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Source: *Furniture History*, Vol. 26 (1990), pp. 132-141

Published by: [Furniture History Society](#)

Stable URL: <http://www.jstor.org/stable/23407149>

Accessed: 31-10-2015 10:10 UTC

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INTRODUCING RAY EAMES (1912–1988)

By PAT KIRKHAM

In 1983, five years before her death, I interviewed Ray Eames who, together with her husband Charles (1907–78), formed one of the most significant design partnerships of the twentieth century. It is the text of these interviews that I offer here as my contribution to this publication dedicated to Geoffrey Beard. Geoffrey encouraged me in my many enthusiasms within furniture history and, in particular, my interest in oral history and twentieth-century design. I wish to thank him for that and for much else besides.

It is as furniture designers, whose work was both technologically innovative and aesthetically daring, that the Eameses are best remembered, but their architecture and interior design also brought them international acclaim as did their exhibition design, film-making and multi-media presentations. But their interests did not stop there. They were interested in a host of other things, including the circus, the theatre, science, technology, space, and philosophy — topics they often referred to in their films and exhibitions. The Eameses were at pains to stress that the protection and preservation of the environment meant dealing with the problems of towns and cities as well as the countryside — something we would do well to remember today. Toys, especially old toys, fascinated them both and were used in assemblages of objects in interiors and exhibitions as well as their films. They began to think about designing toys themselves when they could not find suitable gifts for Charles's daughter Lucia, as well as for the children of friends. While they admired the honest use of materials in old toys, particularly in old mechanical toys, they never tried to recreate the past and reproduce old toys. They took their starting point to be those values underlying the toys they admired and produced contemporary toys; in the 1950s their innovatory designs were manufactured by Tigrett Enterprises, an 'educational toy' manufacturing firm based in Jackson, Tennessee.

Within the collaboration between Charles and Ray Eames, which began about the time of their marriage in 1941, it is not easy to ascertain who exactly did what and when. The individual contributions of each person in *any* design partnership is always difficult to assess and, in the case of Charles and Ray Eames, the interchange of ideas between these two enormously talented individuals is particularly difficult to chart because their personal and design relationship was so close. At times, it seems impossible to penetrate the complexity and itemize who thought of what, while there are other commissions where the individual contribution of each partner is more clear. Talking with Ray Eames sometimes helped document their individual contributions, at others it confirmed the rich and complex nature of their collaboration. There is no doubt that each of them brought individual expertise to their joint work; Charles from his architectural background and Ray from her painting and interest in modern film and dance.

Part of Ray enjoyed playing the wife behind the great genius, while another part of her craved recognition in her own right. She adored Charles and would have been the last to deny him the main glory for their furniture designs and was frequently modest (some would say uncharacteristically so) about her contribution in that area. Yet Deborah Sussman, who worked for many years in the Eames Office, remembers that Ray played an important part in refining shapes and argues that the final forms of the furniture must be

seen as a joint effort. Whilst Ray claimed that Charles's sense of form was 'perfect', he made similar claims about her:

she has a very good sense of what gives an idea, or form, or piece of sculpture its character, of how its relationships are formed. She can see when there is a wrong mix of ideas or materials, where the division between two ideas isn't clear. If this sounds like a structural or architectural idea, it is. But it comes to Ray through her painting ... any student of Hans's [Hofmann's] has a sense of this kind of structure.

Furthermore, when discussing the war-time production of plywood pieces, the architect and designer Gregory Ain stated that she was able to bring 'things into relation with one another and find the inner order in whatever she touched' and it is now generally agreed that the final form of the famous DCM (Dining Chair Metal) owes a great deal to Ray's work as an abstract painter.¹

There is a parallel between the way Charles and Ray Eames have been viewed and the way that the Charles Rennie Mackintosh/Margaret Macdonald Mackintosh collaboration has been viewed since the 1920s. Despite C. R. Mackintosh's own declaration that Margaret had 'genius' while he had 'mere talent', her work has been denigrated because it was 'decorative' rather than structural and architectural, and it has been suggested that her design preferences for decoration and symbolism held her husband back from a bolder form of Modernism. Like C. R. Mackintosh, Charles Eames constantly emphasized the part played by his wife in their design partnership, almost as if embarrassed by the lack of understanding shown by critics and commentators. It was he who, taking his cue from a popular song, claimed 'anything I can do she can do better ...' when asked about Ray's contribution to their joint work.

In the 1960s, Ray was recognized as a key element in the partnership by the British husband and wife architectural design partnership of Alison and Peter Smithson whose series of articles entitled 'An Eames Celebration', published in *Architectural Design* in 1966, emphasized the importance of Ray's contribution in such key areas as form, colour and the arrangements of objects. The latter two concerns, in particular, have been traditionally seen as 'women's concerns' but nevertheless they were of considerable importance in the development and popularization of the Eameses' work.

Not all design institutions were as clumsy and gauche in their treatment of Ray as was the British Society of Industrial Artists and Designers, which awarded Charles its Design Medal in 1967 and, almost as an afterthought, presented Ray with a simple red rose at the medal presentation ceremony. This entirely inadequate and patronizing gesture enraged Ernestine Carter of *The Sunday Times* who (quoting Sir Hugh Casson) noted 'the Englishman's innate prejudice against women' and asked 'why fob off the female half of the partnership with a sentimental gesture?'. The irony is, of course, that both Charles and Ray probably preferred the simplicity and unique beauty of the rose, with its signification of life and love, to the more traditional cold metal token.

The Eameses' work in architecture, design and film had a major impact on several aspects of post-war culture both in America and elsewhere. At one level, a whole generation of American schoolchildren of the late 1960s and 1970s were introduced to relativity through the film *The Powers of Ten*, whilst they and their parents were helped to accept the computer age through other films, multi-media presentations and exhibitions.

Furthermore, it was through the Eameses' Moscow multi-screen presentation of 1959 that many Russians gained their first view of America through American eyes. At another level, their work caught the imagination of designers not only in Western Europe but also further afield. Their fame spread as far as India, where they became something of celebrities. In Japan, which after World War Two made great efforts to absorb American design styles and theories as well as methods of manufacture, their work was popularized by journalists, especially Torao Saito, and influenced many young designers, including the interior designer Isanum Kensumochi. In Britain the work of Robin Day for Hille clearly reflects a debt to the Eameses' ideas and aesthetics, and to the way they worked with a furniture company, whilst the Smithsons and Rayner Banham played a major part in popularizing them and their work.

This influence went beyond mere stylistic copying, although there was plenty of that around, to a determination to be the same type of serious designer, who never shirked the rigours and problems of harnessing new technologies in the service of design yet constantly produced new and exciting forms for the products concerned. As for the products themselves, the furniture produced by the Herman Miller company went to many different countries all over the world, from Britain to Oman and from Japan to Uruguay. The Glass Reinforced Plastic (GRP) chair,² for instance, had sold in excess of ten million by 1975 and millions of people experienced it in their daily lives, in offices, schools, colleges and homes.

Few who met them were not captivated (initially at least) by their enthusiasm and charisma. Inspiring is a word frequently used about them, yet the extremely handsome and genial-looking Charles and the sweet smiling Ray were not always easy to work for. Many found them exasperating and hard taskmasters who demanded a lot (some felt too much) in their search for perfection. Today they would be called workaholics. Their working day usually started at eight o'clock in the morning and often lasted till about ten o'clock at night, at least six and sometimes seven days a week, and they had a cook and well-equipped kitchen at their workshop in the Bohemian beach community of Venice in Los Angeles. In terms of hard work they epitomized the Protestant ethic. Charles was used to it from his early years, taking on a variety of jobs from the age of eleven when, after his father's death, he was left as the 'man of the family'. But it should always be remembered that work for Charles and Ray Eames was a creative experience. They directly experienced what Ruskin called 'joy in labour' and considered one of life's main objectives was 'to get as many of the rewards of life from the work that you do'. They only ever took on jobs which they felt were morally worthy. In later years Charles was fond of quoting the Bhagavad Sita when discussing his attitudes towards work and explaining (in his own words) 'work done with anxiety about the results is far inferior to work done in the calm of self-surrender'.

The interviews bring out clearly how both Charles and Ray Eames saw things in terms of *structure*; she because of her training as an abstract expressionist and he through his architectural training. They also show how important their film-making was to them. What shone through above all in these interviews and my talks with her, was her love and admiration for Charles. To many of us it was no surprise that she died a decade to the day *exactly* after him. She had used that decade to get the papers of their office in order for posterity and to prepare a complete catalogue of their work which, for anyone wishing to know more about them and their work, is the best place to start.³

RAY EAMES (1912–1988)

INTERVIEWS WITH PAT KIRKHAM, 20, 26 AND 29 JULY 1983

- PK Can you tell me about your life-long collaboration with Charles Eames?
- RE Well, what can one say, it was a full collaboration. One can't say Charles did this bit, Ray did this bit.
- PK Did you move from painting to design with any reluctance?
- RE No — there was no real difference. The way I saw painting was in terms of structure and colour. Charles, as an architect, saw things in terms of structure and so there was no real difference in the way we both saw design, although we had trained in 'different' areas.
- PK Did you find you used your 'painterly' qualities in film-making?
- RE Every area we worked in was so exciting. We never did anything we did not think was challenging and exciting.
- PK How did you come to film-making?
- RE Well, we both had an interest. I had always had an enormous interest in films while Charles had had an interest in photography since a child. We were both interested in documenting things we thought visually attractive. We were interested in toys — a great interest — and in objects. Before we went into films we made an enormous amount of slides. The idea was to show how you *see* things. This was what it was all about — communicating our visual delight in objects, through slides at first. This idea of how you see things, is what the later Harvard lectures were all about.
- Charles had a wonderful warm personality. When he gave a lecture he had a way of so directing his remarks that individual people in the audience thought that he was addressing his remarks *personally* to them.
- PK Are they printed?
- RE No — unfortunately. It is now hard to piece them together from drafts, etc.⁴
- PK Your home is now regarded as a 'classic' of modern architecture.⁵ How did you come to build it as it is?
- RE We lived in a hotel (when we first came to California) and then in an apartment. We liked the idea of privacy in the enclosed apartment which also had a relationship to the outdoors, i.e. we liked a high view over the ocean. We knew we wanted to be fairly near where we worked and that we wanted to be able to eat and work outdoors.
- At that time John Entenza, whom we knew through *Arts and Architecture*, was running a project, Case Study Houses, which involved developing different goals for different architectural problems. Entenza knew of land which belonged to Will Rogers which the family were selling. We bought it and then sold all the land except that which we wanted. That was how we could afford it.
- We had discussed what sort of house we wanted many, many times yet, as built, it was different from any of our schemes. We spent a year getting familiar with the place. Lucia and her friends played there all summer and we found we loved the meadow so much that we felt why clutter it up with a house. We had decided that we wanted to be self enclosed. We wanted privacy but without being closed in. The home as first designed was cantilevered out over a field (this gave the effect that our apartment had had).
- We had schemes for all separate units, e.g. cooking, sleeping, working.
- We surveyed the land ourselves and found ten eucalyptus trees in a row on the edge of a hill by a flat part. So we decided to follow the straight line. We dug out the hill (we had to have a costly retaining wall) and kept the meadow which we all loved. It is wonderful to see all the changing seasons in it — even here in California. Now, in July, it is yellow and

dry whereas in spring it is high and full of flowers. We cut it only once a year in late May or June.

After the steel was delivered to the site, Charles said that he thought the house as designed used too much material for its small volume. It did not justify the cost of the steel (which had risen steeply). We therefore set out to look for the largest possible space to be enclosed for the same amount of materials and obtained two blocks instead of one.

PK How do you view the house now, from thirty odd years on?

RE Well, of course, I'm biased and I loved it, so it is hard to say.

PK Is there anything that, having lived in it for all those years, you find yourself wishing you had in the house or wishing that some aspect had been designed differently?

RE Well — when we were planning the houses we thought we might like a small fireplace for chilly mornings (there are some in California). Not a low one but one up here (gestured to a height of about ten feet). But Eero (Saarinen) said we were being absurdly romantic and got us to change our minds. Sometimes I wonder what that would have been like if we had built it. In the house as it is, I can't quite see where it could go.

PK How did you decide what colours to paint the house?

RE We felt very free about painting the house. We felt that we could experiment — we could try a colour and see its relationship to others, then, if we didn't like it, we could simply change it. But, in fact, we haven't changed it. For instance, when we painted the blue panel we weren't exactly sure how it would look.

Some people said the very vivid colour would fade (we had bought the paint from Sears) but it didn't fade. It is still there. It needs re-painting now and I'm thinking of doing it this year. Some panels were not painted — they were grey semester board and we left them so the natural colour could show and they had a chipboard effect. The steel structure of the house has been called the dark grey web [by Edgar Kauffman] which holds the house together. We used to use photographs. We would cut out pieces from photographs and put them on to a photograph of the house to see how different things would look. For instance — there was a space in the studio which we wanted filled. It was between the depth of the floor where it opens for the stairs (this is not so in the house where there is a balcony rail). We wondered what to do. We had saved some pier pylons from Venice pier (we had wanted to keep something of it to remember it by). Well, we had pictures of it, glued it onto a photo and decided it worked so we went ahead and did it.

PK You have been credited with designing a turned wooden stool.⁶ Was this designed solely by you?

RE That stool was no more solely designed by me than other pieces were solely designed by Charles. We always worked in collaboration. At first we used the name Charles Eames for our work — it seemed so simple — but then later we started to say Charles and Ray Eames. It was always both of us together, chipping in ideas. That stool should be seen as a solution to a problem. The idea didn't come from zero — we all criticized ideas and changed our minds about it. Yet people still call it 'Ray's stool'. That implies Charles had nothing to do with it — which was not so. It also implies that I had nothing to do with all these other chairs (gestures towards a variety of 'Eames' chairs).

The stool was made for the *Time Life* lobby. We had the commission to furnish the main lobbies on three floors. We had lengthy talks with writers and other staff about how they moved and how that space would be used. Basically the space was to be used as a waiting area for the public during the day but at night it could be used by staff to either chat, take a break or discuss items of work more informally than in the office. i.e. a rest/leisure/informal area. We decided that because space was so very limited we had to have not only chairs but also perchers because at certain times a considerable amount of seating might be needed. However, because this was not *always* the case we thought of

stools which could also be used to hold something on — i.e. a cup of coffee, or a magazine. They also needed to be fairly light so they could be moved around. We worked through the problem and identified what Charles always called the *constraints*, i.e. what weight, what height, what material (in this case they needed to match walnut desks and magazine racks). The lobbies had chairs that were strong visually as well as marvellous rugs and so we decided that the stools should be relatively unobtrusive.

At home we had an old African stool that we used in much the same way as we thought the stool would be used. We therefore decided to design a turned wooden stool with the functional qualities of the African hand-crafted one. It was too costly to turn a stool from a single piece of wood so our solution was to turn two pieces and join them together. I made plasticine models of many variations and we finally decided to make the tops and bottoms *universal* then glue them to a centre which had *variations*. One was concave, one convex while another was zig-zaggy. Five or seven variations were made and I think Herman Miller produced three.

- PK The elegance of the DCM (1946) chair is always commented upon.⁷ How did you achieve the subtle shaping?
- RE Simply by lots and lots of experimenting, lots and lots of models.
- PK What do you think is the essential difference between the DCM and the DCW?⁸ Why were the wooden legs and seat rail not considered satisfactory?
- RE Well, Charles always felt that the wood one was too much of a 'tour de force'.⁹ He broke the problem down like this — what you sit on is one thing and what holds up the chair is another. Therefore you can have different materials.
- PK [While being shown a board of photographs from which images were chosen for books and catalogues.] This bunch of flowers image for the Herman Miller stock certificate is often attributed to you.¹⁰ Is that correct?
- RE Not really: it should be Charles and Ray — as always. The flowers came from a field in Michigan. Herman Miller asked us to design a symbol for their stock certificate (shows me photograph of it pinned on wall opposite dining table in Eames Offices). It is obligatory to have an emblem of the firm on the certificate. Well, the normal sort of thing is a hand holding a torch or something like that. We wanted to get right away from that type of design — we wanted something which would symbolize Herman Miller. The firm is in Zeeland, Michigan and there is already a flower (poppy) used for Zeeland, so we could not use that. What we did was decide to use wild flowers from Michigan. We telephoned and got someone to gather a bunch of wild flowers from the Michigan fields — just gather all the flowers there. They were simply placed into a bucket and flown to Los Angeles. We photographed them still in the bucket. The illustration shown is of our colour shot but of course it was used in black and white on the certificate and the engraving lines run through the symbol.
- PK It has been said that you had a great influence on colour in many designs. Is this true?
- RE It annoys me when people write that Ray 'did the colour'. First of all it is wrong. We both did it. But it also implies that I did that and nothing else. In the same way they say 'Oh, Ray — well she did the interior' because they feel the exterior was all Charles.
- PK Do you think that is because you are a woman and women are associated with interior decoration?
- RE Of course.
- PK Which of the films did you most enjoy making?
- RE Oh — all of them. There is one I would like you to see — not because it is better than the others — but because it will tell you something about Charles ... That film is called

Q & A.¹¹ We made it in about 1970 after Charles had prepared short but *very* carefully thought out answers to questions which were put before a panel of five or six major designers (Jo Colombo was another one). The differing answers of all of them were then used in an exhibition *What is Design?* at the Musée des Arts Decoratifs, Paris. So much work went into it that after the exhibition was over we felt we would like Charles's answers to reach a wider audience and so we made the film. We use images of our work and things we like but they act as a general background to the text rather than as direct illustrations of it.

As far as our films went Herman Miller seemed happy to see us do that work. We had three major clients: Herman Miller, IBM and the American Government. In all our films we wanted to get information over to a large number of people. Of all our films we only re-made one — that was *Powers of Ten*.¹² But, to go back to your question, all our films were special to us. They grew out of Charles's love of photography and my interest in films.

- PK Yes — I can see so many photographic images here in the office.
- RE Charles would never take a shot simply as a record — he would only take it if he could get it looking right, if he could get it looking as he wanted it.
- PK Whose idea was the famous black bird in the photograph of the mesh chairs?¹³
- RE That, in fact, was Charles' idea. We were taking photographs of the chairs and suddenly he decided we should use the bird which was in our house (it is an old American decoy bird). Yes — that idea was pure Charles. He had the sense to realize that a solid was needed in a shot with all those open pieces.
- PK What about the shot with the cross pieces showing?
- RE That was Charles again — the idea only came when we were photographing. He was looking through the lens and moving around — then he saw the shot where all the cross pieces are lined up. He wouldn't take a record shot — not just to document a piece. He would only take it if he got the photograph looking right, looking as he wanted it.
- PK Can I ask you about this chair — the La Fonda chair?¹⁴
- RE Well, Girard was designing a restaurant and he wanted a chair that would be low at the table so that from a distance you could not see the backs of the chairs over the height of the table.
- PK What was the background to Saul Steinberg's drawing on the GRP chair?¹⁵
- RE Well, he just did it in the office [the Eames Office]. He did the body on the chair and then continued the legs on brown paper laid on the floor. I wish you could have seen it. We kept the brown paper for a long time but it was misplaced in recent years.
- PK Why was the film *Lounge Chair* made?¹⁶
- RE It was made for a TV show, the *Today Show* in the days before colour TV. The programme was hosted by someone who used to be an actress here in LA — I just can't remember her name at the minute [Arlene Francis] and I suppose that when she heard about the launch of the chair and the name Eames then she remembered us. Anyway, Charles was invited on to the show to introduce the chair. Once we decided to make a short film to put over the idea of how it was made — it had to be done very quickly in order to be ready for the programme. In fact it was made over a weekend. We used Dick (I can't quite remember his surname).¹⁷ He did the job in the factory [assembling] and we used him in the film. He was marvellous. He had been there since he was young and had worked on the plywood chairs.
- There was no time to write any music for the film so Elmer Bernstein improvised when he saw the film and we taped it. So we made a film about how the lounge chair was assembled and Charles went to New York to be interviewed. At the end of the discussion

when asked to describe how the chair was made, he held up the base of the chair to the camera — the five prong base — and said 'I just happen to have brought my music' (you know, the old joke when the singer or piano player was asked to do a number . . .) while the shot dissolved to the start of the film.

PK Was the first lounge chair made for Billy Wilder, the film director?

RE Yes — he said he wanted something he could relax in. The chair was not really commissioned — we just all talked about it and then did it.

We also designed the narrow chaise-longue after Wilder had said he wanted a narrow bench to nap on in his office.¹⁸

PK How did you know Wilder, was it through Charles' work at MGM?

RE Well, we met Wilder through a friend who was a writer at MGM. Charles worked in Hollywood for a short period in the architecture department of MGM.

PK What did that work involve?

RE Designing sets.

PK Can you remember any of the films on which he worked?

RE Old movies — Greer Garson and Ronald Colman movies. Wilder was very interested in furniture. He had bought Mies [Van der Rohe] furniture when it was first made soon after the Weissenhof exhibition. He had to leave it in Germany when he left. He was also interested in painting. He had a good sense of quality. Early on he bought a monumental Picasso head, also a Magritte. He also had a beautiful Miro which he bought early on. There were a group of people at MGM who were interested in other areas of the arts.

PK Did ideas for chairs often come from the needs and suggestions of friends such as Wilder?

RE Yes — the first aluminium chair¹⁹ developed because Girard said he needed a chair to be used outside as well as inside. I told you about the La Fonda restaurant chair. The brief for that was that it should be minimal but comfortable and we started from there. Our plastic shell rocking chair developed when Alexander Knox, an actor [in *Smiley*] and his wife Doris, an actress, were having a baby and Doris said that she wanted a rocking chair.²⁰ Well — the baby was two years old by the time the chair was ready but that was the original idea, the need of Doris for a rocking chair. That baby is Andrew Knox who is also an actor [now on British TV].

PK Did you make any other films about furniture?

RE Yes. We made one about storage units where we tried to bring out the idea of connections.²¹ That was when Charles hit upon the phrase 'It's the connections' — which we were to use so often.

All our films about furniture and all the polaroid shots you see around us here in the office are to tell the situation as we saw it. Sales people can say and do anything to sell furniture but we wanted to tell people, to show people how the furniture appeared to us — and also how it was made.

The film *Design Q & A*, 1972, discusses the importance of *constraints*.²² Charles always emphasized this. In the film it refers to 'the ability of the designer to recognize the constraints of price, size, balance', etc., etc.

Discussion with Ray Eames after viewing the film, House after five years of living (1955) by Charles and Ray Eames with music by Elmer Bernstein²³

RE We moved in 1949. The film was an experiment to use stills to look at architecture. We used fast-cutting, a technique which was not very widely used in those days. Charles

thought it was a particularly valuable way of looking at things. We had so many photographs of the house that we thought it would be a good idea to use them.

PK Were they Hans Hofmann paintings I saw in the house in the film?

RE Yes, they are not there now — they are in a museum. Aren't they wonderful? We put them in in 1950. We hung them on the ceiling for two reasons — one was because they needed to be kept away from strong light and the second was because we thought we would be able to see them well from that position.

PK Did Elmer Bernstein do the music for all your films?

RE Mostly.

PK How did you meet him?

RE Through a friend. He first worked on the Communications primer.²⁴ He was a composer who was also interested in mathematics and in film. He was fascinated by the relationship of sound and music.

*Discussion with Ray Eames after viewing the film Toccata for Toy Trains, 1957, by Ray and Charles Eames with music by Elmer Bernstein*²⁵

RE The voice of Charles Eames introduces the film which, he says, is about toys — real toys, not scale models.

Many of them are old toys: we seem to have lost the knack of making toys. Toys give pleasure — a different pleasure from that which we get even with good copies. There is nothing self-conscious about the materials and the way they are used.

The film is a closely observed study of moving toys.

We made an earlier, more experimental film about toys which was not released.²⁶

Parade is also about toys, as is *Tops*.²⁷

Toy Trains started off with some of the toys we had picked up or bought because we thought they were interesting in some way. We did not collect them as collectors but because they illustrated some principle of design.

PK Why were you and Charles so fascinated by toys?

RE The best way to answer that is for you to see the toy movie — *Toy Trains*. Toys get you back to basic principles. Materials are used sensitively, used for what they were, i.e. tin or steel — not *mis-used*.

Toys have *essences*. Charles always maintained that there was a big difference between models and toys. Toys were made by people who cared and put a great deal of care into making them. Even in early wind-ups springs are used well. Mostly it was all kept simple and toys are examples of the *use* of *principles*.

Charles greatly enjoyed trains and boats — we both did.

I always enjoyed the dolls made by the Hopi Indians of the South West. They were made by fathers for their children to tell them about the qualities and particular characters of the different gods. They were not improvised because each different part meant something. For instance red was used because of a *reason*, and similarly blue. They were made in light woods, using whatever materials were available. The dolls grew out of a long tradition. The objects were not sacred but the ideas embodied were. Charles used to say that if the Hopi improvised beyond a certain measure then he would be 'drummed out of the corps' for breaking discipline. The strength of the design came from the discipline.

We were not *collectors* of toys. We found things and kept them as examples of principles or aspects of design. We kept it to show it, to *use* it, to share it, to give insight to

others and to ourselves. We would say 'that is a great example of . . . whatever it was'. For instance, the headdress of an Indian doll — the lines are so beautifully marked yet the shape had to be given by three simple marks in a very small space. That was the discipline of design.

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- ² *Ibid.*, pp. 142–43.
- ³ Neuhart, Neuhart, Eames, *Eames Design*. This is the definitive catalogue of the work of Charles and Ray Eames and their design office. See also my forthcoming book (co-authored with Stanton Stephens and to be published by Trefoil Press) for an analysis of their work.
- ⁴ *Ibid.*, pp. 355–62 for a summary of the lectures.
- ⁵ *Ibid.*, pp. 106–22.
- ⁶ *Ibid.*, pp. 248–49.
- ⁷ *Ibid.*, pp. 74–75.
- ⁸ *Ibid.*, pp. 72–73.
- ⁹ This was a phrase Ray Eames used throughout all our discussions to imply an image that was too strong or forceful.
- ¹⁰ Neuhart, Neuhart, Eames, *Eames Design*, p. 16.
- ¹¹ *Ibid.*, p. 388.
- ¹² *Ibid.*, pp. 336–37, 440–41.
- ¹³ *Ibid.*, p. 151.
- ¹⁴ *Ibid.*, pp. 252–53.
- ¹⁵ *Ibid.*, p. 140.
- ¹⁶ *Ibid.*, p. 208.
- ¹⁷ *Ibid.*, name given as Dick Hoffmann.
- ¹⁸ *Ibid.*, pp. 338–39.
- ¹⁹ *Ibid.*, pp. 226–27.
- ²⁰ *Ibid.*, p. 141.
- ²¹ *Ibid.*, p. 266.
- ²² *Ibid.*, p. 388.
- ²³ *Ibid.*, pp. 198–99.
- ²⁴ *Ibid.*, pp. 182–83.
- ²⁵ *Ibid.*, pp. 214–17.
- ²⁶ *Ibid.*, pp. 134–35.
- ²⁷ *Ibid.*, pp. 164–65, 346–47.