particularly care about coming to the U.S. I was thinking of going to Australia and staying a couple of years. So I really — he found me a sponsor, and that's why I came. But I had no intention of marrying him. There was nothing between us. We had dates, but . . .

*What does finding a sponsor mean?*

*Gweneth:* You have to have someone who will sign a contract that you should never become a public charge. In order to get an immigration visa you have to have a sponsor and they have to be of good moral character and enough money. You can get a visitor's visa, but then you can't work. And I absolutely needed a job. So, I came over to Pasadena. I came in June and we were married a year later in September. I had boy friends here — I had a marvelous time. I would date Richard from time to time, but not regularly or anything. Until he suddenly, out of the blue, proposed. I was never more surprised in all my life, and I had to think about it. He wanted to get married the next week, and I said, "No, I absolutely cannot do that. It's bad enough I have to write home and say I'm going to marry someone that nobody's ever heard of. And so we must have a Methodist marriage, because a civil marriage doesn't mean anything to my family in England. It's terribly important — it just wouldn't count."

This was hard, of course, because Richard is very much an atheist and I'm an atheist, but I wanted to do something for my family. It was going to be very difficult for them, because nobody had ever left home before.

*So you were married here?*

*Gweneth:* Yes. We found a Methodist minister and had a little talk with him beforehand to get around the theologi-

cal thing. We had a very nice wedding.

*Was your family able to be here?*

*Gweneth:* No. We went back the next summer.

*Did you study to be a librarian in England?*

*Gweneth:* Yes, and I worked at it a bit before I went to Switzerland.

*Did you work here in Pasadena?*

*Gweneth:* I worked as a housekeeper.

*People don't usually have the gumption to do something like that.*

*Gweneth:* It worked fine. You know, when I first felt in England that I was going to take off and go to Switzerland, I had lots of friends who said, "You're mad," and others said, "I'd like to do it too." But nobody else did it.

*It's quite a step.*

*Gweneth:* It was — particularly 20 years ago. People where I came from just didn't do that. It was a very small-town kind of place. I didn't have any job when I went to Geneva. I didn't get one until I actually arrived there. I had the address of two agencies that I got from the Swiss embassy before I went. So I did have two contacts. I got \$25 a month — 15 hours a day — 6½ days a week. I didn't have a half-day. I had three hours off on Thursday afternoon and three off on Sunday afternoon.

Of course, I couldn't live on that. I had to buy winter clothes and things



Gweneth Feynman and King Gustav Adolf



like that. I had to buy a candy bar and an English newspaper occasionally. And I had to go to the dentist — and that was just awful. How am I going to pay for it? So I had to keep writing to England, and at that time it was illegal to send money out of England. I'd say, send me some of my money; I need it. They would put the notes in personal letters. Once they had it opened, and a very stiff note was returned saying, "You must not send currency out of the country." But they just kept on doing it.

*Lorraine:* You know, Carl was a young bachelor of just 31 when he received the Prize, and after that he was quite a celebrity. He was sought after by everybody; he was lionized. So I'm very pleased that he chose to marry me. You know, of the four of us, I'm the only one whose husband asked her to marry him after he received the Nobel Prize.

Even though we were married after Carl received the Prize, we've still been involved in all kinds of special occasions because of it. Dinner at the White House in 1962 when President John Kennedy invited Nobel prizewinners and their wives. Lunch with Princess Margaret and Lord Snowden in 1965. Gweneth and Richard were there. Lunch with Princess Christina of Sweden in 1972. Dinner at the Hearst Castle — a dinner for Ladybird Johnson given



Max Delbruck in a solo turn

by Governor Edmund G. Brown. That was a fun evening. Dinner on the terrace, lots of luminaries. Gweneth and Richard were there too.

I remember one thing about Kennedy's dinner. They put the wives and husbands at separate tables, and Carl looked over the place cards at his table and saw that one said, "The President," with Mrs. George Marshall and Mrs. Ernest Hemingway on either side of him. Carl sat on the other side of Mrs. Hemingway. She talked to the President quite a bit, and then she turned to Carl and apologized. The Hemingways had spent many years in Cuba, and this was just after the Bay of Pigs incident. She said she was telling Kennedy about Cuba; she thought he ought to know a little bit about it. After dinner Kennedy picked up Mrs. Marshall's and Mrs. Hemingway's place cards and put them in his pocket. So Carl thought if Kennedy could do that, then he could pick up *his*. So he did. He still has it. And he still has the Havana cigar Kennedy offered him.

*Margaret:* I want to say something serious. There are obviously a certain number of demands associated with being married to someone who is passionately and intensely engaged in any pursuit at all — particularly a creative one like science. But when I started thinking about what I would say tonight, what I really wanted to express was that it is perhaps the most inspiring thing in the world (next to doing it yourself), to be associated with somebody who is fiercely and intensely busy with questions of truth. This is something which absolutely compels a profound respect, and it's a very deep and abiding satisfaction to live with such a person, as I'm sure Gweneth and Manny and Lorraine agree. It's nice to tell stories, but I think this is a very important dimension of being married to a scientist, and it makes worthwhile some of the things you find yourself giving up.

I started thinking about the Nobel Laureates and their wives when I was asked to talk — and doing some very miniature statistics because actually I don't know many Nobel Laureates. I



The Feynmans at the students' ball

can think of only one whose wife has a really serious career of her own and that's Mrs. Luria. Certainly all the ones on the Caltech campus have more or less accepted staying home and fitting into their husband's lives, because what he's doing is very important. You find yourself making some sacrifices as you go along, postponing the pursuit of certain interests of your own for hours, or even years.

*Manny:* I don't think we made our husbands successful, but we could certainly have prevented it. You can so distract a man — so limit or push or annoy him that you can ruin his career.

*Margaret:* Yes, I agree. And probably most of you have already noticed this, but I'll say it anyway. The process of scientific thinking — the working of a scientific imagination often seems rather erratic, but in the long run there is a pattern that recurs. For example, Murray has an idea — when he first has it, it's a typical bright light bulb going on in the head — it's very important — it's going to synthesize everything that everyone's been working on for the last decade or century — it's going to solve the whole world — and then of course it goes through various phases as he starts to examine it more carefully. He may find he's lost a minus sign or a factor of two, or something; and the idea refuses to explain absolutely everything — there are some experimental results that won't fit. And there's a long period of working out, and gradually the mood gets scaled down to this very practical level and the whole thing becomes less exciting in a way. Although, each time



Richard Feynman receives his prize

some small piece works, there's again tremendous excitement. And finally it's whipped into a reasonable form and you hope no one else has been working on exactly the same thing — and is going to publish it before you do. Then comes the awful moment when it has to be written up for publication, with all the minus signs in the right places, all the footnotes, and so forth. That for Murray is a time of acute suffering, and therefore for everybody else in the house too, because he finds it very hard to write, being a perfectionist.

As I said, this process fluctuates enormously, and I find I have to go along with all the moods; I have to be enthusiastic when he's enthusiastic, depressed when he's depressed. I don't know, Manny, whether you can see the same sort of pattern, or whether Max's way of working is completely different.

*Manny:* Yes it is. He's rather calm, but I think I have to be able to be on my own and even enjoy being on my own — I've not only observed this from my own experience, but I've spent many summers on Cold Spring Harbor, which is a biological station where many biologists spend a period. There are meetings or short courses — for the men or women who are there. Their whole being has to go into intensive learning. Sometimes I've seen wives or families who came along being miserable, and they have certainly made their husbands miserable by expecting to have their attention at the same time. Expecting to carry on their family life when really that was not what they were there for.

*Margaret:* Yes, you have to provide a clear space in which they can work without distractions from you, and without a feeling in the back of their minds that perhaps you're restless. But you also have to be ready to stop being by yourself at any moment that your husband wants to go out to dinner, or go for a trip, or whatever. We've just found, perhaps because of our personalities, that we arrange our lives around theirs.

*Gweneth:* I think when Richard works it's very similar to what Margaret said. When he gets a new idea he's way off. He's just so excited. He paces around, and he talks aloud too. He worries day and night, and then suddenly — "Oh! It doesn't work!" And then if it really and truly doesn't work, that's it. But he sometimes can salvage part of it and then it gets more even. But on the rare occasions when something works — it doesn't happen very often — but then it's really something.

*And you provide the trays and keep the children out of the way? And make sure the clean shirts are ready?*

*Manny:* Let's admit it, we do shelter our husbands by making life peaceful and pleasant and fun.

I like to organize meals and parties and camping trips and holidays and daily schedules, especially I like to do it well, having decided it's not what you do, but how you do it, that matters. I do run the house and garden and guide the children and look after the cars. Even looking after the world and local politics are considered mostly in my realm, and at times I spend much time and imagination on this part of housekeeping. I manage most of the business and do the income taxes. With a moderate effort I've learned a lot and become financially independent.

I do hope you will all have the satisfaction of feeling you are, or could be, independent, and for this I guess a profession is a good beginning. I too might have enjoyed a profession, but I never found any field engrossing enough to sacrifice all my other interests and our freedom.

*Lorraine:* I wasn't that dedicated to what you'd call a career. When I was 8, yes, I wanted so badly a pair of ballet slippers because I had dreams of becoming a great ballerina. And I didn't get them, of course. Instead, I got vocal lessons and piano lessons.

*Do you feel you've had any effect on Carl's work?*

*Lorraine:* No. I don't think so. Not at all. Of course, I've tried to be understanding and to sense when I thought he had something important that had to be done, and I gave that top priority. Though he did a lot of physics after we were married, I think maybe if he was ever ornery it was before we were married.

*I think that answers a lot of questions for some of these young wives here. I was going to ask whether you feel that your husband needs any kind of support from you, in view of the type of work he does — but I think you've all answered that very well.*

*Manny:* I'm not scientific and I don't try to give help in that — but there are many decisions they don't want to make alone — many decisions about persons they're working with, and other types of decisions. We have been very close to students and co-workers and postdocs, so that in the end they become almost like your own children. Many have been around for six years or so. And lots of them have many problems, where I, or even the whole family is more helpful than Max alone.



Max Delbruck receives his prize

*Do you ever discuss your husband's work with him — and what level of communication does this usually fall in?*

*Margaret:* We probably have rather similar answers to that. I've long ago decided it's not really a good idea to try to learn seriously about the subject, because Murray's particular field is a very abstruse one in which you have to have considerable background in math, which I don't have and have been too lazy to acquire. However, he does talk to me. He tells me what he's thinking and what the new idea is about and its relation to what's come before, and I find it very flattering that he'll talk to me for half an hour when he's in the throes of a new idea. I'm not sure what he thinks. He thinks I understand more than I actually do. What I really understand is what's going on with him.

I've got to the point where I can give quite a respectable basic lecture on high energy physics without really knowing what it means — I know all the right words and phrases and can put them together, but you mustn't call my bluff. The communication is much more a psychological one than a technical one. That just happens to be true in my case because his interest is totally unrelated to my own field.

*How about you, Manny?*

*Manny:* Yes, about the same. And also, he'll say what shall I do about this person I've offered a job to and he's in a nervous state, so I'm sending him over to you to try to help him make up his mind; or shall I go give this lecture here, or is it worth going to this meeting? All those decisions are actually joint decisions. I think Margaret and Gweneth and Lorraine and I have husbands who appreciate us for being nonscientific — something complementing; the opposite of what they're intensely involved in.

*Gweneth:* Richard doesn't really discuss his work with me but he's superb at explaining a complicated thing simply, and I feel I really understand it — though I could never tell a third person what I think I understand. But he's re-

ally very good at explaining. He's quite aware of how basic he's got to be when he talks to dumb people.

*I get a feeling he must like teaching too.*

*Gweneth:* Oh, he does. And he loves talking to children. He has always had a very good relationship with Carl, who is 14 now — almost 15. And he is perfectly happy, which is really quite something for someone 15. Carl's mind is very much like Richard's.

*How about your daughter?*

*Gweneth:* Well, Richard doesn't have as close a relationship with her because she won't let him. She's a great tease, and she knows that he adores her, and wants to hug her and do everything for her, so she sort of teases and keeps him at a distance. Not all the time, but just enough so she knows exactly where she's got him. She's 8 — and a complete female. She has all the games already. I can just see what she's going to be like when she grows up — she'll be devastating.

*What kind of activities have you found that you and your husband enjoyed most doing together?*

*Lorraine:* Carl and I enjoy traveling. With our children we've been to Alaska, Hawaii, Jamaica. Carl and I drove a car 3500 miles through Europe — to Yugoslavia, Italy, just about every place. We enjoy being with friends, being alone together, we like to read, we enjoy entertaining, barbecuing. We had a great time raising our children. We have a small vegetable garden, and we're very proud of our asparagus. We like to swim together, here or at the beach, and we enjoy our small brown dog.

*Manny:* Actually we enjoy practically everything we do. Camping, playing tennis, backpacking, traveling, having children, meeting a lot of people, going to plays and reading books we both seem to like. It's hard to tell, when you've been together so long, which is your independent discovery.



After the award ceremony—Max and Manny Delbruck, their daughter Nicola, and Max's three sisters from Germany—Hanni Brauer, Lene Hobe, and Emmi Bonhoeffer.

*Margaret:* We also share a great variety of interests — travel, and anything out-of-doors — bird watching, animal watching, hiking, camping, river trips. We're interested in art and music — not so much as performers, but listeners — and languages. Although we have very different academic backgrounds, we both like things with structure. We enjoy the structure and nuances of languages. Murray is a lot more patient about learning new ones than I am. We play word games with each other. We like the same kinds of reading matter. We have a house in Aspen, where we spend almost all our summers; it's an old house, which all four of us are very fond of, and we spend a lot of time working on it, when we aren't in the mountains. Of course, a lot of physics is accomplished there too, at the Aspen Center for Physics. Murray is always enthusiastic, too, about my special interests — which nowadays include weaving and medieval calligraphy.

*Gweneth:* I love traveling and we travel a good deal, and we like to go backpacking, camping — and just *out*. And when we go out to a place we like to go to places on the back streets. We don't like staying in big hotels; we like little unusual places. And we both love to travel in the van — it's so comfortable, with the table and all. The seats fold down into a bed. It's a Dodge Maxivan; the biggest one there is. The four of us can sleep in it, if we have to. We prefer sleeping bags outside.

*You do have a place in Yorkshire?*

*Gweneth:* Oh yes. Everybody else is there. I'm the only one who ever left. We've been back two years in a row. Richard loves it; he can never get enough of it. The countryside is just — you can set out in any direction and just walk wherever you want, and with you go the dogs, of course. Richard runs, you know, every morning. He's got halfway to Mt. Wilson now — four miles straight up. And he runs when we're in England, which not many people do. He wears his little orange shorts and runs seven or eight miles, and word filters back from the country people around: "That man's back again. I saw him three miles over here." "Oh, did you? When I was driving my car at five o'clock yesterday morning he was over there."

*I have a question here that may be deeper than some of the others. How have you four achieved feelings of self-importance without being overshadowed by your husband's work?*

*Manny:* Well, I don't know that I have a feeling of self-importance! When I was younger I did feel uncomfortable about the whole world of men doing science — a bit left out. I've seen this in younger women, sometimes it was too much for them, it broke up their marriages. Especially since women's lib started. Then these men and this life made me so welcome I decided to relax.

*Lorraine:* You know, the Nobel Prize has enormous glamour and prestige, but I don't think Carl or most of the people who have one feel that way at all. Carl has always been very modest about everything, but especially about the Nobel Prize. I feel that way too. He always says he thought he had a lot of luck on his side.

*Gweneth:* I don't have the feeling that I have to be important. I'm typically happy with what I do, and I don't feel I have to compete. I don't feel a shadow — I'm perfectly happy and I know I make him happy — not by being a servant to him — we get along very well. I know he's happy because he says it.

When he comes home at night he says, Oh it's so nice to come home. Like on a rainy winter day when we have a big fire in the fireplace and the curtains drawn and good smells coming out of the kitchen. I don't do it just for him — I do it for the family, and I like it — I like to be comfortable. This is where my satisfaction lies and I don't have to feel important. I do things that he doesn't do, and I do them well.

*You do volunteer work in schools?*

*Gweneth:* Yes. I spend a lot of time and get a lot of satisfaction out of that, knowing that I'm doing something that's worthwhile. It's in the public schools; setting up a library. We set one up in Edison school about six years ago; they had none. And we started one in my daughter's primary school. This is the second year, and this was the last primary school in the whole district that didn't have a library. The books were there — stuffed in a closet for a whole year, and nobody knew about it.

And then of course I sing with Margaret. We have a group called the Arroyo Singers — between 16 and 20 of us. We sing all kinds of things. We're doing some haiku set to music by Perichetti, and we commissioned some work to be written for us. We do Bach and Brahms, and all kinds of things. The last time we performed was at the Music Center on Christmas Eve.

*Margaret:* I think we all know in the back of our thoughts that we're very important to these men whose activities we have enormous respect for, and as Manny said, we can't make them, but we could certainly break them. It's rather a definite policy not to do that. A lot of things we can do a lot better than they can. Like hanging pictures — or cooking. Murray and I love food and wine.

There's one thing that I still find rather exasperating, and that is, if at some social gathering I happen to make a remark that gets a general laugh or is considered to be worth repeating, almost invariably it's attributed to Murray. I've concluded that people simply

want to say that they've heard Murray Gell-Mann make this remark. Murray is extremely fair about it, and if he knows I've said it, he'll always say, "Why Margaret said that" — but it doesn't make any difference at all to the people who want to quote him.

I've just got to the stage where one child is off to college and the other is in junior high school and I am rather wondering about my own life. I was talking to my 20-year-old daughter a few months ago and I said, "If I were you I wouldn't play it exactly the way I have done — that is. I would make sure I had a firmer hold on a career before I deliberately gave it up in order to marry someone, no matter how much I was impressed by what he was doing, no matter how serious and important I thought it. Because, if not now, perhaps later when your children are grown, you'll need something to go back to." I said, of course, with me, I would have found it rather difficult to have a career — whereupon she broke in and said, "Oh yes. I do understand." She's lived with her father a long time and studied him rather carefully!

She said another interesting thing: "One thing I've learned from Daddy is to recognize and to hate shoddy thinking." Then she looked very sad and said, "But there's so much of it about — and so much of it is mine." I know just how she felt. But I said, "You can't really say it's a bad thing to have learned to recognize shoddy thinking — it's really a very important asset in your life."

Being the child of a celebrated father is something of a problem. I don't know how many of you have children and whether they all worry about these things. Our kids have handled it in different ways. Our son says rather bitterly that everyone expects him to be very smart because of his father, and that's quite a burden to carry. We tell him, of course, that no one expects him to be the same person as his father — but the feeling is there.

*Manny:* I think anybody who has a strong father, until that father dies, is not really free. □