Dan Formosa

Designer, Co-founder of Smart Design

Conducted by Danielle Charlap on April 12, 2013 at the Smart Design office, Starrett-Lehigh Building, 601 West 26th Street, New York, New York

Dan Formosa was born in Jersey City on July 16, 1953, and grew up mostly in Secaucus, New Jersey. He received his Bachelors in Industrial Design from Syracuse University in 1976, followed by a Masters in Ergonomics and Biomechanics from New York University (NYU) in 1986, and a PhD from NYU in 2000. In 1981, Formosa helped form Smart Design, a design and innovation consulting firm, where he continues to work to this day. Focusing on user-experience, Formosa encourages extensive design research before product production. He has worked on many well-known commercial products, including the OXO Good Grips Peelers, which are now a part of the Museum of Modern Art's permanent collection. Formosa's work has also been recognized by numerous design awards. In addition to his design and consulting work, Formosa helped establish the School of Visual Art's Masters in Branding program, where he is an instructor. Formosa also lectures on the subject of designing for people's physical and emotional needs, and has been interviewed for numerous books such as *Glimmer: How Design Can Transform Your Life, and Maybe Even the World* (2009) and *Brand Thinking and Other Noble Pursuits* (2011). In this interview, Formosa discusses his training, design philosophies, and favorite projects. He also describes the prototyping process for product design as well as working with corporate clients. Formosa sees an historic tension between design and marketing groups, and applauds the growing focus on design and usability as user reviews push companies to pay more attention to consumer needs. Also covered are topics such as the changing role of museums in the design community, and the role of computers in the design process.

Danielle Charlap [DC]: This is Danielle Charlap, interviewing Dan Formosa on April 12, 2013, for the Bard Graduate Center Craft[, Art] and Design Oral History Project.

DC: I was hoping we could start by you telling me a little bit about your childhood and where and when you grew up.

Dan Formosa [DF]: Cool, right. I grew up in New Jersey, actually almost within sight. I was born in Jersey City, grew up in Secaucus, also lived in Fort Lee, in my high school years. So basically you can see my whole childhood by looking out that window, across the river, at New Jersey.

DC: Growing up did design play a role in your life? Was that always a part of it?

DF: I've got these memories of things, if I think back. Like I noticed at an early age something kind of silly is that if you have a one way street, you need two one way street signs. Because the one on this way [points in one direction] is opposite the one on this way, because the words need to go backwards. Now, why at the age of five I noticed that was silly? And also the other thing I remember is that very early on, somewhere along the car entrance to the Lincoln Tunnel, there was a billboard for a car called the BMW Isetta. And I don't know if you know what the Isetta is, it is a tiny car, it has four wheels but the two wheels in the front are out further than the two wheels in the back. Almost looks like a three-wheel car, from some angles. And the door opens in the front, so it's like the world's most dangerous car. It's the most bizarre thing. Just remember looking at this billboard coming into the Lincoln Tunnel. As I remember, it was like a woman coming out of this Isetta and the front of the car opens and it just boggled my mind that that was a possibility.

DC: When did you think of pursuing design educationally, professionally? Can you talk about your education?

DF: It wasn't till late. It was in high school. I was into engineering. Not engineering, I was into physics and chemistry, various forms of science, and was doing pretty good at math, so I was thinking that was easy. I was okay at it. And I was also okay at art, so I was taking a lot of art classes. So I was tossed between the two, what should I do for college. But didn't realize that design was a thing, until literally the nth hour when I was just starting to apply to colleges, and I was wondering where to apply. And someone mentioned it to me, very informally, mentioned it. So I started looking around at design schools once I learned that those things existed.

DC: So you pursued that on the undergraduate level?

DF: Yeah, that was undergraduate.

DC: And then later on you studied ergonomics. Can you talk a little bit about how that ended up happening?

DF: All through undergraduate school, I was very interested in how design would work with people, affect people. Like how handheld products fit the hand and how the hand works. Things like how bicycles move, why bicycles are so efficient, things like that. So I was always, probably more than others within the class, I was always very interested in the effect of the design, as opposed to the visual aspects of design. Not that that wasn't important. But I was always thinking about the dynamics of design. Not the static visuals, but the dynamics. And pursued that after school, got some work. Very purposefully when I got out of school, I looked for freelance work in the New York City area because that would give me the chance to see different offices. And I think coming out of college I had this thought that design was not in a very good state. The field of design was not in a very good state. It was largely superficial and there was not really any interest or practice in the field of design research. Any that was happening was just starting to emerge. Not that there wasn't previous examples but most of designers and design groups around the country had relegated themselves to visual aspects of design. And they would be approached to design something when the product was actually finalized, engineered, designed, and their role would be to put some sort of surface on top of it, make it look like something. Usually make it look more expensive than it actually is, give some sort of glitz to it or chrome, false wood, or something to give it some perceived value beyond what it actually was. So my attitude was, let's not do that, and that design really needs to be intrinsic to the product. Because design could actually have an effect, could really affect our quality of life. Which is pretty well accepted now, design is popular lately. But in the late seventies, early eighties, that was a radical and not very popular thought. Even by practicing designers, who seemed pretty comfortable sitting at their desks, doing sketches and drawing things, and engineering drawings, but didn't venture out into the world to talk to people or watch people. Now, at the same time, a lot of companies were not into that either. A lot of companies felt that their marketing groups owned the consumer, and their marketing groups should dictate design to the design group. That's pretty much the way the culture was. So when starting design and telling companies, I want to go out and talk to people, it was met with resistance. Like you don't do that, we do that. We'll just tell you what they say. That was the state of the art, back then.

DC: Did you have mentors who introduced these ideas about thinking about effect, or was that something you had just noticed on your own?

DF: Like I said, there were examples, it wasn't an entirely new idea. There were examples, but it was a small percentage of the work that was being done out there. So there's examples dating back to the thirties, forties, fifties, of furniture design or attitudes towards design that could be beneficial, really be useful and beneficial to people, in general. So that was an inspiration or at least a sign of hope. Also partly, I attribute it to growing up through the sixties and seventies, where it was a radical time to be a student. And students at the time were anti everything, anti government, ready to change the world. And so, by the time we got out of school, it was very natural to not agree, to say let's take a totally different attitude. Not just in design, but students were doing that everywhere. Let's look at social issues, quality of life, let's try to change the world. And being a little bit combative or resistant was natural at that point.

DC: I know you co-founded Smart Design, and I'm wondering how you found other co-founders and realized you were like-minded.

DF: Well, one of them is sitting there. That's Davin. We went to college together [chuckles]. Davin had connections with Corning Glass. He actually grew up in Corning, New York. Corning Glass, meaning Corning kitchenware, kitchen products. So he was well connected there. And so we were friends—he was living up in Corning at the time, but we had a circle of friends here, from school, in New York City, so we stayed in touch. But Davin eventually moved down to New York City and brought some Corning design work with him, enough for him to get started. And so he actually initiated Smart Design. But I'd say within months or a year, several of us had gathered in a small office on 23rd Street, not to start Smart Design, but just to start working on things. So it didn't turn into Smart Design until a couple of years later. But that was the initiation. And our first project was actually soon after gathering in that room, and I mean literally within a month or six weeks, we got a request from Corning Glass to do a relatively good-sized project. They were starting a sunglass division to make their own sunglasses. They actually had this technology that would make sunglass lenses darker or lighter depending on the light in the room, or if you go outside or inside. So we took a super tech approach to it, even though it was a fashion project. It was a great combination of fashion and tech, and we took an approach, where we said, if you're going to start a sunglass division, what you really want to do is design for everybody, and figure out how to make these sunglasses fit people. So we undertook a study that was pretty radical, unlike what I think most design groups were doing, or would have tackled. And we basically measured people's heads and noses and eyes. And at the same time, we took these techniques from cognitive psychology to understand perception, like what felt too loose or too tight, or too big or too small, or too high or too low on your face. So we did this interesting study, where we put together both perception and physical aspects, and we created these guidelines for eyeglasses

that we used. I think we were working on that project for like seven or eight years until Corning eventually sold that division. But it was successful. When we finished, we ended up fitting almost twice as many people as any other company. So that was successful, and that was an early success that we leveraged as much as we could, and said, hey, you should really take this approach to design.

DC: I feel like user-centered design is much more embraced today, and I'm wondering how that affects Smart Design's work. Meaning, are there lots of other companies doing similar work now?

DF: Yeah, hopefully. What's interesting though is that a lot of the work that gets delegated to design is still very marketing focused, very market biased. So if you look at a full spectrum of what should constitute design research, it's physical, like biomechanics or ergonomics, it's physiology. It's good to know how your body works internally, like how your eyes work, or how you read a page, or whatever. It's cognitive, which is what you perceive and understand. There are gender issues, which is a huge topic. Males and females are physically different, they think different. There's a lot of interesting topics there just in understanding male and female difference, which most people, many companies, don't think about, don't address. There are social issues, there are environmental issues, in terms of the the actual environment, like being environmentally responsible. There's a whole spectrum of topics that would constitute design research. What most design groups are being asked to do, though, is a slice of that pie that's closest to market research. So they'll do interviews and opinion taking on design, with consumers, which is part of the puzzle. So it's a piece of the puzzle. But there's still opportunity to cover the full spectrum. Does that make sense?

DC: Yeah. It does. Using, let's say, your OXO peeler as an example, can you describe the process from beginning to the end?

DF: It comes up a lot. It was like twenty years ago but it comes up a lot as an example because it tackled a problem that was ubiquitous but not visible, if you know what I mean. Like no one thought about tackling every day kitchen products. We started Smart Design in like 1980, and all throughout we're saying you need to design for the spectrum, not the the target person that a marketing group would design, but you need to understand everyone. And that was a very hard sell, especially when we said you've got to look at the novice and the expert. So that would not be [companies'] point of view. It's not in the way you market or advertise. In marketing and advertising, you target this. So of course, they were relating that to design, so we're targeting this person, and that person is very well defined. And we'd say, we don't care about that person, we care about the width, the spectrum of people, and that's what we need to tackle. And that again

was a lot of head bumping. But we carried that torch throughout the eighties, with successes. And we were doing it for some companies, and had champions in some companies. But by the time OXO became a thought—it was actually an entrepreneurial effort—it really came back to us, as can we do that. Can we actually design for the spectrum? And, so, what was interesting about that project is, it was almost like 180 degrees. We were no longer preaching this approach, we were actually given the opportunity, where we said okay, cool. Lets just do it. So what's interesting about those first line of products for OXO is that they were very odd ducks. They were very odd things. And even though it brought design to a very consumerable level, it wasn't horribly expensive, but the tools were more expensive than what was out there. Like a potato peeler would be five dollars instead of seventy-five cents or ninety-nice cents. So that's quite a jump. What has always been interesting about the OXO projects is a couple of things. One is that there's never been any market research, always usability studies, to see what people can physically do and see and understand. But never ask permission, it was always a point of view, it was always like an attitude, like the tool should be this. And, as a result, when they were introduced, visually, they were very odd-looking things. They were very industrial looking, they were unlike other things out there. So that part of it was a risk. And the other thing is, most of the design research, meaning usability studies that we do, were all done in New York City. We don't go to other parts of the world, unless there's something specifically for Japan or something like that. That's a different story. But, all the usability studies are done here in the US, many of them over there [points to kitchen counters] [chuckles]. Like is going on now. So the couple of things about that, where, we'll have people come, even companies, respective clients coming, and they'd really admire OXO projects for what it does and stands for. But it's very hard for them to adapt to that, to follow that point of view. We can't just say, well you want to be like OXO, you should get rid of your marketing department [chuckles]. Don't advertise. That's a culture clash. But what's happening now is that, more and more and more usability is critical to success, because people are not looking at advertising anyway. They're not looking at marketing. They're not looking at companies' websites. They're all going to Google and Amazon and blogs and the Food Channel and whatever, to get real people, real views, real world reviews. Because you don't need to rely on advertising or brands anymore. You have now, which you'd much rather rely on, is each other. The whole world is connected. So the media is now being controlled by us. It's not being controlled by big businesses, or companies, or corporations. The media is controlled by people, which is an amazing, amazing, social, cultural shift in the world. And, it affects for one thing—it affects many things in the world [chuckles]—it affects the way we buy things. We don't buy things based on advertisements or claims by companies. We buy things based off somebody from Minnesota who wrote a review of a toaster. And we have no idea who that person is. We just tend to trust that person more than we trust the companies who are making those products

[chuckles], apparently. So, as a result, those products have to excel. They have to be super great. Because that's how you get five stars. And that's how you get on the Food Network, and that's how you get blog reviews or discussion groups talking about your stuff. So usability is a huge focus. And I think companies have been coming around to that. But still I think there's a culture change that is very slow within a lot of corporations. So even though they're addressing it, they're coming around to it more slowly than you would think.

DC: When would you say you noticed the tide shifting, in terms of openness to usability being the focus?

DF: Somewhere by early 1990s, I'm sure, when—this is my thought—people were using computers and realized that some were easier to use than others. Some programs were easier to use than others, and that frustration from many, many, many people, I think, put the thought of designing usability to people's minds. Because they all experienced frustration in a very tangible way on a daily basis, eight hours a day, sitting at their desks or whatever they're doing at home. So I think that started to plant the seed that design was a thing. And then definitely by the end of the nineties, everyone was conscious that that's the case. In terms of the importance of person-to-person recommendations, that's always been important to us. It's what we look for when we're designing something. We're actually looking to be better than what somebody expected, so that they would talk about it, or buy one for their sister or something, you know? But I think into the 2000s, that whole move was pretty apparent.

DC: Would you say that design education today reflects those changes and how, if so?

DF: Yeah, in some cases, but I think not nearly enough. Most design programs are still very old school. And while they may teach some aspect of design research, or call it design research, what they're usually teaching is a form of market research, which is opinion taking or interviews. Very few design schools, almost none actually, give any clue into ergonomics or biomechanics. Most people who design things don't know how the hand works. Go into statistics, which is critical to know if you're going to understand populations and if you're going to read reports and journal articles, or understand medicine, or understand energy, or understand these opportunities that are around the world. Especially now that everything is being quantified, people are, and design is, very interested, it seems, in measuring everything, or quantifying everything, or putting sensors on the body. It's very interesting, but what are you going to do with that data? Actually understanding and interpretation and application of that data is really where that key is. But, very few design programs—and when I say very few, I mean zero—teach statistics. There's no love for that topic, yet it's critical on how to deal with data. Or how to visualize data, or what to do with

data, to understand it, even if you're not generating data, how to read a report coming from people from other fields. So it's very interesting now because when I was talking about that full spectrum of topics that constitute design research, most of that is not being taught. Much of it is not being taught.

DC: So when you compile a team to work on a project, do you find yourself needing to find people from different backgrounds, or occasionally you find one person who has all these skills? How does the process of compiling [a team] work?

DF: It's usually a team effort. I mean it's good to get someone who has some understanding of every single discipline that's involved, but it's even better to get people who are willing to jump disciplines and take responsibility for everything. And the way that happens in reality is when everyone leaves their focus on their discipline and focuses on the person. Because suddenly focusing on the person, you realize your discipline is not the only thing that's going to affect the result. So what you've got to do is understand all aspects, like every touch point that the person's going to encounter. And once you realize that it's every touch point, you realize you better get your two cents in, or encompass a lot of the aspects of those touch points that may involve other disciplines. So the best practice that happens here, for instance, is when those definitions of disciplines get really fuzzy.

DC: I saw on your website that you design for people's physical needs, but also their emotional needs. And I was wondering if you could elaborate on designing for people's emotional needs.

DF: It's interesting, if you're looking at the topic of perception and emotions—and I think of them as one and the same thing—you want people to have expectations for a product, but you also want to exceed those expectations. So there are techniques that you can use from the field of cognitive psychology that would literally tap into those perceptions and emotions. And if you do that early enough, that can guide the design effort. And what's great about that is that that could also lead to more innovative ideas. Because there's more confidence that those innovative ideas have meaning to people. So it tends to be a win-win situation. Not only do you understand more about people and how people think, you understand where to take your design. And you bring your whole team, including everyone responsible, everyone on the team—us, as consultants, clients, whoever, engineers, etc.—you take them for that ride. So you can be further ahead than you would otherwise, where everyone may want to retract, because they're not sure how it's going to play out.

DC: Is there an example you can give that illustrates that?

DC: We did a huge quantitative study on a syringe that we designed, and the syringe is made for people with arthritis. And the syringe is an odd looking thing. But we were able to really empower people with arthritis, almost literally make them twice as strong. Not really make them twice as strong, but allow them to exert twice as much power when they're using the syringe. So we're enabling more people. And that was a combination of both looking, throughout the design program, at what people were physically capable of, but also what they're willing to do, and what they're perceiving they can do. So it was pretty interesting to, and unique to, do both of those in parallel. Because understanding what people can do physically and how they think are one and the same thing. I figured out early on that you can't talk about physical ergonomics without talking about perception. Because if you're going to ask somebody if they're comfortable that can mean a thousand things. So, having a good understanding of both of those, and also understanding both qualitative and quantitative methods, is really important, because you learn something in both cases.

DC: Can you talk a little bit about the prototype process? The different stages of the design from start to end?

DF: At Smart Design, we never spent a lot of time sketching. Like never did drawings, would always jump right into the shop and start making models or mock-ups out of paper or cardboard, or whatever's rough, and do that very quickly, experimentally. Because the faster you can make something, the faster you can change it. And of course, there's a difference to see a physical model on the table, as opposed to a sketch of it. It just becomes so much more real. You can touch it, walk around it, lift it, turn it around, simulate use. So, it's always been really important to do an iterative process as, I don't want to say as fast as possible, but, do many of them, throughout the project. A lot of companies do this: they'll research, design, evaluate. Even now you'd be surprised how many companies are coming here and saying, oh, we're six months into the project and we're in trouble, our evaluation failed [chuckles]. But we can't go back, the timeframe is now, or they need to launch the product. So our advice was always, what you can do is these tiny steps, research, design, evaluate, research, design, evaluate. Be much more experimental and much faster in your iterations. Be willing to fail, because failing in small steps is a whole lot different than failing six months out, failing in large steps. And that again can drive the entire process. You could be literally several generations ahead if you do the rapid iterations.

DC: Speaking of those prototypes you made, I'm wondering if you could discuss the role for handcraft in design. Is that still a part of your design process?

DF: Making, being willing to experiment, and, "tinkering"—it sounds like a silly word—but tinkering helps. And being very inquisitive and asking questions, not jumping to a design, but jumping to questions helps a lot. What don't you know, or want to know. Having a point of view helps a lot when designing something. And you'd be surprised how often that doesn't happen. A lot of times, by a lot of designers, it seems more like a shotgun approach. I'll try ten things, I'm not sure which one I believe in. But having some sort of beliefs, or convictions, or points of view from the start helps a lot. And then, in terms of craftsmanship, being able to work rough and then refine, and refine, and refine as you go along, that is important. It's critical. Being able to experiment, in the sense of running usability studies—whether it's interaction, or whether it's physical—helps a lot. Working, if it's interaction, quickly on paper before even moving into anything electronic, or screen based, helps a lot. Because that's the whole experimental process. So I think that whole experiment process is in a way craftsmanship. It's really how to design something, and what's your attitude going into it.

DC: I saw that you were one of the early proponents though of using computers in the design process, and I was wondering if you could talk about that and how you came to use it?

DF: Even when I was in college I was taking some computer courses, computer graphics course. So this was like middle seventies to late seventies. And there weren't many available. So I took a graduate level course in computer graphics, which was totally over my head. I was with all these computer people, and I was just totally in over my head. But I was able to get a computer to draw a line and vectors and circles and things like that. And it was really crude computers. It was programming. Nothing like what you see now. It was lines of programming to define a circle. But I was eventually able to design a wireframe, shapes. And I did that once for a design project in design school, where I made a wireframe of a plate and a bowl and a cup. Because if you make one shape, you can just rotate it twenty four times in a circle, and you have what looks like a wireframe of a shape of a plate or a cup. So I did that, and I'm totally revved that I was able to program a thing that does that. And I brought it into the design program, into the design department, and, god, I was the most unpopular person in the school. It was like, how can you sell out, how can you think a computer is going to design something. How can you design something on a computer? This is art. I was like an outcast. So that was the last time I brought a computer drawing into the design program.

Coincidence enough, my first design job was designing the first IBM PC, with a group up in Connecticut. And what was interesting about that was I understood some of the tech terms. They had been working with IBM for decades, so they knew IBM super well. But I knew what a CPU

was, or what the processing unit was, or operating systems. I kind of had this background, just coming out of college. I was a bit closer to the use of computers than they were. They were designing computers, but I was a bit closer to using it. So when it came time to design what started out being called a home computer, that was an odd project, because the question was what are you going to do with a home computer.

And of course it's interesting to design a home computer in a world that did not have any software [chuckles]. Like where do you start? Maybe someone should design software first, not the computer. But you can't design the software without the computer. So it was a bit of a mystery as to what, or why, anyone would want one, what you would do with one at home, unless you're going to sit there and program lines of programming. But, that being said, it was pretty interesting, obviously, like an interesting, groundbreaking project. Probably much more than any one on the team thought. And the design office was Eliot Noyes, and it was a group of like maybe seven people, seven designers and me. I was definitely a junior designer, I was new on the team, and just out of school. But it was very interesting at that time to figure out how something like a computer would fit into the home. Of course, it would be the most complex thing in the house at the time. So it was a great thing to fall into, although I didn't realize that until later on when I look back and say, hey that was actually a pretty interesting place to be.

DC: And in terms of computers in today's design projects, can you describe how involved they are, how you use them?

DF: It's anything from, of course, planning projects, which is important and creative. So how you address it. And everyone seems to do that on a computer, even though I think we should do it on a blackboard most of the time. The problem with doing a lot of project planning on a computer is it still tends to be very linear. If you do something in Word or PowerPoint, it's linear. But design projects are not linear. They're like this maze of activities that lend themselves more to like blackboards and diagrams than it does to word processing or PowerPoint. So I find that a little problematic actually, because it controls your thinking, in a way that most people don't realize. They think phase one, phase two, phase three, phase four. They think very linear. But the whole world is linear because they're doing it on a computer. Not that they're doing it on a computer, but they're doing it on a computer program that's very linear, like Word or PowerPoint. So that surprisingly is a constriction. That problem's so big that most people don't see it. But you're probably asking about physical products, like how you design things on computers.

DC: Either.

DF: Oh, well okay, so starting there, that's an issue. The ability to think visually helps a lot, but now a lot of people are thinking in terms of text, not visually, in terms of planning projects, or thinking wide angle about a project. And that's creative, how you're going to tackle a project, it's creative. And it tends to be not as creative as it should be in a lot of cases. When you get into actually designing things, like I said, if it's a physical product, try not to get on a computer. Try, because if you're on the computer too soon, you're sort of not facing reality. We want to get people into the shop very early, and do those fast models I was talking about, and physical things and try them out. Like simulate them. It's going on in the kitchen now. They're talking. This one's pretty well developed. But sometimes it's cardboard. We'll start out with doing it ourselves, but often we'll invite people in from outside. That does a couple of things. One is, you sort of get an outsider's opinion. But, also, when you invite someone in, the design team is very well behaved, it's like having a guest in your house [chuckles]. Everyone focuses and no one drifts off. But doing that very physically and watching and observing, and not jumping to a design, is key. That helps a lot. And not jumping on to a computer too fast, because it takes a lot of time to define something on a computer. Now, unless it's faster on a computer. Some parts that are intricate are easier to make on a computer and send to a 3D printer, than it is to physically make by hand. So there are times when you do that. Computers are really attractive, to sit down and do computer graphics all day. But you want to make sure that doesn't happen too soon.

DC: Can you talk a little bit about the process of collaborating with a client, since your projects tend to be initiated by a client coming in? At what point do you meet up?

DF: Sometimes we start off with a giant kick-off meeting. Sometimes actually it's a two-day thing. If it's a big project, we'll invite clients and that means people on the extended team can come from different locations, because the client may have, the company may have, various locations. Like they could have manufacturing in one place and marketing in three different cities. So we will gather them together because they all have input, they all should have input. And, it's interesting, sometimes they're meeting each other for the first time, or they're talking for the first time. So it puts us in an interesting position, often, because we are almost introducing them to each other or we're watching conversations happen that haven't happened before we got them all in the same room together. So that's interesting, and it's usually why it takes two days, because the first day they could be talking to each other, the second day we'll focus on the project. And it's interesting to get that whole team to plan out the project in a way, to figure out where we want to go, where we want to start, what the milestones are, where we want to end up. So that's important to do. And then, throughout, we're usually in pretty close contact with the people we're working with, because it's important that they understand. Eventually they're going to have to carry through,

and manufacture it, or market it, or sell it, or whatever their responsibility is. So that's pretty important and critical. And we do that often, all the time. Sometimes, if it's a consumer product, we'll go shopping with them. Sometimes we use activities that are interesting but not done when they're back in the office. If it's medical equipment, we'll all go to a hospital and watch some surgery take place, or talk to nurses. It'll be a bit of a field trip. And that helps everybody. Because everyone is seeing the same thing and we're discussing it afterwards. So that helps a lot. Often, sometimes it's just exposure to topics like gender. What are gender differences that are very often not discussed, understood within companies. It's almost politically incorrect to talk about differences between females and males within a corporation because it's a diversity issue. You can't sit at table and say females think different. Because you'll be [chuckles] booted out. But females think different. And to point out, as consultants, to say, oh this is how we see females react here, as opposed to here, this is what they're interested in, and this is what males are interested in, and this is where they converge, but this is where they differ. And some of it's instinctive, some of it's very natural. So pointing that out often helps. Another big topic we have here is how design affects behavior. Design can help save energy, and can help medical compliance on drug regiments. Things like that. So there's a lot that design can do to help the effect that's often not in the radarscope of the people within the companies who don't think of design as involving that type of problem. More and more, I think people are becoming aware of that. But there's still an education or awareness. We write articles about it quite a bit. We have videos on the internet where we're talking about how design can have these effects, and people need to embrace design as a solution.

DC: Speaking of one of those types of solutions, can you discuss the differences or similarities between something like your Ford SmartGuage, designing a technological interface versus designing a three-dimensional object.

DF: Me personally, I don't see a lot of difference, because there is an interaction to almost everything. Interaction is a component of a physical product as well. So it's what you see and understand, and where your hand goes, or where the buttons are, or whether it's electronic or low tech. There's a perception that you get. There's an expectation. So to me, personally, it's not a lot of difference. And there's not a lot of difference to the person using it. Because they're not looking at the interface of this cup as opposed to the physical aspects. They're just trying to use the cup. If you take that from a point of view when you're trying to understand the person, then the medium that you're working in, whether it's an interface or paper—just printed stuff is interesting to design. A lot of people don't understand the design information on a printed page, and illustrations, and things like that—or physical product, there's a hierarchy of usability issues that

go down from instinct down to the instruction manual. There's a whole number of things in between. But the first thing you'll respond to is instinct. And we all have it, much of us have the same instinct. And the last thing you want to do is read the instruction manual. So you always go to instinct, because it's just built in to all of us. You never want to go to the instruction manual. In between, there are all these cues that you can design in, whether it's physical or graphic, or sounds, or beeps, or moving graphics, interface, etc. So what you want to do is really understand the whole hierarchy of usability. And if you think about the hierarchy, the thing you're working in doesn't really matter. Does that make sense?

DC: Yes.

DF: Are you believing it?

DC: Yeah [emphatic].

DF: Because I swear, it's true. I swear [chuckles], I swear. You can design, oh, well you're doing product design and interface [referring to classes taken by DC].

DC: Right.

DF: How are you seeing a difference?

DC: We've been talking a lot about the similarities, and being conscious of the fact that the internet screen is an interface that you're interacting with, like anything else. So, that makes sense.

DF: Yeah. What you want to do is figure out what's meaningful to people, cause that's what they're going to react to. You can have an interface, or features, or products, or things that a product does, physical, or things that an interface does electronically, that if it's not meaningful, it doesn't matter. So figuring out, in that whole process, what's meaningful and what people want to do, or want to accomplish, is key. And that's the common element no matter what you're designing.

DC: Do you have a favorite project you can talk about?

DF: Usually when I talk about things, it's like the most silly things. I mean, I like the Ford example, because it changes the way car companies think about cars. I was just at the auto show, and other car companies now have joined that bandwagon. They're looking at how drivers perform

themselves. Giving feedback to the driver about the driver, not just about the car, but about the driving performance. So I feel like that was a minor revolution. It started car companies thinking about the driver and it also engaged the driver as part of the puzzle, giving the driver part of the responsibility for energy efficiency. Which they always were, but it was always a divide between what the car can do and not always conscious that the driver has a huge effect on that. So by helping them, coaching them nicely, they're willing participants, they're willing to get better at it. A little bit different than telling someone how to drive, which doesn't go over well [chuckles]. But coaching them on how to drive or giving them advice now and then is helpful. So I like that project. In terms of small things, it's things like the cheese grater that grates in both directions. No one did that before. I couldn't find one, we've never seen one before that. But you can make the cheese grater grate on the down stroke and on the upstroke. Which means you grate cheese twice as fast. Is that a major world accomplishment? I think so [chuckles], yes. Is that as good as the energy conservation? Yeah, it's cool. Some of the simple, dumb things that you find are interesting.

DC: What role do you think aesthetics play in user-centered design?

DF: There's really a divide between aesthetics and function. And I've never—again, going back to my hopefully Leonardo De Vinci-like instinct—I never separated those two things. Because your left and right brain are connected. It's not two brains, it's two halves of a brain. So left and right are connected. So I include aesthetics as part of a function. So part of the function is aesthetics. And function sounds like an offensive word when we're talking about aesthetics, but I think it's part of the thing that the product or object or service or interface needs to accomplish in order to please the person. It's physical, it's cognitive, it's visual, it's all those things. So there probably needs to be a better word than function or aesthetics. But it's the big picture of usability. It's how a person relates to a thing. One of the topics that's interesting is that—again, getting back to instinct—there's no instinct in the human body that would make them love a thing. Modern human behavior goes back like 30,000 years, so it's caveman times. There's nothing in the evolutionary process that ever drove us to love a thing, love an object. We're attracted to each other, we're attracted to other people, but not a thing. So now brands start emerging as entities, like 200 years ago, in the 1700s, you started seeing brands. And brands now have a personality, or a thing, and they're advertising it. And they're starting to become an entity. What a brand company marketing person wants you to do is love the brand, be attracted to the brand, so you'll buy it, but there's nothing in our instinct to do that. So what actually happens is that brands take on human personalities, human attributes. So when you talk about a brand or an object or a service or a product, whatever, you impose human attributes to it. Oh, that's really dependable, or I could trust

it. Or, you impose the same exact attributes that you would impose on someone who you like, a person who you like. So it's interesting to think that way, of how really brands or companies are really relationships, personal human relationships. And those principles are really simple, but it's also surprising seeing how many companies do a terrible job at it. They just don't act like they're dating, they don't act like it's a person-to-person relationship. If you do get that, it's golden. That's when people start to love your product or your brand or your service, when you actually do act like a responsible person, not a corporation or a company.

DC: How often are you in touch with the marketing team once the product's finished?

DF: There's usually a point where the company takes over. So the way we work is on contract. We work on projects, which means it has a start and a finish. And we have very long-term relationships, so I don't want to say it ends, but often the project itself may end. But we'll be in touch with how it's doing. We'll definitely be in touch if the next generation comes around, or if there's a second product in the line. So we're in touch to that extent.

DC: What does it mean to you that your OXO pieces are in the MoMA collection? How do you envision them fitting in there?

DF: We thought it was interesting. When it first happened, we thought that if you go down to the basement of the MoMA somewhere, and you look on the bottom shelf, there's a cardboard box with some kitchen tools in there. And they'd stay in there. It's the permanent collection. So [chuckles] that was our first impression.

DC: Are there other pieces that you might compare your pieces to?

DF: Now this is interesting. I always thought of museums as being archives. Like pretty much passive. But I realized a couple years ago that museums—and same thing with design award programs—I always thought of design award programs as kind of passive. They kind of wait for something to happen, and then they give it an award. And a lot of designers strive, have always strived to get their product in a museum collection or a design award. Some people live for that. Like strangely. It's like a great honor. But for the longest time those award programs were based on visuals and photos and sketches. It was very superficial what they could depend on. And what they would do is literally give an award based on aesthetics. What that would do, is that would change designers' perceptions of what their job was, what their responsibility is, because their goal was to get a design award. What they needed to do was work on the aesthetics. And if function suffered, or usability, or cost, or environmental issues, or any of that suffered, who cares.

Because this is the epitome of design, is to get a design award. Same thing with the museum collection. Now, what's happened in the last ten years, maybe less, is that museums and design awards have changed their criteria and they're getting more responsible in what they want to show. Now this is for a couple reasons. Museums need an audience. Museums are a business. They need traffic. And they're finding that when they are socially relevant, people show up. Like when they show archive things from the 1890s, like here's porcelain from the 1890s, decorative arts, not a lot of people show up to that exhibit. But when they show motorcycles, the history of motorcycles, they're all there. It's relevant to people. So what's happened is the criteria or the exhibitions that museums are mounting have a lot more to do with social issues, and social responsibility, and human issues, and cultural issues, or global issues. And same thing with design awards. Design awards are realizing they get more attention when they are relevant, not just aesthetics, they are socially relevant to how wonderful design is for the world. What that has done is that has changed the perspective of what design is about, by designers. So now, if a designer wants to get something in there, in a museum, or in an award program, they've got to qualify for those socially relevant and meaningful qualities. So what that means to me, suddenly it's like whoa, I've never thought of this, is that museums and design award programs could be leading the parade. They're not passive. They're not reflective. They have a lot of power to define the field of design by holding up examples that meet their standards. So that's flipped my mind about those things in maybe the last seven years, when I started realizing, and also when museums started mounting these exhibits that were responsible. And they were popular. People would buzz about them and show up and line up for those exhibits.

DC: Speaking of exhibitions and museum involvement, do you see a relationship between your work and things like the 1950s Good Design and Henry Dreyfuss's *Designing for People*, and that ethos? Or do you consider what you do today something different?

DF: I think there's a lot of good there. I think they were a little hamstrung back then, in terms of what companies were willing or were asking clients to do. And again, companies controlled the media. If you look at advertising or marketing back then, it was just horrendous, it's just unbelievable and very suspicious and it deserves the bad reputation it had all through the sixties and seventies. There must have been a time, like in the 1920s and thirties and forties, where designers would design something and then hire a marketing person to sell it or market it. And I think right about the time of television advertising, it flipped, and companies realized they had to advertise. And they had to advertise whether they had a design or not. So they would now ask designers to make something look good, so it looks good on television, or so it looks good in print ads or whatever. Cause they'll go market the hell out of it. And so designers were asked to be

very superficial. And the marketing people were asking the designers to do that. And budgets became tremendous for marketing and advertising, microscopic for designers. But designers who were looking for work seemed to be okay. I think if designers had the big budgets and they were hiring marketing people, it would be a whole different world. But I think advertising and television advertising had a huge affect. Which is why I'm saying now that the media is controlled from the bottom up. It's not the top down. We don't care, we're not paying attention to television anymore. And that's where these things are flipping. This whole issue of usability and personal meaning and responsibility are all hot topics that people are bonding to share information, to refer each other. And globally. If something is launched in Japan today, you're going to know it tomorrow. Whether it's here yet or not.

DC: Speaking of globalness and collaboration, what do you think the role of the individual designer is today? Is there room for star designers?

DF: I think that's interesting. I think that it helps for designers to know something. So, for the longest time, designers have relied on a process. First we do this, then we do that, then we do that, then we do that. And there's less focus, I think, on designers knowing things. As opposed to designers doing things. But I think the future of design is being hired for what you know and what you can bring to the party. So it's starting in a way. It's not superficial, it's starting. But it's really people who know their stuff, have an attitude and a point of view, and are not wishy-washy about what they do, or don't just follow a process by rout, cause that's like a commodity. You need a process, but it's not unique to have a process. Everyone has a process. And pretty much everyone has the same process. Now say too, most of the processes used by designers are designed for incremental change. They're not designed for innovative changes. They're designed to go from here to here in the shortest amount of time possible for the lowest budget, so that we get to the next incremental change. So the idea of getting to a more substantial and innovative change is not usually possible or not easy within that same process that has evolved to get to the next incremental change. Does that make sense?

DC: To follow-up with that, the individual in that changes that process?

DF: An individual can change, because that individual, if they are knowledgeable enough, they're not relying on the process. They're relying on some sort of vision or insight or something that they have accumulated over the years, so that they know how to do it. And they're asking the right questions, and they're asking the right branches, and causing the right amount of trouble. But also has that amount of clout or confidence that people will come along with them. The whole team will follow through that point of view and have that confidence and faith.

DC: Just a few broader questions. One would be where do you see design going and where do you hope it goes, if those are different or the same?

DF: I think in terms of affecting the brands, what we're seeing now is that companies are realizing that their whole brand equity—and in many cases it's valuable, a brand is worth a lot of money, just the brand itself—is only as valuable now as the buzz that that brand gets amongst people, like I was saying. So what that means is not so much that designers are getting into the brand, but that brand is getting into design. The brand is about the design. Which brings the conversation about design up to a different level. It's not just the product, it's everything. It's a critical topic. When you look at the opportunities, again, a lot of things like design and behavior and healthcare or energy savings, it takes a billion dollars, literally a billion dollars, to make a new drug. But that drug is only as effective as the ability or willingness of people to take it. And people are not taking their drugs. And it's not because the drug doesn't work, it's because people don't behave. They don't want to take their drugs, or the drug is a stigma, or their medication, injection, or whatever they're doing. So the amount of drop-off in drugs is amazingly high, like thirty percent, some estimates of fifty percent, that people who are prescribed drugs drop off. Like thirty percent, within, like three to six months. So the numbers are crazy. So if design can have any impact, and it can, even if design has minimal impact, minor impact, on that number, it's still extremely valuable, both in terms of health and in terms of the healthcare system, the patient's health, the effectiveness of that drug. Of course it's good for the company selling the drug, because more people are on the drug. So it's a win-win-win situation. And a lot of companies have not addressed [or?] the thought about design as part of the solution. Or they'll have a brand for a drug but they'll consider that brand about the pill or the molecule, not about the illness. So drug companies, for instance, have a opportunity to extend their brand equity by connecting more closely with patients, and defining that brand as a brand that will help the patient, not as the brand that represents this pill. Does that make sense?

DC: Yeah.

DF: I'm saying that, because healthcare is a huge area, like a gazillion dollar area. But it's the same thing for energy, the same thing where the power of design is becoming more and more noticeable.

DC: If someone were looking to get into design today what would you recommend? Where would you start?

DF: It would be good to find a program that's not as traditional, based on traditional values of design. Design used to be about taming the machine. How do you get a product out of a metal stamping machine. And you used to know a lot, you used to need to know a lot about technical aspects of the manufacturing process. Like how to fold metal and how to inject plastic. And that's good to know. But it's only like part of the picture. So what you really need to do now is understand people and psychology and statistics and biomechanics and you need to know the person. Because the professional who understands the person is the person who will control design. It doesn't have to be the designers. That person can tell the designers what to do, do you know what I mean. So the valuable person is going to be a person who understands people, and can understand people and design. And hopefully, that will be designers, the design profession. But going into school, that's what I would say would be critical, is to think of all aspects of a person and every touch point and every factor within a person that would have an effect on the outcome.

DC: And if you met a stranger and they asked you what you did, what would you say?

DF: I say I'm an architect. Cause if I say I'm a designer no one knows what that means [chuckle]. Sometimes I say I'm an architect.

DC: Really?

DF: Yeah.

DC: Interesting.

DF: Yeah. Sometimes I say design things, but that sounds flippant [chuckles], but I design things. What do you mean you design things? Then it gets into a long conversation. Say what do you do? I design things. But that sounds odd.

DC: Is there anything else you'd like to mention?

DF: No, what did you miss? We didn't talk about you at all. What's going on in your program?

DC: Our program is really interesting.

DF: Yeah?

DC: Yeah, maybe I can turn this off.

DF: Oh yeah, cause you don't want anyone to hear what you say about the program [chuckles].

DC: But thank you very much.

[End of the interview]

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