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CONFERENCE ON INDUSTRIAL DESIGN, 1946
A NEW PROFESSION

HELD BY THE MUSEUM OF MODERN ART
FOR THE SOCIETY OF INDUSTRIAL
DESIGNERS, NOVEMBER, 1946

DEAN JOSEPH HUDNUT, CHAIRMAN.

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Minutes of the Conference on Industrial Design, a New Profession, held by the Museum of Modern Art for the Society of Industrial Designers, from November 11 to 14, 1946.

MONDAY AFTERNOON SESSION

November 11, 1946

MR. EDGAR KAUFMANN JR: In the past the Museum has had many exhibitions of what we confidently call industrial design; we believe these exhibitions were useful in drawing the attention of the general public to good design.

Our point of view needs to be a fairly long-range one. We think of design not as a question of immediate commercial necessity, as it must be considered by many other people, but as a result of the laws of development and appearance inherent in every object-- laws which produce forms often beautiful and sensible.

In the past, our exhibitions and our use of the term "Industrial design" have aroused many questions. The Society of Industrial Designers kept telling us they had a really serious profession in hand and they did not feel we recognized all the implications, problems, and necessities of their profession in making our judgments.

We agreed that that might well be the case. We didn't know whether we needed to change our judgments or whether we and the S.I.D. were approaching the same problem from different points of view.

However, we felt their strong statement that they were a profession was most interesting. It has been made formally and by implication, many times before, by other design organizations and designers besides S.I.D.

We felt there was a good deal of sense in this point of view: this was a new activity in the world, mass production and mass distribution obviously required a new kind of designing, which could justly be called "industrial designing"; it was facing problems never faced before; and it would benefit the community at large if these problems were faced from a professional point of view, rather than from a purely mercenary and short-range point of view.

We therefore asked the Society of Industrial Designers if they did not believe the problem of a new profession -- with new problems to solve, new conditions to meet -- could be discussed to mutual advantage by their own organization and representatives of other interested groups in the community: namely, other design groups; other professional groups, such as architects and lawyers; and perhaps most important, people interested in education.

I stress the last group because, as the new profession takes shape, the need of a new educational program is evident; attempts to meet this need are, I think, somewhat chaotic. The various de-

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sign curricula we have seen have not many tendencies in common. They could share such tendencies, and we believe (as, I think, most of you do) that they should.

In this brief summary of how we all come to be here, I have touched on questions which we hope you will discuss later on.

We were very fortunate in getting Dean Hudnut, of the Graduate School of Architecture at Harvard, to act as our chairman. He represents many points of view that are crucial in these discussions: he knows professions well; he certainly knows education well; and he has always been interested in design.

Most of us know that the word "profession" has a long and somewhat confused background. It isn't very important or revealing to go back to some of its early meanings; but it is important to know what the generally accepted meaning of the word is today. We have asked our chairman to talk about that before starting the general discussion. Dean Hudnut, I now turn the meeting over to you.

CHAIRMAN HUDNUT: It may seem a little strange that an architect should appear in this company. However, the word "design" has come to be recognized in my mind as embracing all those activities by which men create the conscious, the manufactured, part of their environment. There is no great distinction as to the processes and intentions of design whether one is making a chair or making a cathedral. (It is rather striking that the word "cathedral" means "chair.")

If we were going to pick out the characteristics of a profession, I suppose we would say first that a profession is a body of men who possess some special skill or special competence in a well-defined field.

We might say, secondly, that that body of men continue their interest in that field and their activity in that field for a long period of time, perhaps for a lifetime. A man would not be a professional if he took up the practice of medicine for a month or for a year.

Thirdly, we might say that, to be a profession, the responsibility of those practicing in that field should be recognized.

But I think that the fourth definition is the most important: namely, that a profession is a body of men who feel and have accepted some social responsibility. After all, that is the thing which distinguishes a profession from a business or a trade. A professional is a man who feels that his skill and his devotion are directed not only to the welfare of his employer or his associates or his art, but to the general happiness of man. The doctor is concerned not only with his patient and his hospital and his science, but with the health of mankind and the relief of pain, wherever it may occur. The lawyer is concerned not only with his own case in court or with his client, but with justice--with the

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abstraction of justice among men.

It seems to me that that is the touchstone of a definition of the word "profession," the important consideration in using the word.

Among the professions, the profession of industrial designer would seem to be, by definition, one of the most important to-day.

We have not advanced very much beyond the Greeks and medieval society in the humanities, in the knowledge of God, in literature and the arts, or even in government and politics. The thing that has assured us of greatness and given us a character beyond that of all other ages is this torrent of invention and of production.

Just imagine the immense range of things that we make and do, the laws of nature that we have put to our service, as compared to any preceding age. There is a dividing line there that brings us into another world entirely.

We are engaged in a fever of production -- perhaps now more than ever. The wholesale amount of the goods we make and sell would seem absolutely incredible to any man of an age other than our own.

I sometimes think that, in this invention and production, we have come very near to nature. We think of ourselves as living in an artificial world somewhat remote from the realities of life. But the multiplicity and complexity of nature's creations is a striking fact about the natural world -- animals and minerals and vegetables -- and her lavishness in production. Perhaps then, curiously enough, in turning to mechanical inventions and productions, man has brought himself not further from, but nearer to, nature.

If that is so, then it would seem that the industrial designer as a professional man might contribute more to our environment, to the way of life which we have accepted, could he by chance control that invention and production or could he give it direction and meaning.

If that could be accomplished -- if some way could be found through which that could be done -- then the industrial designer's profession, among the hierarchy of professions, might stand almost first.

It could be done only where there is a professional group which places that accomplishment above self-interest, so that (like the lawyer and the doctor in their fields) they would be devoted to bringing this about: to seeing to it that these horrible and ugly things that surround us, were changed in some way to bring them back to the ideal which nature sets us--for nature, with all her invention and all her production, never fails to arrive at beauty. Through the creation of functional forms, of useful forms, she surrounds us with a civilization more civilized than our own.

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There is one thing more which I think is characteristic of a profession besides a skill, its practice, its continuity, its recognition, its responsibility---and that is an understood and established discipline. One of the things that gives authority and stability to the law is the acceptance by the profession and by the public of some understood discipline requisite for its practice, established by that profession itself and maintained by them.

Perhaps the one thing needful to bring about a solidity among industrial designers and a firmer establishment in the public mind, in the mind of industry, might be some such basis for acceptance and practice in the profession.

You won't get that discipline by accident. You won't have it done for you by anybody. It won't grow up naturally. It can't be done hurriedly. It must be the responsibility of the profession itself: that seems to me quite obvious.

The matter of educational discipline for an industrial designer is extremely complex. Don't think there is some short way of arriving at it. You cannot throw together a few courses in architecture and a course or two in merchandising and business management and call that industrial design education. Still less, can you throw together courses in fashion-making and poster-making with a course in the history of art and call that industrial design. You can't have a course in industrial design by hiring a young man out of school at three thousand dollars a year. You must have equipment, and you must have a faculty that is competent, and you must have the guidance of this profession.

It is no mean undertaking, then, to establish that curriculum. Yet, I think it is very urgent; I think it is one of the things that will make this profession and give it the authority that it needs.

Now, I have come here less to pronounce on these matters--for I am inexperienced--than to listen. I have come not as an educator, but to be educated. At this point, then, I should like to throw the meeting open for your comments and discussion. Today, we are to discuss the nature of a profession: what it means to be a professional group, what the requirements are, and what the means are by which that may be attained. Mr. Baermann, will you tell us how you feel about this?

MR. WALTER BAERMANN: My interest has been mainly in education--outside of the actual practice of the profession.

Dean Hudnut, I believe your fourth point is the most important and that the development of a basic training and a healthy relationship between professional education and the existing profession is of almost equal importance.

An industrial designer coordinates consumer demands, merchandising demands and the demands of advertising. With these the industrial designer also has to coordinate production methods, available and appropriate materials - and last, but not least, he must consider the ultimate function and behavior of the product in

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our daily life. He may go beyond that - I wish he would - and also consider the product as a social instrument.

Now, all these forces may either be ones which he analyzes and, in some form, controls through his knowledge and education; or they may be given to him by others concerned with the product. By luck or by instinct a good product may come out of this latter process, or it may result in just another focus of heterogenous uncontrolled factors.

Therein lies the great problem of any discussion about design as a profession. Can industrial designers ever have the opportunity, the ability, to coordinate, control and influence the forces which affect a product, or are we to take merely what is given us? Education, I believe, will eventually give the answer.

CHAIRMAN HUDNUT: Thank you, Mr. Baermann. Will somebody else take up the discussion at this point?

MR. GEORGE SAKIER: I should take this opportunity to express the gratitude of the Society of Industrial Designers for having this open discussion conducted as it is. Speaking as a representative of the Society of Industrial Designers, I should like to point out how our claims to being a profession follow the pattern that Dean Hudnut has laid out.

In the first place, continuity. I have perhaps a better right than anyone to point out our claims in this direction because, with the exception of one person not alive today, I am probably the very first of the industrial designers.

I agree with Mr. Baermann that responsibility and education are most important. Directly and indirectly, over many years, we have demonstrated that we were unconsciously obeying laws that pointed us toward a profession, towards responsibility to society. We have followed in this direction almost by instinct. Many of you will remember, some ten years ago, the National Alliance of Art and Industry. A big exhibition was planned at Radio City -- and some active members of the National Alliance began to suspect a possibility that our artistic ideals had to give way to the sale of space to large corporations, permitting the introduction of objects which we didn't think were as they should be.

A number of us drew up a statement of objections and sent it to the papers - and the result was the temporary breakdown of the organization and the exhibition. Almost every one of those men who signed the statement has, in the years since, become successful and established; those men constitute the bulk of the founders of the Society of Industrial Designers.

We felt that industrial design occupied a position not identical with that of the old industrial arts that had been going on for centuries; we were now entering power industry, where there was a new type of problem to solve.

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We are all harness-broken to the extent that we have accepted the Greater Functionalism: in order to get any of our ideas over, we had to choose a way which was practical and which permitted our ideas, though only in part, to see the light of day. If we didn't do that, we wouldn't function at all; our ideas would remain still-born.

There isn't one of us -- and I think this is one reason that we have remained successful -- who underneath does not have a burning desire, in spite of his adaptability, to create what I call the highest possible least common denominator in terms of real beauty functioning along the lines of production.

The fact of our being harness-broken, together with this inner enthusiasm, has made this idealism function. We have shown, time and time again, that we understand the problems of the men in the plants -- the producers, the salesmen, all of the men who make the machinery of distribution go -- and thus we have gained their respect and an opportunity to put over more and more of this ideal of beauty to which all of us cling.

I have tried to show, Dean Hudnut, how we, as a group, have consciously and unconsciously led toward the ideal of a profession.

I want to add two factual statements. First, we have established a code of practice -- which, in some cases, pinched this person or that -- and we have all sworn to adhere to it. Second, as chairman of the Educational Committee of the S.I.D., I was very glad to hear what Dean Hudnut said about education: that you cannot throw a few courses together and get what we are after.

At various meetings with educators, I have disappointed them by being unwilling to give any specific, cut-and-dried advice. I keep saying: "You are the people who understand the process of education, for you the important thing should be the creative spirit." Including or eliminating this subject or that subject will help or hinder the student as the case may be -- but, after all, the development of a thinking mind and a creative spirit is the primary function of the educator.

CHAIRMAN HUDNUT: You established the idea of a profession -- that was one of the hardest things to do. Through the efforts of the pioneer designers and their insistence upon a standard, upon correct practices and relationships, the notion of industrial design as a profession is pretty well established.

In doing that, I think that you have also created a large degree of understanding among industrialists. A man's conscience troubles him a little bit now when he puts out a line of hideous lamps or chairs -- or doesn't it?

VOICE: Not a bit.

CHAIRMAN HUDNUT: I like to think so. I was brought up in the city of Grand Rapids. (Don't tell it to anybody at Harvard,

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because up there they think I am a genuine antique.) My father was a manufacturer of furniture, and I don't think the conception of good or bad design ever entered his head or the heads of his designers. They asked "What's selling, boys?" -- and that's what they made. And that is what sent me to Harvard later on.

I don't believe that, if you went back to Grand Rapids today, you would find quite that same temper in those large furniture mills. They pick up our graduates frequently -- and even though those graduates can't design a chair, they set them to work at it. I think the feeling there is that in some way (when it doesn't cost too much) they ought to throw their weight behind the creation of decent furniture and better taste on the part of the people.

Mr. McConnell has a brilliant paper on these questions in the Institute of Architects' Journal, and I agree with almost all of it. Mr. McConnell, would you like to talk for a moment on this subject?

MR. PHILIP McCONNELL: I don't think anybody has stated the crux of the problem. We had several meetings with Mr. Kaufmann and others at the Museum. There wasn't as much misunderstanding as we had at first feared. Some points we made then are worth putting forward here. Primarily industrial design is not a gadget or a product; it is an activity. Those who make their living at it say it is more than an activity, more than a way of making a living; that it is a profession which has all the characteristics that Dean Hudenut has mentioned, and possibly several others. (Certainly, it has some special headaches of its own that other professions don't have.)

Industrial designers are given a problem, rather than an opportunity. That is the real point that the practicing industrial designers try to get across. The profession of industrial design is a technique, an ability that you have to learn, which involves solving problems.

The industrial designer is almost never given carte blanche to produce the most beautiful or most perfect object imaginable. He is usually given a lot of information about the market to be met, the price to be met, the manufacturing difficulties circumscribing the situation, the tools to be used (that haven't been fully amortized), and any number of things.

All of those things mean that what the designer has to do is to solve a problem, not indulge in some ivory-tower creative act. If he is going to solve it well, he has to have certain creative genius or ability within him, partly the result of natural gifts and partly of training. Essentially he is dealing with hard realities thrown in his lap by hardboiled people.

Consequently, when the result of his work (individually or with several other people) appears on the merchants' shelves to compete with other products, he himself probably knows better than anybody else what is wrong with it and how it has been limited by

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competing products.

If his work is then judged as though he had had complete control and had created out of his inner consciousness the perfect object, which he is offering for judgment, he is put in a rather false position and can be considerably embarrassed as a result.

That was the essence of the whole argument, and I think that all the people engaged in it now understand one another very well. Out of that argument came a clearer understanding that industrial design is a professional activity which requires training, education and considerable experience, and that it is always a business of solving problems rather than retiring into towers to wait for the divine thunder to roll and the lightning to strike.

CHAIRMAN HUDNUT: People often compare the industrial designer's profession with other professions; for example, with architecture. The problems of the two professions are quite the same. The architect has a little more steam up. Yet, when you come to think of it, less than five percent of our buildings ever go through an architect's office (and that is a generous estimate). Ninety-five percent are pure commercial products. God knows, they're ugly enough. And even those that go through an architect's office are largely not the architect's work. The number and the direction of the pressures put on him, only an architect knows.

Take, for example, the question of advertising. You think that you are enmeshed in the conventions and requirements of advertising. Well, think how many buildings are advertisements. The Woolworth Tower is an advertisement for Woolworth. It had to be striking and sensational; it had to be not what the architect would like, but what would call attention to Woolworth. The Guaranty Trust Company builds a Medici Palace because that tells the world how strong and secure they are and how you can trust a bank. (Those big rocks are held up by steel braces--but you trust the bank just the same.)

All the way through our profession, we are crowded by these things and we struggle with them and give way to them and compromise with them--because we have to.

It is the same way with the profession of law. Mr. David Sher, a lawyer long associated with General Motors is here, and I should like to have him give us a few comments on this subject in relation to the law.

MR. DAVID SHER: I suppose the definition of a profession that has been given here contains those ingredients which embrace the law and architecture and industrial design as well as the great additional number of professions that have grown up in the last 100 or perhaps 150 years. In the old world, I think, the term "profession" was hardly known -- even though there were those who practiced medicine and law and those, of course, who were in religious orders. It wasn't until a form of specialized training was developed that formal professions came to be recognized. Particularly within the last hundred years, in the light of the

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mechanical revolution, new professions have sprung up in multitudes. All of them, I think, conform to the definition that has been offered here.

Another factor to consider in arriving at a definition of the term "profession" -- one spoken of here implicitly, rather than explicitly -- is the fact of association within the group that practices a profession. Perhaps there can be no such thing as a profession in the full sense of the word unless there is a group consciousness and an association (not with a capital "A" so much as with a small "a") on the part of those who are its practitioners.

With respect to the experience of other professions, such as law and medicine -- those two come more immediately to mind -- the first observation that I would make is that those professions have developed so-called professional ethics. They vary in content, in significance -- and even sometimes, I suppose, in sincerity.

I remember the last class I attended at Harvard Law School, where it was customary for professors to deliver benedictions to their classes and instruct them in the forms of professional ethics that they should follow. One of the more iconoclastic professors said, "I am going to deliver no lecture to you; I am merely going to recall what Dorothy Parker once said. She said, 'I don't want to earn very much; I just want to make enough to keep body and soul apart'." And, with that, he sent us off to our profession.

It is true, I think, that law and medicine--and perhaps other professions have characteristics which impose a pretty solemn duty to maintain a certain degree of professional ethics.

In the first place, they practice a body of knowledge which is generally unknown to the members of the public, who may have to call on that body of knowledge at a moment's notice without any opportunity to investigate the caliber or integrity of the person to whom they are to entrust either their personal health or their business health. A certain degree of protection is therefore developed, in order to give the public a little greater assurance that when they do ferret out a member of the profession--perhaps suddenly and hurriedly--they will be able to rely on some rudimentary standards that will be followed.

Another characteristic of those professions is the exchange of ideas that is made possible, particularly by the associations. I think that is more true in the medical profession than in the legal profession. Lawyers aren't usually very good listeners -- especially to other lawyers, about the other lawyers' cases. They would much rather talk about their own.

In medical associations, however, I think that one will find a large amount of time devoted to the discussion of technical matters. Perhaps that isn't so true in the legal profession because of the publication of cases that have been decided, so that the lawyer can himself go to the source material.

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The third and final point I should like to suggest is the concern of professional associations with problems and matters of their public policy. Medical associations concern themselves with questions of public health. Perhaps more with administration than with new forms of protecting public health; certain conventional views may stand in the way. In any event, medical associations do make it their business to see that the administration of public health in their respective communities is on as high a plane as they can possibly achieve.

In the same way, the legal profession concerns itself with the selection of judges and other matters having to do with the public interest; and architects, I suppose, concern themselves -- or should concern themselves -- with matters of city planning.

Without attempting to philosophize, it does seem that this presents an opportunity for bringing the expert into democracy, for bringing together those qualities which require expert knowledge and expert talent with the general democratic pattern which must leave to the general public the final determination of basic goals. In that respect, of course, professional associations can play a highly significant role -- and particularly this association which we are discussing this afternoon.

It is the nature of professional associations to be, for the most part, orthodox and formal. Medical associations are not notable for the changes in medical practice which they suggest; legal associations are not famous for their unorthodox views. Doctors, like lawyers, can live even though the profession does not grow as fast as it might (although, perhaps, patients can't). But in this profession that we are discussing today, it seems to me -- as a complete outsider -- that there must be progress if the profession is to live; and, in that sense, it perhaps has a unique role to play among professional associations.

CHAIRMAN HUDNUT: I think the point Mr. Sher has brought out, the usefulness of association, is extremely important. An association of professional men can be directed to the social usefulness of their art. In that way, the Institute of Architects was formed: to raise the tastes of the country, to promote a knowledge of good architecture, and to support one another in the practice of good architecture.

Then, again, an association can address itself to the protection of its members. It might become merely a pressure group, having a certain interest to promote.

Frequently, professionals form nothing more than a trade association, to keep other people from practicing in their little place in the world or to fight some other group that is getting on in Washington -- that sort of thing. You find that professional societies seem to vary between those two roles.

The tendency to be conservative, I am sure, is one of the evils that will not disturb this group very soon. It is a fact,

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however, that old associations really stand up very firmly for tradition. I think it took about thirty years for the Institute of Architects to recognize the spring chair in which you are sitting today as having any merit. It will perhaps be another thirty years, perhaps less, before they recognize the essentials of good industrial design.

One of the favorite devices of a professional group Mr. Sher touched upon: the code of ethics, of professional practice. I think it would be very interesting to hear some comments on that.

We have such a code in architecture, devised twenty-five years ago and practically unchanged since that time. That code prescribes that you mustn't steal your neighbor's design, and you mustn't compete with him on a financial basis, and so on. It was devised with the noblest intentions -- but, oddly enough, it operates every time in favor of the large firm as against the small one. That has gone on for twenty-five years. It wasn't meant to do that, but that is the way it works. It makes it difficult for a young architect to get on, to get started -- although I am sure it was meant to help him.

I think a code of ethics, then, is a very dangerous thing. I am not going to argue against it, but I think it might be pertinent to hear some expressions of opinion on that subject.

MR. KAUFMANN: Codes of ethics, active interest in education, association and the interchange of ideas, and other aspects essential to a profession, have been for many years part of the program of another group invited here to-day and as yet unheard. I mean, of course, the American Designers Institute.

I think it would be good to hear how they feel about various points we have discussed.

CHAIRMAN HUDNUT: Mr. Vassos, would you care to speak on that?

MR. JOHN VASSOS: The American Designers Institute has existed since 1938, and at that time we immediately created a group to study the problem of education. Mr. Kostellow has been the chairman of that group for the last three years, and I hope that later he will enlarge upon this primary subject.

In the picture of industrial design as a profession, there is also the element of safety. A designer is concerned with the well-being of the public, with producing things that work and that are also safe. His responsibility is very much like the architect's.

If you take a new product and change it over-night, the results may be disastrous to the manufacturer. But the good designer, when he gets an opportunity to create something functional, puts his heart and soul into it.

Like Mr. Sakier, I am a pioneer in our profession, and am glad that our Institute wants the young designers in America to

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get their place in the sun. We screen them carefully before they enter our organization. We have a code of ethics. (When Mr. Kaufmann invited me to attend this meeting, I immediately presented all this material to him, so that it would be on record.)

What we are hearing today is not a new story. We in the American Designers Institute are anxious to have a profession. I hope this discussion at the Museum of Modern Art will help to bring about our mutual objectives.

CHAIRMAN HUDNUT: The question of ethics touches on the question of licensing. You might want to comment on that.

We architects have to be licensed (there are three kinds of licenses: marriage, dogs and architectural), and the reason is that we have to produce things which are safe. The codes in the various states prescribe that we must know how to design certain types of truss and how to calculate a foundation to comply with the building laws, and so on.

Then, quite naturally, that control is extended to the appearance of our buildings. We have to conform, at least in theory, to certain standards of taste -- an exceedingly obnoxious and faulty process in our profession. A student who took examinations for his license in one of our great states only last year looked at his examination paper, and the first question read: "A man is going to build a large public garage in the center of a great city. Which of the following styles should it be: (a) Gothic, (b) French Provincial, (c) Grecian". When he said it should be none of these, of course, he got a zero for that question. In other words, licensing has been one of the weapons of conservatism in this country.

Is there any thought of licensing industrial designers? I am not informed about that. Would that be an evil? Does anyone care to speak on that point?

MR. JAMES C. BOUDREAU: To me, this is rather like attending a Democratic rally, where you see only Democrats in the audience. I am as keen for the professional standing of industrial designers as anybody in this room, but I think you are addressing your discussion to the wrong people.

You have not yet hit upon the crux of the question of professional standing, except for Mr. Vassos, when he said that the industrial designer is concerned with safety and the welfare of society.

You speak of the industrial design activity as a profession. Gentlemen, it is not a profession. If it were, you wouldn't be meeting here this afternoon. You are a semi-profession. All the requirements Dean Hudnut so ably outlined, that were supplemented by Mr. Baermann and amplified by Mr. Sakier, would be met by a very able automobile mechanic.

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we are listed at present as industrial designers, in the same category with bartenders, beauticians and chiropradists.

If you will grant that this is not the group with which to discuss being a profession, let us find out whom we should address in order to become a profession. Dean Hudnut has touched upon it: that is, that you must address your desire to be a profession to legal organizations such as the city, the state, the federal government. If you wish to practice internationally, then there must be a world organization to which you can apply for registration.

Now, you may register yourself, as in the case of the S.I.D.; you may register on a broader base, as in the case of the A.D.I. But that is still not making you a profession.

I worked for quite a while with the American Institute of Decorators, which has established a profession subjectively. They have set up codes of ethics, an educational program. According to their ethics, they don't work for money. (I don't know what they work for if they don't work for money. I work for money and so does everybody in this audience.) They have set up qualifications for becoming a senior member of the American Institute of Decorators that not one of their members can meet. I am wondering whether the S.I.D. and the A.D.I. are going to do the same thing.

You must address your desires from now on to legal bodies, constituted to say that you are a profession. However, you have the right to set up qualifications.

I think you will find a hurdle in the safety and welfare of the public. You must bear in mind that the public safety is already protected by a recognized profession, Engineering. Engineers are responsible for the safety of electric irons and iceboxes and automobiles, and so forth; you are responsible for their esthetic appearance.

I should like to see you address your discussion this week to the proper governmental bodies.

I question that you can. I looked into this carefully with Walter Teague and Raymond Loewy some years ago, and at that time we found that it was impossible to set up industrial design as a profession.

Of course, one error then was that the desire to become a profession was pressed for economic reasons: to avoid a tax. I regretted that the first request to Albany for professional status was on an economic basis.

I am in the manufacturing business and I have a product: youngsters who want to work, and who do work, with you. We have thrown a few courses together, as Dean Hudnut says, but we go further than some schools: we have a professional staff. We are a long way from being recognized as a school that has a professional course in industrial design. We have quite a way to go until we

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equal such programs as the fields of medicine, law, architecture and engineering have firmly established.

Whenever you establish with Albany and Washington the fact that you are a profession, then nobody will have a right to say that he is an industrial designer without having passed some set of examinations and having had a certain schooling and a certain professional experience.

Your big problem, I think, is legal recognition. I should like to help you if it is possible.

CHAIRMAN HUDNUT: Once the industrial designer is recognized as a professional man -- recognized by industry, by advertisers, by the public -- it seems to me that the legal difficulties will not be as formidable as they are now. And surely you could not be recognized as a profession--legally recognized, I mean--until you had attained some standing in public opinion.

As it is, whenever an architect is refused a license, he calls himself a designer. The woods are full of them.

I must tell you a story about that. I was chairman of the licensing board in one of our great states for six or seven years (I don't know exactly why), and I had to license both engineers and architects. It was quite a problem to decide on standards. Finally, I hit upon what I think is a perfect solution to the question. I gave two examinations, one in design and one in construction, on two different days. If a man failed in design, we licensed him as an engineer. If he failed in construction, we licensed him as an architect. It worked extremely well.

At this point, somebody always asks me, "Well, suppose he failed in both?" Then we licensed him as an architectural engineer.

I think that this legal question ought to be followed a little further. I wish someone else would continue this discussion.

MR. KOSTELLOW: There are two points that I should like to make.

First, decisions handed down in the State Tax Commission's suit against certain designers, showed that the Supreme Court of New York agreed that certain aspects of industrial design practice do constitute a recognized profession; and there was a definition of it. Some efforts in this direction, then, have been successful.

A similar effort was not successful in another case (the De Vries case, to be specific).

We, as designers, have something to start with in a Supreme Court Judge's definition of what industrial design is; it is there in black and white. It establishes (to use the language of attorneys) a precedent.

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It is interesting in this decision that the Judge indicated that esthetic creating is legally a professional activity. I think, Dean Hudnut, that in the booklet they give to architects in the State of New York, it is stated that esthetic creation is part of an architect's equipment. Now, the industrial designer certainly has a similar claim. He contributes to the cultural growth of the country, he has to be well informed (both societies, whether they agree otherwise or not, agree on this point) and he has to be able to work with engineers, he has to be, in some degree, an engineer, chemist, market analyst.

To be an industrial designer demands a quality of brain, and a training which takes time.

Mr. McConnell, I agree with you that the designer has a problem rather than an inspirational effusion. But, by the same token, the doctor has a problem. If he has a patient to treat, the doctor has to solve the problem of what is wrong with him. So does the lawyer have a problem, and so does the engineer.

Problems are anything that you have to do -- and, if you are trained properly, you will always be able to express yourself within the limits of the problem. Certainly, architects have a problem in the use of materials and the matter of considering human needs and considering certain building laws and codes, and so forth. The point that Mr. McConnell raises, then, is not a hindrance to good design.

I think we expose ourselves to the kind of analysis Dean Boudreau made, if we do not make clear the parallel between ourselves and other professionals in terms of what we are trying to accomplish. What are we trying to accomplish?

I liked what Mr. Sher said. Every profession is concerned with the public good; the doctor with public health, the law with human relationships, protecting property and personal rights. The engineer is concerned with public safety in structures; preachers are concerned with public morals; teachers with public enlightenment.

What are we contributing to the public? I should like to discuss this question, Dean Hudnut, long before we begin to discuss organization and standards and ethics and all those things.

DR. RUGG: Dean Hudnut, I am inspired by what Mr. Kostellow has said. I am impressed by the enormous scope of the problem that you people have to deal with, the interminable time that it will take to get anywhere with it.

I don't think I would share Dean Boudreau's concern as to whether you are a semi-profession or a quarter of a profession or what-not. We have to see whether we are getting at the ideas necessary to create new design. We are going to have to ask ourselves how we can bring together all these bodies of knowledge. You ought to have here people such as the psychologists of consumer education--that whole group. They are beginning to learn something; I mean, they are beginning to learn scientifically. There is a whole sector that has to come into this thing.

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CHAIRMAN HUDNUT: it is quite interesting, Professor Rugg, to know how the engineers became a profession. As I recall the history of it, there was no profession of engineering at the end of the eighteenth century; there were only architects. The word "engineer," coming from the Latin root meaning "to be witty" or "to be ingenious," was used about that time, I think.

When they built the Waterloo Bridge in London, the largest bridge of its time--in 1802 or 1804, I think--they had a competition among architects. And only thirty-five years later, when the great Avon Bridge was built, they wouldn't allow an architect to compete! In thirty-five years--it was about as sudden as that--this new profession had sprung up and pushed the architects out of the bridge-building business.

The curious thing about it is that the architects were greatly pleased. They let them go with a "hurrah"; they didn't want them around. The consequence was that the engineers did better design in the nineteenth century than we did, because we were clinging to a tradition--we established a profession--and those fellows were willing to use iron beams and to show them, to expose them.

I don't know whether they became legally recognized then or not--but they were there. Telford built bridges as beautiful as ever were made by any architect--and he did it with no training in esthetics or design of any kind. Eiffel did, too--and so on.

Industrial design might be imagined as in some way associated with architecture (if that isn't too big an insult) gradually developing into its own profession, in something of the way in which landscape architecture did. There were no landscape architects until the time of Repton, around 1850. He called himself a landscape architect and he designed estates and gardens--and the architects said, "God bless us, we don't want to bother with little things; let them go." Too bad!

Really, there is only one profession of design, and all of us--even though we have our separate organizations--ought in some way to be able to know one another and to stand together and to realize that we all have the same objectives. It's a great pity that we weaken ourselves by these divisions.

It might be well if we all had one general name. When I came to Harvard twelve years ago, I changed the name from "School of Architecture" to "School of Design"--and almost got thrown out on my ear for doing it. I wanted a bigger term. I wanted to tell the people that we thought of city planning as design--and landscape and industrial design--and that all things which have to do with the creation of forms for civilized living, for the environment of man, are plastic design and are therefore basically one activity. To design a chair and to design a cathedral is the same process: the same organization of form, the same evolution of techniques. I want to tell you one more story before we end today's meeting. It is a true story. It has to do with the question of the social responsibility of the designer--that ought to be close to your hearts.

Speaking about this problem of social responsibility to my

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wife, I said, "We ought to start right here in our own house. Here we have a colored maid, named Nellie, and you give her the most horrible set of dinnerware to eat on." (It had a pheasant and a rose and a castle.) "It is our job to teach her some good taste; it is our social responsibility."

I was so eloquent that my wife said, "Yes, I will give her my best set; I will give her my Russel Wright." And, the next day, Nellie gave notice.

MR. SAKIER: I should like to say a word before we close: licensing industrial designers is revolting to me -- and, I believe, impossible.

The S.I.D. has tried to make its standards as inclusive as possible, without a specific definition of what a designer is or is not. We hit upon a simple pragmatic method of determining it (which we are willing to change): a man who has served three diverse industries with fairly honorable and good results is eligible to join and is welcome in our midst. If any other society cares to set up standards equally satisfying to a prospective buyer, I think it would be a marvelous thing -- and there would be no question of our being eliminated.

It is curious that our younger members -- we now have over eighty -- are the conservative ones about our membership. We have tried to include as many young people as possible -- and they are the ones who are exclusive because they are jealous of our prestige which distinguishes them commercially.

I hope that at the rest of the meetings there will not be a question of two societies. Every speech here has been so inspiring in a broader sense that I think we should forget about the two societies and all build together, whichever organization we are in. I believe I am a member of A.D.I.

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TUESDAY AFTERNOON SESSION

November 12, 1946

MR. KAUFMANN: We were disappointed when Mr. Ira Hirschman, who was supposed to give us a few leading ideas today, phoned at the last moment to say that he couldn't be here.

However, I think we have a wonderful solution: both Mr. Loewy, president of S.I.D., and Mr. Teague, who has been president, have consented to say a few words about the demands and expectations of the client and how these limit and affect the professional functioning of the designer.

Perhaps it would be best to ask them to start right in. Mr. Loewy, if you would like to start off, that would be fine.

MR. RAYMOND LOEWY: Mr. Teague, let us try to discuss it together. Would you like to take the part of the client?

MR. WALTER D. TEAGUE: All right, fine.

Well, Mr. Loewy, I know that you are a designer of very substantial and eminent reputation, with a great many successes to your credit, but you have never served a business exactly like mine. I am perhaps the largest widget manufacturer in America. You probably don't realize it, but the business of making widgets is very different from any other business. I know that you have designed trains and automobiles and household appliances and business machines, and many other products, but widgets are quite in a class by themselves. I am just wondering what gives you any assurance that you could do for us what my own staff of engineers has not been able to do.

MR. LOEWY: Well, frankly, Mr. Teague, we have designed widgets before. However, to answer your question and try to convince you, I will take the attitude that we have never done anything with widgets--never designed any.

We have studied the record of your company for the past few years. We know that you are doing very well; we know the reputation of your firm; we know that the products you are manufacturing are excellent, priced correctly and for the most part styled right. However, we feel that the influence of an outsider with an open mind, with no inhibitions about your product--working in cooperation with your own staff--could bring some fresh and unusual answers to your problems.

We can't promise to do so; but we feel reasonably confident that if we have the cooperation of your design department, of your engineering department, and if we have an opportunity to study the manufacturing facilities you have, the kind of equipment you use, we can do a job for you.

We would like to study the widget market, however, before we go ahead and make any proposition to you. We would like to know what is being done in the field by competitors, and in what price range, and which are the widgets that sell best (and we would try to

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isolate the reason why they sell best; whether it is price, appearance, function, quality, or a combination of these factors). Then we can talk to you intelligently about doing design work for your organization.

MR. TEAGUE: Well, of course, Mr. Loewy, that goes much further than I had in mind. I had assumed that you would simply make me some sketches of what you thought my product ought to look like. After all, that is all we had in mind in connection with your ---

MR. LOEWY: Well, I regret to say that we don't work that way. The leading designers, those who have established reputations and have reputations to maintain--such as Mr. Teague, a namesake of yours, or Mr. Dreyfuss or Mr. Arens--don't work that way. They don't like to start doing any fancy designing or blue-sky designing without knowing all the factors of the problem involved.

We couldn't do that, then. We wouldn't be interested, and I don't think you would.

MR. TEAGUE: Well, do you think that you could come into a business like ours and in a short time acquire enough information about it to be able to make wise decisions in the various fields in which, as you have outlined it, you would like to operate?

MR. LOEWY: Yes. That is the reason we are here to discuss it with you. We have done work in fields very close to widgets. The products may not be exactly widgets; but they are in the same price range, they sell through the same kind of retail outlet, and the servicing problem of these units is quite similar to yours. We feel confident we can do a job. I would like to have a look at your facilities, at your plant, and see what kind of equipment you have. We would also like to talk to your sales manager, if that can be arranged, in order to have some idea about your retail outlets.

MR. TEAGUE: Then we would more or less have to take you into the family and into our confidence in a matter of our business methods and procedures and so on?

MR. LOEWY: Yes--completely. That is the only way we could possibly work. You may not have heard about the reputation of our firm as far as ethics is concerned. You may be sure that any new development that happens when we work with you, or any new idea you may have, will be kept completely confidential. You don't have to worry about that. But we want to feel that we are admitted as a member of your family and that we have your complete confidence and respect, so that we can get the cooperation of your engineers and your development department and your sales force.

MR. TEAGUE: Well, of course, that opens up a whole new vista in regard to this work, and the question of personalities immediately intrudes itself. Do you feel that you could get along with our technical staff? After all, our engineers are very experienced in their work, and they are a little sensitive about people intruding from the outside. I just wonder whether we wouldn't have a conflict on our hands when your people come into our organization.

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MR. LOEWY: I don't think so. We have worked for railroads-- which should answer that question. We can work for any type of manufacturer.

MR. TEAGUE: Just remember that the widget business is different, you know. It's different from any other business.

MR. LOEWY: You can't be tougher than people with whom we have worked successfully before. And you just don't look like people who will be especially difficult to get along with.

As far as gaining the confidence of your own men is concerned, we could give them examples of the way in which the introduction of the services of our organization into a certain company was of great benefit to the staff designers of that company. We are not trying to take credit for successes developed together. We are always anxious to have your own men get a great share of the credit. They appreciate the fact that we are not trying to say that this product is "designed by Raymond Loewy"; we always say that it is designed "in collaboration" or "in cooperation" with the design department of the particular company.

We lean over backward to give them all the credit possible and to make them feel that we are not after their jobs. I'm not interested in getting a job with your company; I have my own (which is doing reasonably well). They don't have to fear, then, that they will be out of a job because we come into the picture. They will very quickly realize that we are a great help to them. So I don't think you have to worry about that problem, either.

MR. TEAGUE: Well, you have answered a lot of the doubts that were in my mind. I am just wondering, though, what guarantee we would have of success. After all, this is going to be a very expensive thing for us. What assurance do we have that we will get the right returns?

Of course, if you were just to make a bunch of sketches, and then if we could buy some if we liked them, we would feel safe. But if we are expected to commit ourselves to a long program of development, we have to feel reasonably sure that it is going to be profitable for us. We must account to our stockholders for the way we spend this money.

MR. LOEWY: Well, I don't think you would ask a doctor, for example, to give you a positive guarantee of success. It is very difficult to give such a guarantee. All we can do is to tell you that the chances of success are very great, and that the record of our past performance in the field of design has been a rather successful one. No doubt, you know many of clients--presidents and sales managers of companies we work for. You might ask them, "How did you get along with Loewy? And what about the results? Did his stuff sell?"

MR. TEAGUE: Then you wouldn't mind our discussing this with some of your clients?

MR. LOEWY: Oh, not at all. In fact, I would welcome it. I will give you a list of our accounts--there are ninety-eight at present--and I am sure you will find some people you know on that

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list.

Now, in regard to your asking us to make some sketches and then buying them if you feel that they are good or that they represent possibilities, I am sorry to say that we can't do that. It is against the ethics of the profession.

MR. TEAGUE: Well, you are very convincing, Mr. Loewy. I think we might like to try this out for a few weeks, or for a month or two, and see how we get along ---

MR. LOEWY: Well, that's very difficult; I don't think we could possibly do it. One of the most important items in the code of ethics that I have mentioned is that one designer cannot work with several manufacturers in the same field. We are interested in your field. Therefore, we want to make a permanent connection. We are not interested in working for you for two months and then going somewhere else; the fact that we had started with you would keep us from designing for a competitor of yours for quite some time. If we are to be associated with you, then, it should be understood that it is for a minimum of one year; that is an absolute minimum.

MR. TEAGUE: Well, if you are going to really inform yourself about our business, I suppose it would take some little time for you to get your feet wet in the widget business--and after all, if we are paying for that investment, then we want to capitalize on it. I suppose it is a fair proposal that we should undertake to go along for a reasonable length of time, to find out how it is going to work out ---

MR. LOEWY: I have suddenly had an idea. We might make it easier for you. If you don't feel like getting involved with us or any other designer for a period of a year because you feel you would be gambling on a big fee, which would be hard to justify with the Board of Directors--I say that you're not gambling but, after all, you are entitled to your ideas--why not make an arrangement whereby the retainer would be a nominal one of a few thousand dollars a year, and then we would get paid on a royalty basis according to the success of the product we design? Your original investment would then be reduced to a minimum.

As designers, we would welcome such a financial arrangement, which has been extremely successful in the past. It is one of the most successful arrangements we have in our organization. We like that sort of deal.

MR. TEAGUE: It looks as though you have a lot of confidence in what you are going to do. Of course, if that's a good gamble for you, maybe it isn't for me. Perhaps we had better have something more in the nature of a fixed-fee arrangement.

MR. LOEWY: Well, that's just what I was trying to lead up to.

MR. TEAGUE: You have given me an entirely new slant, Mr. Loewy, on the possibility of industrial designing in our business.

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I will have to discuss it with my associates and my Board of Directors. We would then like to have you visit us and look us over on our home grounds--and maybe we can come to an agreement.

MR. LOEWY: I certainly hope so. Thank you very much.
(Applause)

MR. TEAGUE: (To the audience) That was entirely unrehearsed.

CHAIRMAN HUDNUT: It was a very exciting experience to have an inside look in this way at the designer vis-a-vis his client. It isn't so very different from what takes place in the case of an architect--except that unfortunately we can't take a royalty on our buildings.

I was struck by the fact that there was one omission from the conversation which, as a bystander, I should like to bring to your attention. Neither the designer nor the manufacturer mentioned the consumer: the man who is going to use this product. I wonder whether he shouldn't impinge a little on the situation. How do we find out where he stands? Has he a stake in this matter, other than to be told something? Do you think it would be proper to discuss that for a moment?

MR. LOEWY: Surely, that would be welcome. We assume that if the product is going to be a success (and that is what we were talking about), it has to do a job for the consumer at a reasonable price, has to require a minimum of maintenance, and has to be of good quality. We assume that the interests of the consumer would be taken to heart, that that would be Problem Number 1. If that weren't so, I don't see how the product could be a success for long--or be a success at all. We assume, then, that whatever we would design for Mr. Teague's company would take care of the consumer's interests and requirements.

CHAIRMAN HUDNUT: Would you say that it is a question of importance to the manufacturer and the consumer whether the design is good or bad, or is the important question whether it is something that can be made efficiently at a profit and can sell? Does it matter, from a practical point of view, whether the thing is really good or not?

MR. TEAGUE: Oh, yes.

CHAIRMAN HUDNUT: It really does?

MR. TEAGUE: Practically none of our clients, I think, are in business on a short-range program. If they are, we don't want them as clients. People who are going to stay in business over a period of years must build a reputation for producing a valuable product, a product that is worth all it costs and that will serve the public.

I think that that question, as it touches upon the matter of the industrial designer's relation to his client, was covered briefly by Mr. Loewy when he spoke of market surveys. We usually do go into the market, and we examine not only the selling of the product in the market and its competition, but the consumer public--what the consumer is looking for in the product and what wins his favor.

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Our designs are influenced primarily by that.

CHAIRMAN HUDNUT: I know someone who is a salesman for one of the big houses that put out trade catalogues--not Sears Roebuck, but the same kind of firm. Once, after looking at the catalogue, I said to him, "My God, but you have a horrible line of lamps!" He had about fifteen lamps, and each one was worse than the next--except for one lamp that was quite good.

He explained it this way: "Each year, we put out one good design, in the hope that somebody will buy it. But nobody has ever ordered one."

Now, it didn't make any difference to him whether the thing was good or bad, did it--just so long as it sold? Perhaps, then, if he were going to employ an industrial designer, he would say, "Give me the ugliest lamp you can design, because it sells."

MR. LOEWY: Really, I don't see that sort of case. Do you see it, Mr. Teague?

MR. TEAGUE: No. Of course, I do think that there are curious hiatuses in public taste--and they usually occur in connection with products which are bought on purely esthetic standards, rather than practical standards. Until quite recently, radio cabinets provided a very vivid example of that type of lack of taste, because the actual functioning of the radio had practically nothing to do with the design of the cabinet, and it was bought on appearance standards by a public which had no functional standards by which to judge it.

The same thing is true of lamps. They will all give you the same amount of light with a 50-watt bulb in them, and they will all give you the same amount of light with a 100-watt bulb in them. Consequently, they are bought for what are presumed to be their decorative values.

That lack of taste does not occur in any field in which the function of the product is a factor in the design or an influence on the design. For instance, in buying kitchen equipment, most housewives show excellent taste in their choices, because those are functional products which are judged largely on the basis of performance. The housewives understand the performance of those products, and consequently they are influenced by other standards than the period styles or the home-furnishing magazines or what-not.

Most of the products that we deal with are in that latter class. I think that very few of us design in those fields in which products are bought purely on esthetic standards.

MR. EGMONT ARENS: There is another point that has to be considered in this second class, the class that includes such things as furniture and lamps--and that is the taste of the buyers of the large department stores, who can either make or break any of the furniture or any of the lamps that might come into their department either by stocking it or by simply refusing to stock it. If a department store puts in a buyer who has good taste, the department immediately gets better.

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However, one of the reasons that the department stores don't do that is that the buyer who has good taste is usually more expensive. Therefore, they usually get along with one who receives a smaller salary, and consequently the department has a lower standard. In refrigerators and kitchen equipment, on the other hand, and things like that, the buyer's taste is not consulted.

CHAIRMAN HUDNUT: It seems to me that, in the average American home, the only really beautiful thing is the refrigerator. That usually has some esthetic merit. Next, perhaps, is the range. The kitchen, then, is certainly far in advance in the matter of good design.

MR. TEAGUE: Kitchens, bathrooms and furnace rooms.

MR. ARENS: The reason for that is probably advertising. Manufacturers of kitchen equipment and of bathroom equipment have spent millions of dollars in the magazines, and the result is that the public has been educated to accept those things. There is no similar movement, however, in furniture or home furnishings.

CHAIRMAN HUDNUT: I was struck with a line in the pamphlet published by the S.I.D. It said (if I quote it correctly), "Although our principal interest is in the appearances, yet we also must take into account the function and usefulness." In the case of the kitchen, you have a striking example of the work of designers who are chiefly interested in the function, and who yet arrive at the only really satisfactory and beautiful thing in the house.

I would think, then, that the process should be just the reverse: their principal concern should be with function--and, if it were, they would arrive at something satisfactory in appearance.

When you come to think of it, the kitchen has just about as firm a tradition as the parlor. The old-fashioned kitchens were beautiful things, with their great hearths and their brick ovens and the beautiful old utensils hanging around. Isn't it strange that that tradition should die so easily, while people still cling to the Colonial and Georgian and what-not in the living room?

MR. TEAGUE: I think the reason for that is that the preparation of food, like bathing, is a modern art. As they are practiced today, they have no traditional backgrounds. The preservation and preparation of food and the use of bathrooms, as known in American homes, are wholly new phases of life. The gas range is a wholly new thing; you can't build one to look like a wood-burning fireplace. If you could, someone would probably have done it.

MR. LOEWY: That's right.

CHAIRMAN HUDNUT: Well, you have the old Elizabethan telephone booth, you know.

MR. TEAGUE: That's a little easier, you see, because that's merely an enclosure. I saw some telephone booths just the other day that were obviously copied from Gothic confessionals.

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MR. KAUFMANN: Mr. Chairman, I should like to ask a question. First, I agree, of course, that kitchens and bathrooms are far ahead of the rest of the American home in their design and efficiency, and that the quality of their design is rooted in the understanding of their functions.

However, as I sat here listening to this eulogy of the American kitchen, I began to wonder about some of those refrigerator doors that are divided into four or five panels that seem to intersect one another, that have little chromium bars tacked on the bottom. That doesn't seem to me particularly functional or particularly easy to clean.

What happens between the functional solution of a problem, and that next step which, I suppose, is what makes it sell? (At least, that is the reason we are often given for these trimmings.)

MR. LOEWY: If you look at the latest style of refrigerator unit for household use, I don't think you see many objections that are not absolutely essential. Even the hinges are recessed and faired in.

When we design a Frigidaire, for instance, we like to spread fine dust and take photographs to see where it collects. When we say that we streamline a door handle, then, it isn't as silly as it sounds. It is streamlined in the sense that it offers a minimum of resistance to the flow of dust and therefore collects a minimum of dust.

We also designed all these units of a Frigidaire so that the lint from a piece of cloth, when the housewife cleans the surface, does not get caught between the hardware and the door. You see, we are really thorough about that kind of thing. If you look at the drawer-pull at the bottom of a Frigidaire, you will see that in the latest models it is very often recessed, so that a little child playing in the kitchen will not get hurt by the hardware. That also applies to the door handle: many accidents involve children who strike their eyes against handles.

All these things are taken into consideration, and it seems to me that the latest type of unit--if you look at it carefully--is not complicated at all. It has been reduced to its simplest expression consistent with correct functioning.

MR. KAUFMANN: Do you think that is a real tendency: to eliminate some of the trimming?

MR. LOEWY: To eliminate projections, yes.

MR. TEAGUE: Oh, yes, definitely.

MR. LOEWY: Or, at least, to recess them to get a perfectly smooth surface.

CHAIRMAN HUDNUT: Just last week, I was at a meeting of the Women's Foundation, a mysterious organization to promote the happiness of women (as if that were necessary)--and the argument was

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made, rather persuasively, that in kitchens the concentration of counter, range, and so forth, into a small unit is not congenial to family happiness. Family happiness depends upon cooperation and collaboration. The housewife should have her children helping her to wash the dishes, and they should all work together, and the husband should come in and do his share. But now the housewife retires to a kind of laboratory, and she is losing her importance and dignity in the family. (I am just quoting this now.)

I thought, in that connection, of what my uncle told me when I was married thirty-four years ago. (I have been happily married ever since.) When I asked him the secret of a happy married life, he said, "It's very simple: you just have troubles together." And so, if we found ourselves growing apart, we would get one of these new larger kitchens, you see, and move in there.

But isn't it true that the tendency to make the kitchen into a laboratory has gone pretty far?

MR. LOEWY: The architects, you know, give us very little room to place in that kitchen all the things that the housewife requires for efficient operation of her home. We have to make the best of the area given us.

Our choice would be to have a compact assembly of units (such as sink, washing machine, ranges) in a large room, so that the housewife would use a minimum of effort gaining access to the various units. This compact group would be in a large, airy, cheerful room. The family could still talk and be together - and she wouldn't have to run around a large kitchen.

MR. TEAGUE: I think design always responds to the influences of the time. Those influences are contradictory, and they change. I think kitchen design in the past twenty years has been perhaps too much influenced by apartment house design. Apartment dwellings in this country represent a very small percentage of homes: (only about five percent, or something like that), nevertheless, compact kitchens have influenced all kitchen design.

I think there is a definite tendency in the other direction, along the line mentioned by Mr. Loewy. Kitchens are not larger and more airy, and they usually provide pleasant arrangement for dining right in the kitchen. Frequently, there are desks, telephones, cases for cookbooks, and so forth, for the housewife. I feel the kitchen is now more what it used to be: a center of home industry and activity.

CHAIRMAN HUDNUT: Mr. Rudofsky, do you want to speak on this point?

MR. BERNARD RUDOFSKY: I am very, very surprised to hear a eulogy of kitchen and bathroom equipment, because I always thought them completely inadequate. I am of average height, but I have never found a bathtub in which I could really take a bath. I ask myself why all American bathtubs are from four to ten inches too short. English and French ones are much more adequate.

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I have never found a bidet in America (and I think that that is where hygiene begins).

For the kitchen, I think all the equipment is for warming food, but not for the preparation of food. I haven't seen an iron pot, a copper pot, or anything which anybody who likes to cook would want.

Why is the refrigerator always treated like a piece of sculpture? Why does it have rounded edges, when it has to fit into a wall unit? I never found a satisfactory form in a refrigerator. It looks wonderful in a store by itself - but, when you try to fit it in with the kitchen equipment, it is awkward.

CHAIRMAN HUDNUT: How does it happen that designers can sell these extraordinarily beautiful and efficient things for the kitchen? Not only ranges and refrigerators, but also knives and other utensils. That is rather pertinent from the point of view of an architect because occasionally we also do modern designs - and we never sell them.

Did you go around and explain these things to people, and find out that some consumers wanted them, and then come back to the manufacturer and say, people want these. Did consumers say they wanted them? How did it come about? It would be a godsend to architects if we knew that secret. I suspect what happened was, somebody made them and sold them, that the consumer demand was not there first; isn't that true?

MR. TEAGUE: I think you have to give the manufacturer a lot of credit there. I should like to hear from Ray Patten on that subject, because he has designed a lot of household appliances and kitchen equipment.

MR. RAY PATTEN: I want to say--as far as General Electric is concerned, of course when we first started in, we made square boxes. However, as soon as somebody else makes a better-looking refrigerator for the same price, and the consumer buys it, you have to compete.

It is my opinion that, as long as refrigerators and other kitchen equipment are sold as individual freestanding units, they must be designed as such. As soon as you design a kitchen as a complete unit, then you will be able to reduce the cost of refrigeration, the cost of your range, and the complete cost of your kitchen. I think that eventually that will come about.

At present, however, when a concern such as General Electric puts out a million refrigerators a year, it cannot afford to change over all its tools and dies--when it spends millions of dollars to put that type of product on the market--until it obtains that acceptance. It is a gradual evolution. I think that is the reason why we design them as free-standing units.

CHAIRMAN HUDNUT: I can see that there is an evolution there--but what puzzles me, as an architect, is this: Here is a horrible Victorian chair--and you make a beautiful, simple,

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functional chair, and nobody buys it. But here is a horrible refrigerator, all dolled up with baroque trimmings--and you make a beautiful white refrigerator, and they all buy it.

MR. ARENS: If you formed a company to manufacture beautiful chairs and spent millions of dollars in advertising and improving them and having beautiful colored pictures in the women's magazines, showing how lovely they look--and if you kept it up for ten years--you would sell them just as the refrigerators are sold.

CHAIRMAN HUDNUT: Well, we have been designing simple houses now for twenty-five or thirty years, and putting them in the magazines, and winning prizes--and we are now building in Boston, someone said, 170,000 Cape Cod cottages. None of our new designs is being built. But you people who design things for the kitchen and the bathroom have no trouble in establishing your market.

MR. ARENS: When the architects get into pre-manufactured housing, the manufacturer will then build a house as an automobile is built. He will decide on a style, he will go out and sell that, and then---

CHAIRMAN HUDNUT: In other words, the decision comes from the manufacturer first, and then from the consumer?

MR. TEAGUE: When you mass-produce a million refrigerators a year, as Ray Patten has said, you must make your tool and die investment first. The reason that refrigerators have rounded corners is that they are stamped out of sheet steel --and they are covered with porcelain enamel--and you can't put porcelain enamel on square corners, and you can't economically stamp steel if you have square corners.

MR. LOEWY: That is exactly the reason we have to do it.

MR. TEAGUE: To my mind, they look better, anyhow. It gives them an effect of unified form which they wouldn't otherwise have.

I think taste is superior where mass production prevails because the manufacturer must commit himself in the beginning to a great expense, must risk his fortunes on a design before he ever gets into production. Consequently, he is under compulsion to make it a good design. Furthermore, all the silly extraneous elaborations put on furniture are too expensive in mass-produced products. Furniture is mass produced only in a very minor sense. It isn't made from jigs and dies, as refrigerators and ranges are made--jigs and dies that cost hundreds of thousands of dollars before you ever make one object, so that you have to make pretty certain you are betting on a sure thing.

CHAIRMAN HUDNUT: It would seem, then, that mass production is a means of raising the public taste.

MR. TEAGUE: I think so--definitely.

CHAIRMAN HUDNUT: That is just the opposite of the theory of William Morris, for example.

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MR. MCCONNELL: It is also a means of holding back public taste, because the public and the manufacturers become committed to a particular design. The result is that something which everyone agrees would be an improvement is not available. The outstanding example of such a crying need is a gas stove with an oven that you can get at without busting a pair of nylon stockings.

CHAIRMAN HUDNUT: You might ask whether the consumer buys these things for the kitchen because they are good-looking. Does he know they are good-looking?

MR. MCCONNELL: He knows it because he is told it.

MR. TEAGUE: I don't think it is quite that. I think that consumers respond to the beauty shown to them in a functional object, an object they judge on the basis of its functional qualities.

Mr. McConnell is right in criticizing range and kitchen arrangement. The reason is that the range is still manufactured as a separate appliance which is imported into the kitchen, not actually an integrated part of it. Economy and convenience, rather than the use of the oven, dictate the rectangular or cubical form that the ranges have taken.

CHAIRMAN HUDNUT: Let us say that you are an industrial designer who is engaged by a manufacturer. If he is a manufacturer of drawing-room furniture, you would say to him "My dear sir, I must be a traditionalist; otherwise, you won't sell your line"--and you would be serving him efficiently by saying that. That is what he would expect of you. Am I right?

MR. WEBSTER: It is one of the things he would expect of you. on the other hand, you might point to some recent surveys on trends in public taste. We are getting to a point now where people who are planning to build--at least, some ten or eleven percent of them, according to figures that have been mentioned--want a so-called modern house.

That is beginning to open the door. If you were dealing with a manufacturer of drawing-room furniture who said that he not only wanted to sell a lot of furniture, but wanted to lead in the field of furniture, you might very well say to him, "Do you have the courage to go along with us on a program of truly functional drawing-room furniture?"

CHAIRMAN HUDNUT: He would have to decide whether he wants to take a chance or doesn't want to take a chance.

MR. WEBSTER: You might give him some figures which would warrant his taking a chance. Then, if he backed it up with adequate advertising and produced in a mass way, so that the price would be proper, this would be about the right time to get started on it.

CHAIRMAN HUDNUT: The reason I bring up that question is that it goes to the heart of the discussion today, doesn't it? Does a designer, as a professional man, say to the manufacturer, "I will not design anything that isn't good; and, if you are going to

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insist on this kind of stuff, you might as well take it to somebody else"? Or does he say, "I will find out for you what will sell, and I will give it to you"?

MR. WEBSTER: You have put your finger on a very delicate point.

CHAIRMAN HUDNUT: I know I have.

MR. WEBSTER: I know a good many designers who have said, "No, I won't design that lousy stuff; you go somewhere else with it."

MR. LOEWY: Absolutely. That happens all the time.

MR. WEBSTER: They say, "You want somebody in Grand Rapids; you don't want me."

MR. LOEWY: When a company like the Consolidated Edison Company, with its unlimited resources and scientific talent, designs a range, it is the best range that can be produced and developed at a given time. If they knew how to produce a better one, they would do it.

The same applies to the electric range. If you could see the laboratories where General Electric or General Motors are developing those electric ranges, you would realize the tremendous amount of effort and talent and intelligence that is put into the development of such units. There is just no way to make them better. There are two things to consider in regard to the difference in standards of taste between house furnishings and house equipment. One is that the public judges the equipment on the basis of function, but judges the furnishings on the basis of what they assume to be esthetic standards. (They may not be esthetic standards, but the public assumes them to be.) There is that difference.

Secondly, the factor of mass production enters into it. The manufacturer of equipment must stake his money on a practical design and an economical design and a good design; whereas the furniture manufacturer can afford to make a thousand chairs or a thousand couches, and then change his design and make a thousand different ones--and that is what he does.

I do think that people buy these things for the kitchen because they like them, because they are good-looking things. I have come across so many women who are very proud of their kitchens and will tell you how beautiful their kitchens are. For some reason, you have succeeded in getting them really to feel that those things are beautiful.

MR. ARENS: One of my clients in a small town in the Midwest is an engineer--the president of his firm. He has a conventional house: big thick brick walls and small windows and a dark interior. When we go to his house, we always arrive in the parlor first. That is full of overstuffed furniture, and none of it is very comfortable. Everybody sits around on the edge of his seat for a

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while--and then, all of a sudden, this client of mine says, "Now, come on--let's go out in the kitchen."

Then we all go into the kitchen--they have a little breakfast nook, and everybody goes in there--and they get something out of the refrigerator, and everybody has a good time.

This man does that with all of his friends. They all go through the convention of sitting in the parlor for a few minutes, and then they go out to the room which has been designed to have a good time in.

I find that that is true more and more: that women like their kitchens a little better than they like the rest of the house, but they have to keep up these conventions because of the Joneses across the street and the Ladies' Aid, and so forth, that might disapprove of modern taste.

MR. LOEWY: Mr. Chairman, could we talk about some other field? Could we try to get away from the kitchen and talk about locomotives or railroad stations or buses? After all, they are completely in the field of industrial design--and they have quite an impact on the public taste, too.

CHAIRMAN HUDNUT: All right, let us take the locomotive. What is it that is transforming the locomotive? What impulse is giving it the streamlined appearance and making it really good-looking? The recent ones are very handsome, aren't they?

MR. LOEWY: Yes, they are. At least, they're better-looking.

CHAIRMAN HUDNUT: What is doing that? What is the secret force that is bringing that change about?

MR. LOEWY: It is simplification, just as in many other products. We are trying to eliminate all projections (or as many projections as we can) or superimposed units. We try to fair in all the piping, all the tubes, all the various elements.

It is in the interest of the operator of the locomotive to group all his units together in accessible places, to try to make replacement easier, and also to have a better-looking and simplified unit. The British have done that for years--long before we did it in America.

MR. ARENS: I have just read a statement made by a chief engineer of the Budd Company. He said that one of the reasons that the streamlined train was so successful was that the outer appearance of the cars more or less dramatized the inner functioning of the cars, which had been greatly improved; that it was a sort of outer demonstration to the public that this thing had been thought through in terms of travel comfort. He said that the railroad companies were beginning to accept the streamlined train as a whole unit for that reason: that the whole thing had been engineered from beginning to end, that all its functions had been reexamined and redesigned.

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CHAIRMAN HUDNUT: Do you think there was any resistance on the part of the railroad companies to the new idea?

MR. LOEWY: Yes.

MR. KAUFMANN: Perhaps it would be a good idea to take a few minutes to look over what we have been saying. I believe that a number of really basic points have come out through the discussion of concrete instances and actual products. It seems to me that what I have been listening to is that the client of the industrial designer has influenced the professional work of that designer in two principal ways:

First of all, because of his very large investment and great gamble, the client imposes certain serious limitations on the designer. The work must conform to the laws of an average taste, average distribution, average acceptance.

The other factor has been mentioned a number of times, not quite so strongly (but I have a suspicion that it is equally important), that the manufacturer does expect the designer to evolve adequate symbols for the product being sold to the public. Mr. Arens mentioned the outside of the Budd car. It is supposed to be a symbol of the thinking, the work, and the results achieved inside the car.

It doesn't seem to me that that kind of dramatization - we could call it symbolic salesmanship, perhaps - is very different from the ornament of other ages. The curlicues on a rococo clock fulfilled a similar function: they proclaimed certain virtues of the owner and the maker, in exactly the same sense as the outside of the Budd car.

MR. ARENS: But you must remember that the outside of the Budd car has been manufactured with an entirely new concept of handling materials. They are using thin sheet metal - sandwich construction. -Therefore, the material and the new way of handling have also had their influence on the form.

It is the same in the case of the kitchen stove: when it changed from cast iron to sheet metal, you got an entirely different form.

MR. KAUFMANN: True enough. I wasn't trying to say that this is just the same old thing all over again; I was trying to say that the same old needs are met by new means -

MR. McCONNELL: The impact of mass production has made it a very different thing. When the maker of a rococo clock put a lot of gadgets on his clock, he was doing it to make that particular clock - or one of two or three clocks - look pretty or attractive or interesting to somebody.

MR. ARENS: Or expensive.

MR. McCONNELL: The man who puts some characteristic symbol on a mass-produced thing or on a railroad train, which is a symbol of

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service to a mass of people, really has quite a different objective. At least, the quantitative element there is so large as to make it actually a different thing qualitatively.

MR. KAUFMANN: I was trying to bring us back from particulars to generalities, if possible - with the hope that, by funneling the particular through the general, we could get a little more action in the conversation.

What I should like to hear (and most of you, I am sure) is this: The client's influence on the designer enforces the limitations of mass production, thus seriously limiting the product available to the general public. What does that really mean? Is it a good idea? Is it a bad idea? Has anybody questioned it before? Is it worth questioning?

MR. ARENS: I don't think it is quite true the way you state it. Consider the first Ford car: when everybody said you couldn't make a cheap car, Ford went ahead and did it - and then he proved that he could sell it. In other words, he was creatively imaginative. I think that happens in the case of the industrial designer all the time. The designer is creatively imaginative, and he does something to which the public then responds.

MR. KAUFMANN: But he does it only if it happens to fit in with the tremendous overhead that is worrying his client. That is what I should like to bring out here, to have discussed.

MR. TEAGUE: I think all great art springs from limitations. That is true in the arts of expression as well as the arts of utility. The thing that has made painting a great art is that it is necessary, in two dimensions, to create with pigments an illusion of three dimensions and to express qualities of the visual world which are not always visible to the naked eye.

If the artist had a medium whereby he could simply re-create that world, no art would be involved.

The nearest thing I can think of is three-dimensional Kodachrome. If you have seen that, you may feel that it is very, very beautiful. But it is not art. That is, it is not an art of expression; it is a technological art.

MR. KAUFMANN: Isn't it possible, that art--in the Western world--lies less in reproducing the third dimension by illusion than in the expressive distortions achieved on the way?

MR. LOEWY: Ah, now we are going to have a good discussion on art!

MR. TEAGUE: I spoke of creating and conveying certain aspects of the visual world which are not evident in the world itself.

MR. KAUFMANN: Well, if we can agree that the limitations produce the art, let us now translate that into what we have been talking about.

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MR. KOSTELLOW: I agree with Mr. Teague that the limitations unquestionably channel the effort of the designer into the right direction, because that immediately involves economy and involves the proper use of material and equipment and everything that goes with it, and it immediately begins to click in terms of market, designer, manufacturer and consumer. It is a very integrated picture.

MR. KAUFMANN: But is it? Let us take the case Mr. McConnell brought up--about the nylon stockings. There is one in which it doesn't seem to be feeding directly into the needs of the consumer.

MR. TEAGUE: I think that is only one factor in range design. That matter of the position of the oven bothers every range designer, but there are always other factors involved. The oven of a modern gas range is heated by the passage of flue gases around it. The modern designers of gas ranges have studied that problem very, very closely and have arrived at a high degree of efficiency by means of various baffles and conduits whereby the flue gases are conducted around the oven and, with a minimum of fuel expenditure, you get the maximum heat--and even heat--all over your oven. Now, that is far easier to do when the oven is integrated in the cube of the range than when it is placed up on top.

What will happen eventually is that the range will be designed as part of the kitchen, and the oven will be a separate unit from the cooking top, and so on--and then it can be placed where it will be most convenient. The broiler will also be a separate unit and will be placed where it is most convenient.

In all design, I think, you start with these limitations, and they always condition the result--and the value of the result depends on the success with which those conditions are met. In modern design for mass-production, you have first, of course, the consumer and his needs; secondly, you have the manufacturer and his facilities; thirdly, you have the materials with which you work. They are going to condition your result.

That, I think, is why the results in mass-produced products for the kitchen, the bathroom and the furnace room are so superior to the equipment for the rest of the house. In the rest of the house, limitations do not apply; the sky is the limit. They can do any damned thing they want with tables and chairs--and so they proceed to do it.

MR. BAERMANN: Retail tradition is a factor which always hampers good design. I think that is the major point in this transition from the manufacturer to the consumer. Distribution handicaps the progress of good design in the home furnishings field more than anything else. The retailing and the merchandising have much more influence on the final product than the designer and the manufacturer have.

MR. KAUFMANN: Certainly, there is a great difference between that influence as exerted on things manufactured in great masses and that influence as exerted on things like lamps and furniture.

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MR. TEAGUE: The mass manufacturer controls his retailers.

MR. KAUFMANN: Yes, to a much greater extent. That is the major difference.

We have had a chance to watch an experiment in war-time England, where the manufacturers and retailers had nothing to say about how furniture and chinaware and lamps looked. A few designs were settled on, and every manufacturer in the country had to do those designs in order to produce uniform items at a uniform price-- simply because they couldn't afford the tremendous over-variety that we enjoy here.

I don't know how many of us have had a chance to look at the utility designs in England, where the same uniformity that we are talking about in mass-produced appliances existed in the case of furniture and similar items. I think the improvement over what had been available previously was largely negative, there were fewer real monsters on the market. But I doubt whether anybody would fall head over heels in love with what they did put on the market.

MRS. LEICESTER: But the element of competition was lacking in that.

MR. KAUFMANN: That's right.

Mr. BAERMANN: One of the people in charge of furniture in a large department store in Los Angeles once said that, when a woman comes into a store to buy something, you gauge her - whether she is Mid-Victorian, French Provincial, Rococo, or whatever the case may be - and then try to sell her what she is. As long as that kind of sentimental traditionalism is fostered by our retail outlets, you cannot expect mass production in home furnishings.

If Charles Eames wants to produce economically a chair that retails for seven dollars, he has to produce at least ten to twenty thousand a month - a molded product, a mass-production thing, on dies and jigs, requiring precision work. Only when that can be done, can we have modern inexpensive furniture.

MR. KAUFMANN: Do you think, Mr. Baermann, that a retailer would be able to resist a seven-dollar chair?

MR. BAERMANN: I don't think the retailer would - if he were not scared.

MR. KAUFMANN: He couldn't afford to be scared at seven dollars retail.

MR. BAERMANN: No, I don't think he would be scared: that's true.

MR. KAUFMANN: In that case, I agree with all your strictures on the retailer up to this last one.

MR. BAERMANN: Maybe Charlie is going to be successful.

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MR. KAUFMANN: Let's hope so.

MR. McCONNELL: The logic of that is that if you can find a manufacturer who is willing to take a big enough gamble ---

MR. KAUFMANN: To be a big enough manufacturer ---

MR. TEAGUE: That is why we don't have mass-produced houses which are as good in their entirety as our mass-produced accessories--because no one yet has been willing to take what would probably be the \$100,000,000 gamble that would be required to go into production of a house which would be sufficiently inexpensive and sufficiently good in quality to supply the waiting market.

CHAIRMAN HUDNUT: You have seen the Gunnison houses, haven't you, that the United States Steel Company is putting out?

MR. TEAGUE: Yes.

CHAIRMAN HUDNUT: They are putting out a good many thousands of them--and they are pure Colonial, you know.

MR. TEAGUE: Exactly. That's the trouble. Gunnison is trying to do a cast-iron range out of pressed sheet steel. (That's a good analogy.)

MR. LOEWY: It seems to me quite obvious, Mr. Kaufmann, that you have the impression that the designer is restricted by the manufacturer.

MR. KAUFMANN: Surely. Designers often tell us: "We had to use the old dies over again--but we were supposed to make something that was new-looking out of it, anyway." That's the kind of restriction I have in mind.

MR. LOEWY: If using the old dies and still making a reasonably good-looking unit allows a manufacturer to sell his product at a much lower price, he can then reach a mass market of poor people who could never afford that sort of unit if it were just a few dollars higher. If, by retaining the old dies for another year, we can reduce the cost of a carpet sweeper (let us say) by five dollars, and still have a reasonably good-looking carpet sweeper, there are hundreds of thousands of families who normally could not afford a carpet sweeper who will be able to buy that one because it is a little cheaper. Therefore, restrictions sometimes have a beneficial influence, because they enable more people to afford those things.

As long as a designer does not have to compromise with his esthetic sense, I think that it has certain advantages for the masses if he has enough imagination to do a good job while using the previous dies for another year or two.

MR. KAUFMANN: Yes, I think we would all agree.

MR. RUDOLFSKY: Do people really buy the cheapest things? How

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about consumer acceptance? It has never been defined. I don't think that people buy the cheapest things.

CHAIRMAN HUDNUT: I don't know much about that. I am inclined to think they do, but I am not very well informed.

MR. TEAGUE: The market always expands as the costs go down. You can sell four million cameras at a dollar apiece--and you can sell only a hundred thousand cameras at ten dollars apiece.

In ranges, there are certain standard categories of price--\$59, \$69, \$75, and up to \$98, \$125, and so on. The big market is in the low-price range, and the manufacturers try to give the maximum value they can give for those low prices.

MR. RUDOFISKY: I take that for granted--but when it is a question of twenty different lamps, why is the ugliest picked (or nearly the ugliest) when it costs even more than the well-designed and cheaper one?

MR. WEBSTER: The consumer has complete freedom of choice on the lamps--in fact, much greater freedom than on a lot of these mass-produced items--and the ugly ones just move out of the stores. I don't know why.

MR. BAERMANN: I think the consumers' selective capacity is very strongly conditioned by the retailer; and by the misuse of advertising--exploiting his Mid-Victorian sense of possession and such. The ornate lamp is nothing but a showpiece, desirable because the Joneses have it.

This sentimental attitude is fostered. Buick advertising doesn't show a Buick car, but shows a beautiful girl. I saw a piece of Dow Chemical advertising which, instead of having plastics displayed, had carnations or something like that. This indirect selling through associations and through false sentimentality has a great deal to do, I think, with the selective capacity.

MR. TEAGUE: Oh, no.

MR. PRESTINI: Why must we change styles each year?

MR. TEAGUE: There are certain lines--women's hats and other clothing being perhaps the most conspicuous examples--in which deliberately created obsolescence is apparently one of the objectives of all manufacturers. There are other lines, however, in which that is not true.

Take the automobile industry, for instance. With a mass-produced automobile, it costs about fifty million dollars, to tool up for a line of cars. Those tools will last for about two years' production. At the end of that time, new tools must be made. That gives the manufacturer a chance to redesign his car, to incorporate such improvements as appear desirable and to eliminate bugs discovered in the previous model.

I don't say that they are always guided in that by purely

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esthetic motives. However, the new models are introduced not primarily for the purpose of obsoleting the old cars, but simply because new tools must be made at certain intervals, and it is quite possible to incorporate improvements and changes at those times. I think that is true of most mass-produced consumer products in household appliances: that the tools wear out every so often, and then they must be replaced.

MR. ARENS: I think a very simple answer can be given to the basic question of whether new things stimulate interest and are therefore produced. Newness and difference happen to be the things that people respond to: newness, difference, interest. I think that is one reason why the manufacturer, when he does change his tools, has a very legitimate reason for changing design to create new interest.

MR. PRESTINI: But does he do it for newness or because it is good design? I think that is the fundamental difference.

MR. LOEWY: As long as he has to have new dies for his next model, he is trying to incorporate in the design everything he can imagine that will make his product more attractive, not only esthetically but from the functional point of view.

MR. ARENS: The best possible design couldn't possibly be sold until the public had been conditioned to an acceptance of it by trade shows and people's discussion of it. The good design is accepted gradually. It very often happens that a designer is called in, does a beautiful job--and it doesn't sell very well, because the public isn't conditioned to it yet.

MR. GORDON OBRIG: We happen to have quite a little to do with home furnishings in the line of furniture. I have sat here and listened to statements to the effect that it is an archaic industry. I think that industrial designers as a whole could very well profit the whole country if they would realize that there has been a terrific change in the methods of making furniture--the basic methods, in the way of the development of machinery--in the last few years. Plywood as such is not the only way of making furniture.

The possible mass production of furniture would be very evident to you if you were to review some of the machinery that Miles-Wysocky has produced, some of the machinery that has been produced in the South in the last two-and-a-half years, and some of the new methods of upholstery.

I think you would find that the furniture industry as such is changing, that furniture is on the way to becoming a mass-produced article. The price of furniture--the cost of factory production--has dropped considerably within the last two years.

I think you could very well look over the diathermic machines, the thermex of Girdler, and a few of the other innovations. You will find that changes have taken place. The industry is not quite so archaic today. It is true that it is embryonic, but it is well on its way to turning out a mass-produced article--not with jigs and fixtures, but with methods that will develop good

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production.

MR. PRESTINI: They are using machines to make a handmade product; the design is still a handmade design. Before you can do what this gentleman is talking about, you must have designs that are designed for the machine. I think that what has been done is hardly progress; they are using a machine to imitate handwork or hand design.

MR. OBRIG: You will find that that is not true--or, at least, it is true in only certain parts of the furniture industry. I don't know whether this gentleman has been through the Mengel plant and seen its productive possibilities. I think you will find that they are not producing handmade designs, that the assembly work is jiggered up, that there are no cabinet-makers fitting drawers, that there are none of the old handicraft attributes.

MR. KAUFMANN: Mr. Obrig, isn't it true that Mengel's drawers are fitted by hand in the department stores, however?

MR. OBRIG: I don't believe so. In the beginning, when they first came out, there was trouble--just as in the case of any new article. But I think you will find today, Mr. Kaufmann, if you ask any warehouse superintendent, that they are not fitting anything.

MR. PRESTINI: It is impossible to get mass production in the furniture industry because about three billion dollars' worth of business a year is done by three thousand companies--whereas you have about the same amount of business in the automobile industry, done by seventeen companies. I think that will explain the situation.

MR. OBRIG: You are confusing mass production in terms of large volume with the possible use of mass production in terms of a smaller volume. I think the two things are not the same.

MR. TEAGUE: I would like to make a comment in connection with this discussion of furniture. After all, we are subject to the wishes of our clients. We wait for the clients to come to us.

So far, the furniture industry--with a few notable exceptions--has shown quite marked indifference to the services of industrial designers. (Although Mr. Rohde did some awfully good furniture designs, and very successfully.)

I am sure that the industrial designers are not snooting the furniture industry. It is quite the reverse. If Grand Rapids showed an interest in the services of industrial designers, the designers would respond with a great deal of alacrity. That interest just hasn't been evident up to now.

MR. ROBERT WHITELAW: I don't want to hurt your feelings, Dean Hudnut, but I don't believe that Grand Rapids is the center of the furniture industry any longer.

CHAIRMAN HUDNUT: I'm horribly "humiliated"!

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MR. WHITELAW: Mr. Prestini has pointed out that the furniture industry is scattered over multitudes of little companies all over the country. I had an opportunity to discover that for myself. I looked at a number of them in the South, and I looked at a number of them in Grand Rapids; and I find that, as far as Grand Rapids is concerned, the horse has already gotten out of the barn.

There they are now looking for designers. Possibly, they haven't found the right ones yet--but they're hunting.

In the South the situation is different. There is an attitude encountered in too many little cities in the South, where Chambers of Commerce raise postwar planning funds and hire industrial engineers, so-called, to bring in little industries. I had an opportunity to talk to one of these industrial engineers, who announced that he was bringing a furniture factory into this particular city. I said, "Tell me about it. Why did you do it? Just how did you happen to hit on furniture?"

He explained that furniture was very logical: the state bought three times as much as it made; they had a lot of hard woods; and they had cheap labor.

Well, I didn't disagree with any of those points out loud. I said, "Well, that's logical to an extent. Now, what about the designer? Where does he fit in?"

The engineer said, "Oh, well, we don't have to worry about the designer, because the public will buy anything we can make for them for at least another five years."

By and large, then, the furniture industry in the South is not hunting for designers yet.

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WEDNESDAY AFTERNOON SESSION

November 13, 1946

CHAIRMAN HUDNUT: Today, we want to talk especially about the consumer and his problems, to note how he feels about good and bad design and the development of a profession of design.

In thinking about yesterday's discussion and the subject of today's discussion, it occurred to me that we might classify the preferences of consumers under two heads: rational and irrational preferences.

When a consumer wants a garage, his preferences are apt to be rational: He wants the right kind of door, that operates smoothly; he wants good drainage; he wants a good firm cement floor; he wants good lighting and heating. His choice will be determined in accordance with a reasoned process. But the same man will go into his drawing-room or his bedroom--and out pop his irrational preferences, and take control of the ship. The architect, then, has to be a double personality--like his client, the consumer. He has to meet his client on those two levels.

I think that is pretty much true of industrial products. You can design a refrigerator rationally--but don't try to do it with a bedroom set or with textiles: a man's choice there will be dictated by fashion or habit or emotion. I think we greatly under-rate the role played in design by feeling, temperament or emotional values.

I am going to ask Professor Rugg to lead the discussion today on the point of view of the consumer. That is something on which he is more or less of an authority, and to which he has given a good deal of thought. Dr. Rugg, will you please carry on from this point?

DR. RUGG: I must immediately disclaim any competence to speak as a student of the consumer, as regards either his acceptance of your designs or (to use the term mentioned yesterday) his selection.

In the study of design historically (particularly since 1890, the line which has been chiefly emphasized by Dewey and the people associated with him has been the line originally developed by William James and Charles Peirce.

Just this week, I have gotten a new book on Peirce, who was the forerunner and teacher of James, Oliver Wendell Holmes, Jr., Thorstein Veblen and other students of society. This book has organized the Peirce material not before available.

Concept Number 1 to Peirce -- what he called the concept of firstness -- is precisely what Dean Hudnut has been talking about: that is, "feeling". The second idea is "body reaction," which is the instrument of feeling, the conveyor of feeling. The third idea

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is "idea" or "concept."

William James said the same thing in 1890. Scattered through James is an enormous amount of material that has gotten lost in the last fifty years -- due, I think, to John Dewey's tremendous prestige and the great contribution he calls problem-solving or thought-reflective thought. "Concept" or "idea" became the main thing, and "feeling" got sloughed off.

Moreover, James, as a student of the body -- he was Professor of Anatomy at the Harvard Medical School before he was psychologist -- was very much concerned, of course, with the body as the vehicle of feeling.

It is a concept confirmed by material from a wide range of investigations -- the German psychologists (Lipps and others), and the whole field of Esthetics. A modern painter like John Marin, whenever he does become articulate, speaks in exactly the same terms -- always the reaction of the body, of feeling.

Now, let me come more directly to the subject of today's meeting: "To what degree is the consumer aware of design as a value in his purchases and as a stimulus to his purchasing?" Perhaps I can restate that question and we can address ourselves to it more deliberately. But, first, let me review briefly certain comments that were made yesterday.

The point was made fairly frequently that consumer acceptance is dependent upon mass publicity, but a clear distinction was made between consumer acceptance and consumers' critical selection. I should like to devote myself to the latter and give a brief answer out of my experience with one selected group of students of this problem. From that, I think, we may arrive at a sound answer to the whole question. It is my belief that the consumer is not at all aware, on the level of critical selection, of the design elements in the products that you men and women create and produce.

For example, in Teachers College this year, we have seven thousand students on the graduate level: they are not graduate students, but they are working for a Master's degree, and a couple of hundred of them are working for a Doctor's degree. They are about as good as most students working for a Master's degree throughout the country.

From my experience over a good many years -- I deal with a small group selected primarily for their interest in esthetics in education -- I would say that not more than four or five percent of that entire group are consciously aware of the design elements in products they observe.

They are conscious of appearance values: that has been drummed into them. They are conscious of terms that have been broadcast a good deal (such as "streamlined," and so on). But even those people do not appraise products put before them in terms of clear criteria of good design.

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Now, they represent a fraction of one percent of the general buying public. They are much more intelligent, in general terms, than that buying public as a whole; and they are much more alert to problems of design. They are beginning to make a conscious use of the concept of design in their own educational work. Yet, not more than five percent of that special group could appraise your products in any such terms as have been outlined.

I have three or four points to make, Dean Hudnut. The first point springs from yesterday's discussion. A number of the people here commented at various times on what has become regular practice, namely market surveys; that that is a step -- and a very important step -- in the process of design.

Will you tell us a little -- to refresh the memory of those of us who are not professionals, how these market surveys are made? In doing that, I hope you will make two distinctions:

Firstly, distinguish between the needs of the consumer and the consumer's expressed interests. There is a fundamental difference there. Are you studying his needs -- what he really needs? Do you curve that refrigerator handle in certain ways (as Mr. Loewy described it yesterday) because of expressed interests of the consumer, or because your studies of human behavior show that it will function best for the safety, comfort (and so on) of the consumer? Distinguish, then, between your studies of the consumer's needs and your studies of the consumer's conscious interests, awareness of design, and so forth.

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Secondly, will you tell us whether -- and how -- those surveys are used? Are those surveys actually used in connection with design; or are they just good talking-points for industrial design? The point was made yesterday, two or three times, that the manufacturer's decision comes first and that the consumer's role is a decidedly bad second.

Here is the public, with its actual knowledge, its wants, its habituation to style, its tendency to buy the worst instead of the best in design, and so on. The designer is a professional student not merely of the limitations of the manufacturer's facilities and the limitations of the material. He is a student of the consumer too. He must be.

I am trying to get you to apply yourselves directly to the third point: How does the industrial designer study the consumer? Even more important, does he use the results of such study after he gets them; or does he go ahead in his own sweet way and design these products irrespective of what he finds out about consumer needs and interests?

MR. WEBSTER: Market surveys are of two types: One is aimed at discovering what the consumer wants that he doesn't have; the other is a study of his behavior. A study of the consumer's behavior can very often help an industrial designer in figuring out what the consumer needs. If you ask the consumer what he needs, he isn't able to tell you -- because it is something that he has never experienced.

Any market survey directed at getting the consumer to help you design a product is a waste of time. A study of his behavior, so that you can apply your brains to giving him something better, is a tremendous help.

I am going to mention a particular example which is so old that it can be publicized now: a study of gas stoves. We went out and surveyed the behavior of the consumer during the period when the gas stove was changing from cast iron to sheet metal. We had marbelized gas stoves, with Queen Anne legs, at the time. My organization had been asked to help a struggling gas stove manufacturer to capture a larger share of the market. (He made a good stove.)

We asked consumers all kinds of questions. We didn't ask them what kind of gas stove they wanted. We asked them how many times a week they fried food, how many times they made coffee, how many times they used the oven and whether they used it to roast meat or to make pies or cakes, and so on. We tried to find out what the cooking behavior of the average family was.

We didn't ask them whether they would like to have electric lights on the stove, or electric clocks or timers, or any of those fancy things which have since been introduced; or whether they would like the stove to go to the floor, instead of standing up on legs. We asked questions designed to show how they were actually using their stoves at that time.

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Based on the answers to those questions, we made certain recommendations. In the first place, we reduced the number of styles that this stove manufacturer was making from some thirty-odd down to five, (an economy in manufacture right there). We brought the stove down to the floor, and we made it white. The oven was placed low because, as far as we could find out from this survey, it wasn't used very often (and because of other considerations); it was brought down flush with the cooking top.

That was a case in which a consumer survey was used to good advantage. After we had learned the behavior of those people, we sat down and figured out ways to make it easier for them to cook. The advertising department could pick that up and say, "Look, you have been taking your stove apart and washing it in soda every day; you don't have to do that any longer. You have been trying to get underneath it with a mop; you don't have to do that with this stove."

In other words, it was a study of behavior -- not a request that the consumer help us to design a stove. Does that answer your question?

DR. RUGG: Yes. Now, there is another question I want to ask: Did your publicity people and your sales department make use of these improvements from the standpoint of consumer needs in the advertising itself, to educate the consumer?

MR. WEBSTER: Instantly. We gave the advertising people something to put their teeth into, instead of just talking about "the oldest stove company" -- or this, that or the other thing. We gave them features which made that stove entirely different from others.

MR. GEORGE NELSON: The survey (except as just described) is not only useless, but is a positively destructive, degenerating influence in design. There are many examples of that.

Take this business of canned meats, like Spam and others, which were originally made of good beef, with herbs, onions, garlic, and so on. They didn't sell quite fast enough, and they were subjected to surveys. It was discovered that certain people didn't like onions, others didn't like garlic, others didn't like various types of herbs. All of them were therefore taken out, in an attempt to offend as few people as possible -- the result being mush.

The industrial designer is obviously a continuation of an ancient type of artist who has a distinct creative function. Whether it is a gas stove or an ancient piece of pottery, the fundamental operation must be absolutely the same--and essentially it is a creative operation. In the end, the designer has to turn out a thing which he thinks he likes and which he hopes that other people will accept. There is no replacement for that process.

The survey, as I have seen it used, is actually an instrument for evasion of responsibility by the manufacturer and the designer, and all it does is take out whatever positive qualities the thing might have. I don't think that is in disagreement with what Mr. Webster was saying ---

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MR. WEBSTER: It is in complete agreement. I haven't seen an actual program of this sort, but I know that some designers have been using panels of consumers throughout the design process--and the result has been a very negative type of design.

If you know what the consumers are trying to do, and then show them a way to do it, you have performed your function as an industrial designer. If you go to the consumers every month while you are designing a product and ask them how they would suggest doing it, that is a negative thing. The consumer can tell you only about what he has already experienced. In the mass, he does not have the imagination and the creative faculty that industrial designers presumably bring to the problem.

MR. NELSON: He can never add anything. He can only take something away; he can only tell you what he doesn't like.

MR. KOSTELLOW: That is precisely in line with what I was saying: design is not something new, it is a continuation. Mr. Nelson is completely correct: design is an art and, as such, is based on emotional responses rather than on the study of processes of manufacturing. To be sure, the new tools and the new materials give a greater and different scope to the designer, but they do not fundamentally change the original problem of creating things for the consumer.

CHAIRMAN HUDNUT: That is very true.

MR. LASZLO MOHOLY-NAGY: I think that the designer's task is a creative task, and every creative task has cultural aspects and implications. Among designers there are people who have vision, who actually know the rational and irrational preferences, just by study, by feeling, by their whole background; and there are some designers who just try to take advantage of the status quo.

This discussion has brought out something worth nailing down. It has brought out that the so-called market survey and consumer survey are mainly an unnecessary evil, mainly an excuse for the negative design, as it was called. But the study of needs and functions is something different.

MR. NELSON: I should like to ask one question, in connection with this survey discussion. Going back to the industrial designer as a creative artist, is it possible that the contradiction is basic between the activity of an artist, whose function has always been to please himself (in spite of all sorts of social justifications attached to his activity), and mass production and distribution forcing the producer to modify his product so that nobody will dislike it?

Is it possible that these two pressures give the profession of industrial design its peculiar atmosphere and its particular problems?

MR. KAUFMANN: I should like to answer that. The industrial designer is an artist today -- designers were artists in every period, even before there was power industry. The position of the

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artist as a romantic individual, isolated from the rest of society, on the contrary has a comparatively short history.

The real meaning of the artist grew out of the artistic activity of craftsmen. Until his recent development as isolated individual, the artist was completely integrated with society, ready to serve his fellow beings at every level he could be goldsmith or engineer as well as sculptor. If the conflict you mentioned exists today, it is because we are bewildered by this recent phenomenon of the isolated genius. There is no reason to be bewildered by it, there is the much longer history of the artist integrated with society whose activity is close to the present day function of the designer.

MR. McCONNELL: You could make it more emphatic by saying that the truth is almost the opposite of what Mr. Nelson said. The artist in history has not been a self-motivated or a self-engrossed individual, but rather a person entirely engrossed in his problem, which was a concern with materials and the application of materials to some particular purpose.

CHAIRMAN HUDNUT: I heard that explained once rather neatly by a critic who said that the artist believes himself to be engrossed in himself.

MR. MOHOLY-NAGY: The artist believes himself to be?

CHAIRMAN HUDNUT: Yes. He is not really engrossed in himself; he is really answering to currents of thought and feeling which are a part of his time. However, being more sensitive (for some reason) to those currents than the ordinary man, and feeling them more deeply and more acutely, he believes them to be his own feelings.

The great artist, then, is almost always a man who, in that somewhat mysterious way, has caught the feelings of his times and made them articulate.

MR. BOUDREAU: I think the artist serves society as much as he has to in order to survive as a human being, but at the same time he gets as much of himself into his product as he possibly can.

MR. RUSSEL WRIGHT: I think that we have gone through, or are still going through, a stage of being completely fascinated with the whole school of functionalism, and that we have forgotten that we are artists. I think we must also be artists.

CHAIRMAN HUDNUT: If it is agreeable, we will ask Dr. Rugg to go on to his second point now.

DR. RUGG: In the last half-hour or so, in placing before us what it is the industrial designer surveys, what he studies, you have agreed that he studies -- as an integral inherent part, of designing -- what the people do. That is, he studies the behavior of people. No matter what the product is to be, the designer does not ask them what they want or what they like or what they are interested in. He studies how they behave, and he designs a pro-

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duct in terms of the limitations of the manner in which they behave.

There was talk yesterday about limitations: the limitations of the manufacturer in his plant, his tooling, his facilities; the limitations in the materials themselves. Some very good illustrations were given. There was brief reference to the limitations found in the consumer. Today you defined what you passed over yesterday: you have said that you design in terms of limitations set by the consumer's behavior, first and foremost.

Actually, the artist is not only a product of his culture. That is, not naively. If he is creative, he is a self-conscious, fully aware, student of his culture. It seems to me, then, that he produces his new household goods not by giving up something he wants to express, but by a new kind of inevitable expression which he has been forced to make by the culture itself.

Now, is that the totality of what you designers get from the public? Have we canvassed it all? I want to be sure, because I am going on to a different point.

MR. McCONNELL: I suggest that Ray Patten may have something to add. At G.E., he has had experience with surveys on a large scale.

MR. PATTEN: Our company has consumer research groups at plants throughout the country, they continually make all sorts of surveys. Some of them are very helpful, the majority of them are confusing.

I can recall one survey made years ago, when we used to make refrigerators on legs. We asked whether a refrigerator should go down to the floor. About ninety percent of the answers said no, that we should keep refrigerators on legs, so that people could clean underneath. Of course, you know what we did.

Surveys are helpful to a certain extent; you have to use your own judgment as to what people need.

DR. RUGG: That was a survey of what the people felt they wanted. The others were talking about what designers saw the people needed on the basis of their behavior.

MR. MOHOLY-NAGY: Why did you make the refrigerator reach the floor? What was the reason?

MR. WEBSTER: How did you sell the idea to your company of going against the survey?

MR. MOHOLY-NAGY: And what was the reason for it?

MR. PATTEN: It's just a matter of judgment. We have an executive committee in all the various groups, and the people on the committee decide. A lot of the answers you receive, you know, may go against your better judgment.

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MR. MOHOLY-NAGY: Oh, I see. It would be better then, to survey the executive committee.

CHAIRMAN HUDNUT: Making the refrigerator go to the floor, when the people had said that they didn't want it to go to the floor, reminded me of Alvar Aalto, the great Finnish architect. He said to me: "I don't have to ask the people what they want. I know what they want better than they do." That is a remark by a really great artist. He is so much in tune with the times that he feels these ideas and sentiments beyond the factual analysis.

MR. BOUDREAU: Dr. Rugg, do you feel that the survey still has a place in the activity of industrial design and manufacturing?

DR. RUGG: Well, I distinguish sharply between the survey of interests (what the people say and think they want) and the survey of what they do (from which designers draw inferences). Mr. Patten said that, although the people they questioned were divided ninety to ten, his company went along with the ten percent because the judgment of his company so dictated. I assume their judgment was based on a study of what people need in the room and in the way of refrigeration.

MR. PATTEN: That's right. Naturally, the needs of the consumer are the first requisites -- and the function of the product.

DR. RUGG: Well, shall we move on to some other aspect of this problem? I assume that the industrial designer and the manufacturer would like to have the consuming public more alert to design; that they would like to have the consuming public buy what you call good designs, rather than bad ones. You, as designers and manufacturers wanting to sell goods, would profit by having the public more intelligent about these things along the lines of good design, wouldn't you?

MR. McCONNELL: I am not absolutely sure of that. It seems to me that two trends of thought could be developed: One, the designer is the priest of some mysterious knowledge, he is able to tell the manufacturer what will be best for the user, and what will make the user buy, without the consumer being aware that the designer is in the picture at all.

I don't think the consumer, when he goes to buy a flatiron, should necessarily be taught to think consciously, "Now, this one is a better design than that one." He should be taught to think, "This one is a better flatiron than that one." Otherwise the consumer may be taught to judge fashion elements, rather than design elements.

I am suggesting that the danger is partial education of the consumer, so that he becomes conscious of "design" as another magic word like "streamlining" or like other words that become the vogue. The advertisers then take hold and you have a great run on that particular word or that particular idea -- which I don't think really does any good.

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MR. PATTEN: That is one reason that we have a variety of designs. A flatiron, like horse-racing, is a matter of opinion to a certain extent. One person likes a borax job, another a simple one. Of course, that depends on location, national or local; in Boston, it is conservative; in Brooklyn, it is borax. You have to consider all those factors.

MR. KAUFMANN: Dr. Rugg, I suggest there is a small body of people who still hope that good modern design is based on function.

MRS. ROHDE: I want to ask Mr. Patten something. Suppose that you, Mr. Patten, as head of the design department of General Electric, and the executives and the Chairman of the Board, and so on, decided that there was no place in the world for borax design and refused to put out a borax iron or refrigerator; and that all your advertising money and your name and everything else were put solidly behind good design (because that would be the only kind of design you would have available): Do you think that people would refuse to buy G. E. products because they weren't borax, and that they would go on buying Mr. Zilch's stuff? Why couldn't you just not produce borax design?

MR. PATTEN: Well, we've tried it ---

MRS. ROHDE: And you went broke?

MR. PATTEN: You have to sell what the consumer will buy. You can help educate him to a certain extent. We have done it to a certain extent.

DR. RUGG: You are now denying what you said a while ago.

MRS. ROHDE: Yes--you see?

MR. NELSON: I don't think he is.

MR. PATTEN: Just a minute. Let me tell you what happened in the radio line. Years ago, we had to put out borax radio sets because Mrs. Zilch likes to think "How fine! We've got a new radio" when her neighbor comes in to see her. From a design standpoint, I don't think anybody particularly cared for them. But that's what that market would buy.

MRS. ROHDE: If it weren't available, they couldn't buy it.

MR. PATTEN: They would buy the product that was put out by a competitor.

MRS. ROHDE: The competition was much smaller than you big boys. If you didn't do it, the little guys couldn't do it.

MR. PATTEN: We would go out of business.

MRS. ROHDE: Not G. E.!

DR. RUGG: Then we want to qualify what we said a little while ago. You actually pay attention to surveys of wants--what

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people say they want.

MR. PATTEN: You pay attention to what they buy.

DR. RUGG: That's the same thing.

MR. PATTEN: But the survey doesn't always consider what they buy. Let me tell you about a radio survey back in 1933, in regard to putting a radio in a clock. It came out fine: that was the thing to do. We built about ten thousand of them ---

MRS. ROHDE: I hope you were stuck with them.

MR. PATTEN: We couldn't sell them. We were stuck with them and we sold them out for about \$25 apiece--and they should have sold for about \$200.

MRS. ROHDE: Good!

MR. PATTEN: When you show designs to people, they think it's fun; but, when they go to spend their money for it, they think it's a different thing.

MR. SAKIER: Mrs. Rohde speaks of making only good design. The question of what is good design can become very puritanical if you insist that, when you think something is good design, everybody else should think so, too. You can't deny the fact that some people are going to like simple things and some people are going to like things that are not simple. No one can say that the first group is right and the second group is wrong.

MRS. ROHDE: There are fancy things that are in good taste, too.

DR. RUGG: Before we go on, I have to return to what I said: You would like it best if the consuming public were more intelligent about good design, about why you design and build the way you do.

We can now turn to the positive side: how are we going to build that understanding in the public? How do you develop that?

Well, I think we have to distinguish between the long-time job and the immediate job. They are quite different. The long-time job I know best. It comes out of slow progress -- slightly better schools, slightly better higher institution, slightly more intelligent families, and so on.

It is a long development in a culture. A hundred years from now, it will be looked back upon as the only fundamental one, of course. It is the thing that my heart and soul are in: the question of what to do with young people.

In one more or less experimental private school, I have tried to put on the staff (part-time) a professional industrial designer, on the ground that he would be the integrating person, Edward Gordon Craig's regisseur -- the artist-director who is a student

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of industrial civilization. For industrial design is just that, isn't it? It is design for industrial civilization. It isn't design for industry; it is design for the whole civilization.

The industrial designer is, then, par excellence, the key man -- as regisseur or artist-director -- to put on the faculty of the school. He reaches out to such a vast range -- materials, industry and production, the consumer (that is, the psychology of the public), the processes of art and design, culture, society -- of all people, the industrial designer is a tremendous potential on the staff of a school.

Schools have learned that, if you are going to get children to paint, you must put a painter with them, not a pedagogue; if they are going to write, you have to put a novelist or poet with them; if they are going to make music, you have to put a musician with them. That has been learned. It follows, then, that if children are to profit by the tremendous body of knowledge that you men and women are finding and putting together, it has to be done through the personality of an industrial designer.

What can be done in our time -- right now -- what is the problem of educating the consuming public?

Will the mere mass production of "better design", placed in retail outlets and bought at low cost, itself "educate" the public? Is that to be depended upon? We are in the midst of that, aren't we? The five-and-ten-cent store (as was said the other day) -- multiplied throughout the culture -- is already educating the public. The stuff is there. They buy it, take it home and use it: they wear it, eat with it, and so forth. But there is no articulate consciousness of quality. Pretty largely, that is what we are doing now, isn't it?

What else do we do? Is there a conscious plan to educate the public about the qualities of excellence in these commodities? That is the second stage.

MR. SAKIER: One country where goods of a high level of taste are available to the public and widely bought, with great effect on their culture, is Sweden -- and that happens to be the one place where salespeople (in the cooperative stores) were carefully trained to point out the merits and beauty of the commodities. Its effect has been profound. Sweden is a shining and solitary example.

MR. BAERMANN: The cooperatives not only educate their sales personnel, but they have consumer forums where they compare the good object, the less good object and the bad object.

DR. RUGG: That is very interesting, isn't it? The cooperative is a yardstick for building taste as well as a yardstick for control of prices.

MR. SAKIER: It is the one place where there is enough interest on the part of the salesman -- an interchange between him and the buyer -- to put across the better-looking thing. It

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wouldn't happen under our system at all, because they just don't care.

DR. RUGG: Why couldn't it happen under our system of competition?

MR. NELSON: There is no incentive.

MR. BOUDREAU: May I speak to that point, Dr. Rugg? In a capitalist society, as I understand it, the function of commerce and industry is to manufacture and sell goods at a profit. It is not their function to raise the esthetic level of society; at least, it hasn't been.

As long as an industrial designer is employed by industry, he is a businessman, whose job it is to make it possible to sell more goods and bring in more profit. The function of raising the esthetic level in America rests primarily in other hands, education's among others.

DR. RUGG: Wouldn't it increase the profits of the manufacturer to educate the taste of the public?

MR. NELSON: Not necessarily.

MR. BOUDREAU: At Pratt, we are working on a project with commerce and industry that is going to take several years to develop. It is rather on the plan of Sweden. We are working with Bamberger's, a commercial establishment, and with General Motors, an industrial concern. They are putting a lot of money on the line, a lot of interest, and a lot of direct instruction. Both give us the run of their entire organizations. However, it is clearly understood -- at my insistence -- that they are doing it purely with the intention of making more profit as a result of having fewer products manufactured that do not sell.

This is called a sustained experiment in creative esthetic research -- but creative esthetic research for commerce and industry. Their business is to produce and move goods at a profit. They are perfectly willing to raise the level of taste of the American public, if it will sell more goods, mean fewer loss items, and give them more profit. That is nothing to be ashamed of -- that is the whole thesis of our American philosophy of government -- and, as long as we have it, we might as well face it. It is not the function of commerce or industry to work in the area of culture at present.

If the industrial designers reach that level which we all want, a professional level, then it will be definitely part of their assignment to help raise the cultural level of America. But they won't do it by designing products for this or that company. They will probably do it through adult education, as well as child education. When industrial designers take upon themselves that part of their assignment, they will be one step nearer a professional level -- because they will then be serving society, rather than just serving business.

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MR. MOHOLY-NAGY: I am most happy that we are now coming to a major discussion: namely, that the design attitudes are dictated by economic interests in different countries, and that the attitude in this country is somewhat different from that in Europe.

When I came to this country ten years ago, I had to relearn completely my ideas about design. I had thought that European measures could be applied to America immediately with the same results as over there. However, I found that the policy of this country -- and designers are unwillingly, perhaps subconsciously, instruments of that policy -- is artificial obsolescence.

That means that this country is so rich -- and everything made is used within the country -- that, to create large employment, large profits, and so on, a constant change of design was needed. In other words, you design in such a way that apart from the usefulness or durability of an object -- a kind of fashion obsolescence is created. Designs are thrown away in two, three or five years -- whatever period the factory decides is appropriate for replacement -- although technically the product is still useful.

All the devices which this country could use to influence people advertising, education, and so on -- are keyed to this concept of self-sufficiency as against the European concept of export. Europeans did not have too much raw material with which to get their economy going; they had to import it. For this, they had to have gold. They therefore had to make their exports so good that people who bought their products could have lasting use out of them. These two concepts will suddenly come into conflict in this country, too, because everybody says that in the future we here will also have an export economy.

I want to give an illustration of artificial obsolescence and how advertising power based upon fright, works. The other day, I read the following anonymous work of a copy writer: A young woman standing before a motor car says to her young husband: "It will be difficult to live with me if you do not buy the De Soto" (or Nash, or whatever it may be).

You also find advertising here in America based upon the fear of body odor or halitosis. In England, there is even advertising based upon the fear of night starvation: you have to get out of bed every hour and eat a certain product so that you won't starve during the night. The greatest nonsense and the greatest contradictions are brought forth to frighten the public so that they will buy various products.

The power of advertising created a wonderful slogan for the exponents of artificial obsolescence, namely, "novelty." In most cases, novelty has nothing to do with function. It is simulation of some organic desire or need -- not a true need.

We have to consider artificial obsolescence very thoroughly when we think about improving the level of public taste through

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education or through other measures, because we all are victimized, consciously or unconsciously, the designer also.

I think that is enough to start some discussion. Mr. Boudreau's statement could also open up great controversy; the task of the teacher could be seen from other angles, as well. For a time, this country has produced under artificial obsolescence, because we were very rich. It didn't mean anything to America, to throw away a usable product: we had affluence, the wheels were going faster, we had employment, money makes money, etcetera. But this situation has to be faced today, and I think that is a pretty good reason for putting your educational plan on a broader basis.

DR. RUGG: Will you make one more point, in a sentence or two, about the relationship of truly integral design -- truly functional design, in other words, -- to the education of the consumer? What is the relation, as you see it?

MR. MOHOLY-NAGY: It is not the job of the industrial design teacher or the industrial designer alone today to create such a relationship with the public. It is the duty of the sociologist, the economist, the businessman -- of everyone -- to rethink the problem as one basic to national economy.

On the basis of my design experience, with the many limitations that are set today (the gentleman from G. E. mentioned them, too) the industrial designer must be a wizard if he is to get his vision across in the face of the conflicting desires of the salesman, the factory, the production department, in the face of artificial obsolescence, etcetera.

I say that an industrial designer must be a person with conviction. I agree with Mrs. Rohde; she has hit the nail right on the head. There is something G. E. could rethink in regard to borax -- if these larger-scale concepts were included in their thinking.

MR. WEBSTER: I think that artificial obsolescence applies only to a very small part of our national production. Any object a consumer buys is obsolete: In the laboratory of a big going factory, there are products well beyond the products sold and delivered on any particular day.

MR. McCONNELL: What both you and Mr. Moholy-Nagy point out is undoubtedly true. Up until the war, this was a country in which it was possible to buy a new automobile every year, or every two years, and, each time, to buy one actually better than the one gotten rid of. The one gotten rid of could still have been used --

DR. RUGG: It was used.

MR. McCONNELL: It probably did go into second-hand use for a number of years. But in most cases, the new automobile was genuinely better. It was a measure of the richness of the country that the comparatively small improvement justified calling the old one obsolete.

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MR. MOHOLY-NAGY: This is still a rich country. However, the main point in my mind was that here thinking is keyed to discarding a product which is still good, which can still be used, which would be used if you were not frightened into buying a new one because you would not be fashionable, because Smith would think you no longer wealthy, or because of other such considerations.

MR. WEBSTER: I have often been asked by manufacturers how often a line or a product should be redesigned -- a very hard question to answer. I finally evolved a theory which I have never had an opportunity to prove. I would welcome whatever thoughts anybody else may have on it.

This is the theory: The style cycle of any product or group of products (this applies equally to women's hats and to houses) is approximately equal to the length of its life in the hands of the first user.

If you apply that to automobiles, you will find that the buyers of new cars will hold them for about two years (or perhaps a little longer), turn them in and buy new cars again.

In architecture, I am not certain of the figures, but I believe a house is owned by the person who first built it for somewhere between twenty and twenty-five years. (Not as long as you would think).

I don't know how long a woman's hat would last, but I imagine about six months would be the limit on a hat.

MRS. ROHDE: No. About three months.

MR. WEBSTER: This theory has a direct connection with the consumer and with style obsolescence.

MR. MOHOLY-NAGY: Industrial design is due to the effort to create a standard. That means that a standard doesn't exist at any one moment; it is already, to a certain extent, obsolete.

Every culture not confused with its own direction, must create standards. That is exactly the opposite of novelty. Functional rightness, a perfect solution of the problem -- using today's science and technology -- is, of course, the first consideration. What the appearance will be is almost automatic matter.

That is the difference I should like to bring out. As long as the public does not understand what the main problem is, we will slowly drift into an immoral and confused attitude about our own wishes, our biological needs because we are overwhelmed by advertising which says that novelty is the important thing, good or bad, and whether something functions better than something else functioned yesterday is not the question.

MR. BOUDREAU: First, I want to address myself to Mr. Moholy-Nagy's statement about artificial obsolescence. I agree with him one hundred percent, but I think that unfortunately he has used the wrong term. It is not artificial, it is very real.

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I would call it accelerated obsolescence. When society rejects a thing, it is just as obsolete as though you couldn't use it any longer. If society will not use it, it is obsolete--whether it is brand-new, like a dress that has been worn once, or whether it is an automobile that has been used for only two years.

You cannot impose upon America the European philosophy of good, any more than we can impose our philosophy upon Europe. Our entire economy is based on accelerated obsolescence.

During the war, we showed how prodigal we could be with the products of nature, with our inventiveness, with our production, and with our destruction--to the extent of over three hundred billion dollars, an unheard-of prodigality of expenditure--and all the stuff we produced that wasn't destroyed is being forced out of existence because of ecological non-acceptance.

There is the greatest example in the history of man of accelerated obsolescence, these millions of trucks and cannon and these thousands of boats. You can see the boats in the Hudson River; we are going to wait until they sink, and then spend a lot of money to get them out of the way of future traffic.

Our entire economy--and I don't say it is right, but it is right for us--is built upon a prodigal use of accelerated obsolescence. We don't worry at all about the fact that our oil is going fast. Our problem with oil during the war, was not whether we could produce enough, it was whether we could get it where we could use it, because the Germans were destroying our oil tankers. That is why we built the Big Inch. We have a 200-to-300-year supply of oil already known to exist in the United States--and I don't know an American who is going to worry about our culture or civilization two or three hundred years from now.

That is the basis of our economy: accelerated obsolescence. It fits us perfectly, just as our type of government seems to fit us perfectly. We can't say that our government is better or worse. It is better for us. It may not be better for Russia.

We have artificial obsolescence here, or we have accelerated obsolescence--whichever term you want to use. It is true that things become obsolete. However, even in the case of the things that we have done in this country in this century (crude as our methods may be according to the standards of other countries or of some people in this country), the good things that we designers have done--or that the craftsmen did before us--are not obsolete.

Today, they are still reproducing Ben Franklin stoves or Paul Revere silver bowls right here. There were thousands of silver bowls made--perhaps by good craftsmen. But that was a good design, and it didn't become obsolete. It isn't obsolete today any more than certain Chippendale chairs are obsolete today.

The same thing is true of chairs that we do today -- or refrigerators or other things. Good things never become obsolete; they become heirlooms of a hundred years from now. If you are

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worrying about obsolescence, I don't think that your designing is worthy of the name. You should think of doing the best thing you can do, with whatever you have to work with, for the purpose, the price, for the consumer. A plastic gadget in the five-and-ten-cent store, a set of measuring spoons, isn't going to last to eternity -- but more substantial goods will last if they are good. There are chairs designed twenty years ago that are still in homes, and that people are very proud of. Design just can't be obsolete if it is good.

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THURSDAY AFTERNOON SESSION

November 14, 1946

CHAIRMAN HUDNUT: Today, we are going to give some attention to the education of the industrial designer.

One of the things that give stability and authority to the older professions is the established discipline of education which they have built up over the centuries. The education of lawyers goes back to Roman times, and the education of doctors goes back nearly as long. If a man is a member of either of those professions, then, he has behind him a certain cachet of authority. Someone is said to have "gone through the mill"; he has received the approbation of an established university. That, as we know, is one of the great sources of strength of the old professions.

In a changing society like ours, we don't have to cling to those medieval formulas. A university is only one way to educate a profession. It is a fairly good way--it is established and it is known and it is experienced--but to suppose that it is the only way in which a profession can attain dignity and recognition, is an illusion.

Nevertheless, it seems to me that there must be some kind of common experience through which men go who are practicing a profession. There must be some understanding and habits of thought and vision and ways of evaluating things which they have in common. One way to get that is through a common educational discipline--whatever it may be. It may be something quite novel, quite fresh.

I have often thought, for example, that it was a great mistake to put architecture in the university--and I think so today--because the architect must then conform to certain rules which are largely based upon literary and scientific precedents. He has certain courses, certain ways of examination, certain requirements in terms of time and accomplishment, which just don't fit into a good architectural discipline. If we could have, as they have in Paris, an Ecole des Beaux Arts--something that is separate from the university--we might give a better education.

We are embarrassed in two ways: first, by the tradition of the university, which makes us conform to certain rhythms, certain patterns; and, second, by the law, which enforces upon us standards which themselves were devised from university practice. I have to train my boys in many fields in which I would not train them if I were free of that tradition.

Of course, it is a good thing, too. Like the Chancellorship in Iolanthe, it has its inconvenient side, but nevertheless it cannot be denied that it is a source of some legitimate pride.

I now want to ask Mr. Moholy-Nagy to begin the discussion because, as you know, he is the most able and vigorous and successful pioneer in educational discipline based upon objective analysis

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of the modern scene. We imitate him at Harvard, and he is imitated all over the world, chiefly because he has been able to see a role for the architect and the designer in the kind of training which he is developing which, I think, is going to be a keystone in the education of this new profession. Without more ado, I am going to turn the meeting over to Mr. Moholy-Nagy.

MR. MOHOLY-NAGY: I am very happy that I have the opportunity of giving you some ideas about our educational approach. I think that without too much preparation we can go to this concept: that the education of the industrial designer is perhaps secondary to the problem of general education, of which the industrial designer's education should be a part.

I will try to make it as simple as I can: I believe that the human being has to be educated in all his capacities.

We have excellent schemes and a great tradition in the education of the brain, of the intellect. We have rhetoric, and logic, and a great number of devices with which we can educate a person to so-called literacy. But we have very few means by which we can educate the other part of the human being: I am referring to the education of the feelings, about which Professor Rugg told us yesterday. I believe that not only do we have illiteracy as it is commonly understood, but that we also have emotional illiteracy.

I believe that integration of intellectual and emotional abilities should be the basis of general education and just so do I believe that the industrial designer's education should be based upon that.

I would say that the capacities of the human being are his ability to perceive, to have concepts, to feel, to express himself in different media, etcetera. Without an education which tries to bring out in an individual the best of these capacities, we cannot go very far. Without that, we come to a cleavage of abilities -- and, in extreme and unfortunate instances, to neurotic and unbalanced individuals.

I would like to refer to the kind of education we have developed at the Institute of Design in Chicago, where we learned so much that is new, though based on the principles and basic direction of the old Bauhaus--(in fact, I never would have believed that a grown-up person could learn as much as I had to learn in this country). We have tried to emphasize those sides of education in which we felt our students, coming from high schools, colleges or universities, were lacking.

At the beginning, we try to give them a broad and generous training. We do not cut out tradition, because I agree with Dean Hudnut that tradition is a very important possession of a human being. With tradition, we can avoid the repetition of mistakes. This is the way in which a good and healthy tradition is to be understood. Of course, we always have to re-examine the tradition in the light of present circumstances, needs and necessities, in the light of the social and biological requirements of the human being.

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We try to put the students into situations with a great number of possibilities; not laboratory conditions or conditions from normal life, but situations which will allow them the use of their capacities fully (capacities about which I have already spoken--the integration of the intellect and the feelings).

We thus give them a basis from which they can start to specialize in different fields of professional or vocational training.

In other words, we believe that the prerequisite for good training of an industrial designer or an architect is the awareness -- culturally, socially, biologically, and so on -- of the condition of man.

That, of course, is a big task, a great responsibility upon the educator -- to be able to give so much to the students in a short time or to allow them to handle so much without complications.

This is an age of quick technological changes, surprisingly quick variations of ideas and inventions; it does not allow us to teach that the circular saw is the only instrument with which industry will cut wood, electronic equipment may well be the tool soon enough. Then cutting would be more important, the tool less.

Thus we have to train people to stand up to situations with their abilities, so that they can solve problems. The procedure of designing is what should be taught first of all, and only secondarily, the skill.

I should like to emphasize that point very strongly, because I hope that afterwards Mr. Boudreau will be able to state his case as he did yesterday. Maybe I am not right when I say that the cultural aspects are immensely more important, than just teaching skills -- the possibility of setting the individual with full capacities in our present era. If I understood you, Mr. Boudreau, you said yesterday that teachers should teach only skills, and should have nothing to do with the cultural aspects.

MR. BOUDREAU: That is not true. You misinterpreted it.

MR. MOHOLY-NAGY: Later, I hope, you will take the floor, because to me that is a very important point and I would be very happy if we could get some coordination and future perspective---

Now, let me come to a detailed explanation--not too long--of our training in which we try to integrate industrial designers and architects.

We devote a full year to a kind of aptitude testing--not aptitude testing in the sense of the normal psychotechnical methods for quick analysis of present abilities where people are advised to take up a certain profession or vocation. On the contrary, we try to develop the latent abilities of the students, so that they choose not only the things for which they have aptitudes and likings.. We feel that the good teacher is the teacher who is able

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to bring to the student the subject matters for which he does not feel a special inclination.

We give the students a full year of aptitude tests, then. But it is self-testing. The student has to find his likes and his abilities. If we give him a great deal of material, a great number of possibilities to work with, he will discover that he has talents in fields about which he didn't even know before; and, at the end of the year, he will find himself in possession of abilities which enable him to specialize in industrial design or architecture or advertising art or weaving or pottery or any other subject matter.

This opportunity to work with the elementary materials of expression--with plane, volume, space, motion, space-time problems, which have to be invoked when making any three-dimensional design--this gives the student a wide range of experience upon which his future work can depend. Mainly, we educate him to find solutions for problems, at the beginning rather simply--without too much book knowledge, using only his own abilities and ingenuity--then we increase the range and scope of his tasks more and more, so that finally he arrives at the solution of rather complicated problems.

After working with color and the elements of expression in painting (surface treatment, division of planes, etcetera), and after learning to handle volume in modeling, sculpture, carving, etcetera, he makes space modulators, as we call them--exercises in space. He learns the nature of space and what can be done with it, which he can later apply as architect, display designer, stage designer or what-not. And he makes motion studies (mobiles), using the different simple mechanical possibilities or more complicated machines--motors--for them.

We give him free rein for his own expression, without asking him to do practical work. His fantasy, his creative imagination, can be exercised to the full in these tasks according to his own decision. We warn him not to think in practical terms first, because the limitations of practical work would limit fantasy and imagination.

After that training, he comes to the specialized training. Each semester, we limit his tasks more and more, giving him more and more elements with which he has to cope, which he has to include in his solution--until, at the end, he is able to do a useful object for mass production for industry, for the benefit of the consumer.

I think that I would like to stop here to ask your comments. I feel that this type of training is good for house wife or doctor or lawyer or anyone at all, because it is a general loosening-up of the capacities and abilities of the human being, upon which any specialized function or specialized professional training can be based.

Some day we will grasp the difficulty and the confusion which the industrial revolution has brought with it--when we realize how,

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on the one hand, we give the people education, make them literate, and, on the other hand, we take that same literacy away from them by means of advertising, radio and other media which carry only propaganda for profit--when we face up to this we will be able to build up a healthier education for everyone, and in all likelihood a more balanced economy and a more balanced society.

CHAIRMAN HUDNUT: One of the striking facts about your system is the way in which making things and doing things are substituted for precept and instruction. That is one of the fundamental ways in which the Bauhaus tradition breaks with the university tradition.

In the university, our methods were literary at first (we were taught facts, philosophies, histories); and then scientific (we verified scientific law by experiments). But here is a discipline which from the very start takes the boy into the workshop with the tools and materials, his education is a process of making and doing things.

That is the fundamental difference between this type of education and any other type of education that we have in this country--except perhaps in the arts, like painting and the drama. A boy goes to a school of art, and he paints from the very start; he paints nine hours a day, for three or four years. But if he goes to an architectural school, the greater part of his time--until recently, at any rate--is taken up with instruction and reading and solving problems in calculation.

One of the things that we have tried to do at Harvard is to increase very markedly the proportion of doing and making, and to decrease markedly the amount of instruction we give--the amount of talking.

Mr. Boudreau, do you want to discuss this problem now?

MR. BOUDREAU: Yes, I would be glad to. As I understand it, we are discussing only the first year of a program that may be three or four years long; is that right?

CHAIRMAN HUDNUT: We have limited the range for the moment. For example, we are not talking about the problems of industry or merchandising. We are not even talking about general education, philosophy, politics and history--and, surely that is also a part of the designer's education, isn't it?

MR. BOUDREAU: I understand.

I say "Amen" to everything that Mr. Moholy-Nagy has said. We not only agree in theory and philosophy--but the strange thing is that we agree one hundred percent in practice. Just because our students, when they graduate, are ready for the market and get jobs, people have the impression that all we do is to give them so-called practical, technical training; that we do not take any time out to have them think.

People have the impression that the first day the students

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start working with us, they start working on practical work. Of course, I think that anything that is done in any art school, if it has a right to be there, is practical--even a problem that takes four months in terms of direct experience, because students' tactile reactions are a practical problem. It has no direct practical market value, but it certainly has great practical value, contributing to the development of the student.

All work in school -- in any school, I would say -- is practical. Whether it has a direct or indirect economic value is another matter.

As far as the content of our first-year program is concerned, it goes through the same things that were gone through in the Bauhaus and that are gone through in Mr. Moholy-Nagy's present school in Chicago. Our content is different, our technique is different -- but our materials are identical.

CHAIRMAN HUDNUT: There is one point on which I was never able to take sides. One of our instructors would say, "When the boy comes to the school, give him a functional design at once. He must make something useful -- an inkwell or a shelf. In the process of making that, he will encounter these ideas of harmony and rhythm and use of materials -- these abstractions."

Another would say, "No, give him a disciplined abstraction. We won't distract him with the use of the thing. We will make an abstract pattern in wood or metal, wire, glass or paper, and he will be given exercise in making rhythm and harmony, and so forth, before he goes into the practical field.

What is your feeling about that?

MR. MOHOLY-NAGY: I should like to answer Dean Hudnut's question. I believe that an ingenious teacher -- a tutor -- could do very well with either process. I am sure of that. The educational principle that we set up, however, is rather useful today, because our people (and everyone in the world) think too much in utilitarian terms.

A baroque craftsman who made a lighting fixture, and who hung on the candelabra a kind of prism in order to multiply the lighting effect of one candle, knew about the possibilities of the glass -- how it could be made sparkling, and so forth and so on. Through long training and experimentation, almost every craftsman had this knowledge.

Now, we have very many new materials (plastics, new alloys, etcetera), and we do not yet know -- especially in the industrial age, with machine handling -- what these materials can give us and what kind of qualities they have. Thus, we do not like to give utilitarian problems which have to be solved within a certain range of necessities or functions; we give the students an immense gamut of opportunities.

However, an ingenious teacher, especially if he has one or two

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students, can do the same job within the framework of a utilitarian task; it has often been done in the past.

Our belief is that the teacher's task is imbedded in the cultural and social explanation of the era in which we live, that he is not there only to teach skills. In fact, he can teach skills twice as valuably and effectively if he solves the first problem -- namely, to give the students an awareness of his time -- its duties and tasks.

Professor Rugg said something yesterday -- I wanted to embrace him when he said it -- about the artist being a person who has cultural awareness; without such awareness design would be a kind of exercise in composition or arrangement.

This is the main task of the teacher: to imbue the students with the substance of the age. Tradition also belongs in that, and the knowledge of the social and the esthetic scene. But the main value in our teaching is that we choose teachers who are artists, or a great number who are artists, because the artist (according to my ideas and also, as I understand it, according to Professor Rugg's) is the seismograph of the times who knows what is going on and who records it.

I am going to make what is perhaps an overstatement, so that you may know what I mean: No industrial design education can be given today by people who do not understand abstract or non-objective art, cubism, and so forth. Without knowing what is going on today in the field of art (which, subconsciously but actually forms the products which we use -- utilitarian objects), it is not possible to teach either architecture or industrial design.

In our school, the emphasis is not so much on the system which I have described -- because we are constantly changing -- I confess we do not feel sure one hundred percent of the things we do. We are willing to remain flexible, fluid, to make changes when we think matters are not working well. If certain exercises are too well known, so that students in the coming semester already know what they should do, we leave that out.

The main virtue of our school, as I see it -- I wish every educator would think about it and judge it -- is that we try to employ not only creative people in the usual sense (that is, ingenuity, and so on), but people creative in terms of esthetic sensibility and awareness on the highest level (as represented here in New York by the Museum of Modern Art).

MR. BOUDREAU: I am glad to hear that. I can say that we do the same thing at Pratt Institute. We probably devote more time to creative design than any other art school -- in terms of percentages.

MR. MOHOLY-NAGY: I am very happy to hear you say that.

MR. BOUDREAU: As a result, our first year bears out the same philosophy that you have. There are no so-called practical problems.

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At the conclusion, there is a design concept (which we call structural representation, and which has a deeper implication than just a drawing concept), a color concept, a historical concept of the arts, and a materials concept. In the advanced years, they get other things (but I guess that is going to be discussed later).

CHAIRMAN HUDNUT: We have at Harvard a problem that neither of you gentlemen has. When a man comes to us, he is 21, 22 or 23 years old, and all of his education has been scientific in character. He has been trained in facts, in analysis. His habits of mind are very, very practical. We have the problem of trying to awaken him to these qualities of design, of expression.

If you take him and suddenly stop his scientific disciplines and let him go into these abstractions--studies of form and relationship, and making things out of wire and cloth, and handling tools--he is completely lost. If, on the other hand, you give him a practical problem and say "Now we are going to make something useful," he is all for it at once. He is keen to get into his professional work; he is raring to build buildings.

If he is at once given a problem, if we say to him "Here is a problem of designing a little building," and he comes across the problem of spatial relations, let us say--not only spaces that are useful, but spaces that must be made to go together into a pattern--he will, if he ever gets that idea, get it much more readily than by the other process.

It is different when the boys are younger -- as yours are, I suppose. They haven't been completely ruined by a college education, as ours have. Those things just can't be unlearned overnight.

MR. BOUDREAU: Fifty percent of our students have already been "ruined", as you call it, for at least two years.

CHAIRMAN HUDNUT: Mr. Gropius says so often that they ought to start these architects when they are about five: then you could really get somewhere with them.

I think it is a good thing, in our discussion of the problem, to come down to earth. I should like to give you a definite curriculum for industrial design education which I worked out two years ago (and which, I know, is full of errors), so that you may discuss it.

We proposed to have three phases of educational discipline woven together over a period of four years, and these three phases were to be designed anew by men who knew what they were about -- yet they were expected to be experimental.

We based our curriculum on the assumption, that at least three years of apprenticeship would follow graduation and that we might reasonably leave some practical problems to be learned through experience.

First of all, we proposed a discipline in design based upon

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making and doing, as far as possible. That means that at the beginning, and over three years, the student would be making things in a shop, and then reducing to drawings and specifications the things that he had made.

Now, it isn't practical to have every kind of making and doing in a university shop. You can't pay for that many technicians, that many different kinds of machines, you can't get that many kinds of work done. We therefore must select certain basic materials and processes which impinge upon all of them, which are fundamental to all. We thought that working with wood was perhaps the most fundamental.

However, we would not stop there. We would take the boy from time to time into the industries around us, and with their cooperation, to bring him into contact -- visually, at least -- with processes like glass, iron and wire and processes involving other materials. We would also refer to the problems of use.

As the second discipline, we proposed engineering courses. The basic conceptions of materials, their stresses and strains, the work they have to do with mechanisms -- all those things must be given. However, they are to be given not by engineers, but by men who have in mind the making of industrial products, so that the student would not be burdened with a vast amount of technical instruction that the engineer would give him. (The architect has a special course of this kind -- again, based so far as possible upon field observation rather than textbook work.)

Our third discipline would be the business element in design. The boy would have theoretical and practical courses in industrial management (how factories are run, how they are organized), in merchandising (how things are sold), in advertising -- the business end of the profession of design.

All three of these would be done by our own faculty -- with the collaboration of other faculties, but chiefly by our own -- and would be woven together, so far as possible.

In the final year, there would be a course in which all three would be taught at once -- brought into one basket and taught as a part of making and doing things for manufacturing and the market.

All the men coming to us would be college graduates. They would have had a wide survey of the humanities and the sciences (physical and social): we wouldn't have to teach those subjects.

Nevertheless, a student would have to take one elective every year outside of his professional field (just as our architects have to). He would not be allowed to close his mind to the world, but would have once every day to study a course in fine arts or philosophy or economics or history or one of the humanities.

Now, that gives you something to criticize--and my feelings will not be wounded if you give it the works.

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MR. SAKIER: You believe that industrial design should be a post-graduate course?

CHAIRMAN HUDNUT: No, I do not. I think there is room for many different kinds of discipline in this field (just as in architecture). Lots of people assume, because we are a graduate school, that we think all architects should go through college first. That is a counsel of perfection. It would be utterly impossible for every architect to spend that money and that time.

We are not snooty about it. We don't think that it is a good discipline for everybody. We merely say that there are men who can afford it, either through their own resources or through scholarships (and we have a very generous fund of scholarships), and that there should be that kind of education obtainable.

For some reason or other, we started out to do that kind of job. But it is a misconception to think that there couldn't be schools of architecture and design, just as efficient as ours, which would take the boy right from high school. In fact, I shouldn't be surprised if, in the field of industrial design, it might be a better discipline. I am not sure; I am entirely an amateur in that field.

MR. MOHOLY-NAGY: Designing is not a profession; it is an attitude. I feel we will find that the architects will be splendid material for industrial designing. That, basically, is the reason that we united the disciplines in our school.

MR. J. GORDON LIPPINCOTT: Dean Hudnut, is it permissible for someone outside of education to enter into this discussion?

CHAIRMAN HUDNUT: By all means. I think it's about time.

MR. LIPPINCOTT: Well, I am an educator who degenerated into a practicing industrial designer (which occasionally happens).

My feeling is thoroughly in accord with what Mr. Moholy-Nagy said -- and I think that your proposed curriculum at Harvard is tops. It seems to me that we are all in a difficulty primarily of terminology. Studying chemistry or engineering, there are units of measurement that everyone understands. Russian, Frenchman or American, when someone mentions mass or c.c.'s, that is a definite concept.

On the other hand, when an artist -- who speaks the same language as the person to whom he is talking -- mentions such things as texture and mass, you immediately have a tremendous argument as to just what the terms mean. In teaching design, we have no units of measurement, and we therefore find it very difficult to discuss the matter.

I believe that the abstract arts, as taught by Mr. Moholy-Nagy, are the basic structure of design. In other words, the building stone. It makes sense that the early years of college training should be in the basics.

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To my way of thinking, an appreciation of mass, form, color and spatial relationships on the part of an industrial designer is exactly parallel to an engineer's study of physics, chemistry and mathematics.

If you carry the parallel from other forms of education, it makes sense to study the basics of art early. The problem is that art is so intangible, and the basic arts are so intangible, maybe it would not hurt to have those basics taught in kindergarten and from there on up.

As far as the curriculum is concerned, it seems to me that an industrial designer needs three facets -- weak in any one, he is not a well-rounded individual. So far, you have been talking primarily of the arts. Now, he is primarily an artist, and therefore that is the most important phase.

However, he is also a merchandiser--that is, he has his finger on the pulse of consumer taste--and somewhere in his scholastic training he should have an appreciation of economics and mass merchandising, because he is designing for mass acceptance. That has not been gone into very far, I think, in any existing curriculum. If it does come in at all, however, it should be in the senior year; it is certainly nothing to give a freshman.

It seems to me the other factor is that he must be well-grounded in the humanities. The industrial designer, if he practices outside a large office, must meet the client, top management in top industry. He must talk to men earning \$25,000, \$50,000 or \$100,000 a year as company presidents, he must go before chairmen of boards and explain things--on the whole, he is talking to well-rounded, educated people. A background in the humanities is essential in his business contacts as in his appreciation of the consumer and society.

The next thing he has to be, I am afraid, is a diplomat. Every product of mass production is a creation of many, many minds: even such a small product as a bobby-pin is never the creation of one person. You have to work with a sales manager, with a president --the thing has to be tooled, it has to be put on the assembly line--and, all the way through, there is compromise. For that reason particularly, the practicing industrial designer cannot be a one hundred percent purist.

I know I am treading on very dangerous ground there, but it seems to me that one can be a very fine artist and yet cooperate with industry and modify one's esthetic concepts occasionally in order to make the product go through to ultimate mass production.

To summarize, the program Dean Hudnut has mentioned would seem to me a very intelligent one: a program laying the groundwork for a well-balanced, well-rounded individual.

I was particularly glad to hear him say that electives should be taken outside the regular curriculum. That makes sense. I think that, above all, a person should be well-rounded and open-

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mind -- and we cannot take every student and shove him through the same knothole. There must be some flexibility in every educational system, to meet the peculiarities and individuality of each student. More power to that elective system!

MR. BOUDREAU: Mr. Lippincott, would you add a fourth area in which the industrial designer should be informed: namely, engineering?

MR. LIPPINCOTT: Well, I don't know. My own training is in engineering -- and, as a result, I would rather minimize it. The United States is so full of engineers that that isn't awfully important compared with the other aspects.

Do you realize that the amount industry is spending on research can be represented by a very steeply-ascending curve? Today we are spending not millions, but billions, in research -- all going into the science of how we can produce more, faster. Granted a good percentage is going into physics, chemistry, electronics, etc., nevertheless a high percentage is going into more and more mass production.

It seems to me that the percentage of research going to esthetics is a miserable trickle -- the surface of the thing has hardly been scratched. If industry spent on esthetic research only one percent of what is spent on scientific research the face of the United States would be changed in a few years and the life of the country would blossom in entirely new ways.

This is entirely off the subject -- but I feel there is an opportunity for industry to sponsor industrial design. Industry should sponsor it. If top industrial leaders realized the importance of industrial design to their business (I mean to their sales), they would underwrite industrial design in the way in which they are underwriting engineering.

It would not take a colossal sum to start a nucleus of industrial design education, where the faculty is well-paid, where they have good equipment and where every student has a scholarship. As far as industry is concerned, we are talking about peanuts.

MR. BOUDREAU: Would you advise Dean Hudnut of Harvard and would you advise us at Pratt Institute, to take out all engineering?

MR. LIPPINCOTT: I think better than any engineering is physics.

MR. BOUDREAU: That's still an engineering subject.

MR. LIPPINCOTT: No, it isn't an engineering subject. Like mathematics, it is a basic that is fundamental to human knowledge. It is the foundation of engineering, but it is also the foundation of chemistry, astronomy and a lot of other things. I wouldn't call it an engineering subject at all.

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MR. MOHOLY-NAGY: Right.

MR. BOUDREAU: Would you want to eliminate all your engineering content, Dean Hudnut?

CHAIRMAN HUDNUT: No, not by any means.

I never have had very much success with these executives. You say, Mr. Lippincott, that a man has to have an education in the humanities in order to deal with them. Well, I must be lacking in that. Let me tell you a little story that will illustrate that:

I was coming down to New York on the airplane to see whether I could get \$30,000 for some machine tools and shop equipment. On the same airplane, there was one of my colleagues and he said, "I'm going down to get some money, too. I was over in Istanbul and I noticed that the cracks in the dome of Santa Sofia are getting larger--I want to build a scaffold and go up and have a look at them."

"My God," I said, "that's going to cost plenty!"

"Oh, yes," he said, "a hundred thousand dollars."

It turned out that we were calling on the same man. Well, my colleague came home with a hundred thousand dollars. I came home with nothing. That's esthetics, you see.

And he did go to Santa Sofia, and he did measure the cracks, and he reported that they were cracks--period--full stop. That's art as she is taught!

MR. BOUDREAU: I should like to ask Dean Hudnut this question: If, in addition to your wood shop, you could have a sheet metal shop, wrought-iron equipment, a plastic shop, a ceramic shop, and a plaster shop (which is quite different) -- all with industrial power equipment, and people in them qualified to enlarge the horizon of students, would you incorporate them into your institution?

CHAIRMAN HUDNUT: I think not, sir. At one time, I thought they were essential -- and a good many people seemed to think so too; that made us feel very discouraged. I am now inclined to think that if we had a good, well-equipped shop in some basic technique, with a couple of really good men in charge, our students could acquire knowledge in other areas out in the field. For instance, we can persuade the glass people in Boston to give our older men a certain experience with making glass. Something of the same kind can be done in alloys and aluminum. You wouldn't try to give the students skills in the different fields. You would give them one skill -- intellectual growth, an intellectual experience -- and then supplement that with this special knowledge.

MR. LIPPINCOTT: I think that our concepts and problems as practicing designers are changing so fast that, if you try to give us students who are keyed down one alley, they are going to be obsolete before we even get them.

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For example, we no longer have any airbrush rendering in our office. We feel renderings are misleading. We like to go from rough tracing-paper sketches to finished models as rapidly as we can. Why train your students, then, to do a lot of fancy rendering?

MR. NELSON: I want to ask Mr. Moholy-Nagy a question. I think designers will agree that doing things with one's hands is obviously a helpful way of learning about materials and processes. Have you, Mr. Moholy-Nagy, made any observation of the point at which acquisition of skill ceases to be of particular value in design training? Is it possible to answer that?

MR. MOHOLY-NAGY: Yes. It is a reciprocal relationship. But let me answer your question in another way, and then you will see the point. Every high school in this country, as I found out by visiting a few, has better equipment than we have, and better equipment than Harvard has. It is simply prodigious! What do they do with it? Nothing!

It is the spirit which carries the whole thing. Please do not misunderstand the whole method. With machines and such things, you can make decorations -- or you can make creative works.

Why do we need designers when we have engineers? The engineers are wonderful: they know what the machine does, they know what the function of an object should be. Why do they not make the design? Why do we have to educate industrial designers when we have engineers whose duty it actually should be to produce these designs?

It is just at this point that there enters very clearly the question of sensibility, the creative approach (the width and breadth of the approach), the social responsibility, the esthetic awareness, and so on. The problem of how many ways you can twist a hunk of wire is very important to make the elements clear to the students and to try to integrate them with three-dimensional work -- engineering tasks involve changing a flat sheet of something into a three-dimensional structure. Only we do not say that it is engineering. But it is.

We teach mathematics, we teach physics. We cannot leave them out--starting with algebra and bringing them up to calculus, or trigonometry at least.

We have to have, step by step, an educational procedure in which the creative abilities and capacities of people are used. That is the point that should be understood.

That is general education. Now, we come to the industrial design problem. When the industrial designer (or a lawyer or a doctor) works with his hands, whatever he does will be translated into his brain as knowledge--and the knowledge, in its turn, will react on his emotional self--and a better level will be achieved.

This level will be consciously raised, point by point, in the

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educational process. But it will not be consciously raised in the student: the student achieves it almost automatically, because he loves to solve problems which it is possible for him to solve.

If I ask a student to solve the problem of a perfume bottle (which was usually the first design problem in the design school before our approach became known and was adopted), what can he know about glass-blowing and about the possibilities of a great number of technical processes which can be mastered only by someone who has had great experience?

However, if he slowly builds up his knowledge--tactile sensations, eye sensations, nostril sensations, ear sensations, everything which has to be built up in order to master a material--then afterward, with the help of the specialist, the teacher about whom Mr. Boudreau speaks--and I agree one hundred percent that it is right to have many workshops, Mr. Boudreau, because if you give them an opportunity to dabble (if I may use that word) ---

MR. BOUDREAU: We don't dabble. That's the difference.

MR. MOHOLY-NAGY: Oh, you're always so good! We dabble.

MR. BOUDREAU: I agree.

MR. MOHOLY-NAGY: And I dabble, too.

MR. BOUDREAU: I agree.

MR. MOHOLY-NAGY: And I love to dabble. That is what made me what I am now. I was educated as a lawyer--and because I dared to dabble with plastics and wood, and so on (in which I am no expert at all), I gained a width of experience. Almost every educator, if he is sincere, tries to educate people to the things which he himself missed in life, in education. I was educated at a university; I was educated as a so-called academist--so I found that I had a right to educate the senses of the people, too.

MR. KAUFMANN: Mr. Chairman, in listening to a lot of things said today, it seemed to me that there was one thought that lay very close to the surface and never got there. It has occurred to many people, I am sure, that a lot of the basic training developed in the Bauhaus, and adopted in many schools since then, could be part of an educational stage earlier than the University.

MR. MOHOLY-NAGY: That's right.

MR. KAUFMANN: That might tend to relieve the tremendous problem of how to train people to be complete human beings -- technicians, salesmen, gentlemen and everything else -- all inside of six years.

MR. MOHOLY-NAGY: That's right.

MR. KAUFMANN: That is probably much too big a subject for real discussion today. However, it seemed worth expressing --,

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since so many people came so close to it.

DR. ARTEMAS PACKARD: I am impressed that the profession is trying to bridge the gap between the undergraduate and higher education leading to professional competence.

I do not think that the elementary kinds of experience Mr. Moholy-Nagy has so well described can properly be omitted from the educational program of our young people up to the time they come to college. Of course, that belongs in the elementary and the secondary stage.

But are we not being unnecessarily impressed with the need for specialized programs for people who are going into industrial design -- as is the case, I fear, in the realm of planning? There is a tremendous need for well-trained, intelligent human beings in the field of community and regional planning. However, when you try to organize a curriculum at the undergraduate level that will lead to a graduate program for professionals in such fields as planning -- and, I suspect, industrial designing -- you are demanding too much of schools and systems.

What is the limit of the interest and understanding an industrial designer must have -- when there isn't anything that he ought not to know? What is the lower limit of understanding that a professional planner ought to have? There is no limit. It is so rangy; it covers all aspects of our civilization.

Limit your ambition somewhat, in your exploration of what should be professional training for the industrial designer at the higher level; demand that the schools and the universities act as a screen to filter out and guide superior talent towards you, that is sufficient.

If you want more adequate filling of the gap between general education and professional competence, I think it is to be found, on one hand, by encouraging a more intelligent instruction in art values in primary and secondary schools; and, on the other hand, by establishing professional contacts with the colleges and universities, to see that men of superior capacity do have as short a cut as possible into actual practice.

That is your best bet, I think, rather than trying to establish a new formula for education at the higher level -- because Dean Hudnut can tell you, that it is extremely difficult to fit something new into the existent mechanism.

MR. WEBSTER: I have been listening to these sessions for three days, and I have heard only once (and that was today) the one word which, to my mind, is at the heart of industrial design work. That is the word "planning." I think an industrial designer is essentially a planner.

I carry my own definition of it very far. I consider an industrial designer to be a man who plans the artificial environment of people. That might mean this ashtray, an artificial item, beside me on the chair; it might mean this chair; it might mean

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the whole town that I live in; it might mean a railroad train that I ride in.

Essentially, however, it is a matter of planning. What we look for, when we are hiring people in the industrial design field, are people trained in planning: in other words, creative thinking.

All of these other elements that are involved are part of the planning procedure. In order to do a good plan, you have to know the various elements and factors. But the crux of this thing, as far as the schools are concerned, is to turn out planners--they will find themselves very well fitted to work into the field of industrial design.

MR. MOHOLY-NAGY: Let me just summarize, because I (fortunately or unfortunately) opened the discussion. I have learned a good deal today: I have learned that we are very hazy about our terms. I have learned that many people believe in things called by different names, but the basis or content is perhaps the same.

Every creative work is to a great extent a subconscious process. As the artist works or as the designer works, there is very much of the subconscious process in it.

The anomaly is that the industrial designer (the term and the function) should be defined by the industrialists -- and the industrialists are always missing from this type of discussion, so that we who are designers or teachers or what-not try to set up a standard.

I should like to offer this comforting thought: none of us should be worried if he has been at four or five conferences without any definite result. It is just a groping towards the profession, which is still mainly an adventure, a kind of goal (or a concept, as Mr. Kostellow puts it).

It is fortunate enough that the needs of the industrialists can be solved by one designer or another.

Mr. Webster was good yesterday, and today he was excellent. Yes, design is planning. Whether you add to that definition words about the artificial environment or something else -- and there are a great number of forms which can be added to it -- Mr. Webster is basically right.

That is why I say that designing is not a profession, but that it is an attitude which everyone should have: namely, the attitude of the planner -- whether it is a matter of family relationships or labor relationships or the producing of an object of utilitarian character or of free art work, or whatever it may be. This is planning, organizing, designing.

But now let me come to Mr. Packard's statement. I believe that in the past (about fifteen or twenty years ago) American industry, as well as European industry, tried to counteract the idea of scientific industrial research--and today there is no great firm

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which would be without such a department. In the same way, sir, I should like to tell you not to be worried about the number of young men you will be sending to us--to the two hundred or four hundred schools which are needed--because, in fifteen years, there will not be one industrial firm which will not have its own design department.

All this discussion is misunderstood to a very great extent, because the industrial designers--without being selfish--constantly think about the fellows who come to them, into their offices, for certain purposes. But that is not the point. The point is that design is an integral part of every utilitarian object in our artificial environment affecting our family relationships etcetera. We can educate people in that attitude, and that attitude is the important thing.

I come now, as my last point, to Dean Hudnut's suggested plan. I think it is excellent, except for one thing. (Please don't chastise me for that. He is the head of the architectural school of the most venerable institution in this country. He is perhaps seventy-five percent an academician, a scholar -- and I am saucy enough to say that I am perhaps twenty-five percent a scholar, and that seventy-five percent I dare to be 'an artist or what-not').

I think that I would add to his concept more workshops, more doing, without neglecting the sciences and arts, the liberal arts and the humanities -- which we try to include.

What we do is very insufficient. We telescope three schools into one: an engineering school, an art school, and a liberal arts college. This almost cannot be done, it is too much, and therefore we have to make shortcuts in many places without losing sight of the goal before us. That is what we try to accomplish.

If, some day, the suggestion were carried out that Mr. Kaufmann made and that Mr. Packard agreed to -- that the elementary schools and high schools should have a greater consciousness of these requirements -- then we could start on a higher level.

Now we have to give college graduates the same program we give to high school graduates, without conflicts -- so people with Bachelor's degrees do not feel too superior, and the others not too inexperienced in solving these problems. That is actually what we try to do.

However, we are trying to arrive at fundamental considerations, and I apologize if I have spoken about the Institute as such.

With all my heart, I hope that these discussions will clarify the possibilities some day, so that the industrialists or the people who have money to support such research (as Mr. Lippincott mentioned) will awaken. Then we will not have to fight for every penny, and Dean Hudnut will not have to go somewhere for machines and come back without them, then we will really have funds with which to make a proper approach for the benefit of the country -- for the benefit

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of the consumer, of the people.

Thank you.

CHAIRMAN HUDNUT: Thank you very much indeed, Mr. Moholy-Nagy. And my thanks to all of you for your patience with me as an amateur chairman.

MR. KAUFMANN: Ladies and gentlemen, I certainly want to thank you all for coming here. It was a great privilege to listen to you, and I hope you enjoyed the meetings.