

**HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000**

SYSTEM 2000 THE PERSONAL WORKPLACE

A system of office furniture designed for comfort

DRAFT

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**LAYOUT PROCESS
FOR AN INDIVIDUAL OFFICE**

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1. INTRODUCTION

We aim at an office which is perfectly adapted to you and your work. We should like to help you make your office, as finely tuned to you and your work habits, as a classic carpenters workshop, is to his work.

In the carpenters workshop, each piece is gradually built and fitted, over many years, until each tool fits just where it belongs, and each surface is just the right size and height for the carpenters work.

Many modern offices do not have this quality. Typically, there is a more haphazard arrangement of available pieces of furniture. The process of work is not reflected deeply in the layout of the office. It is not a truly comfortable place to work. And, certainly, it is not a deeply *efficient* place to work.

In this manual we shall try to help you discover, for yourself, what it takes to make your own workplace completely comfortable and efficient, in this way.

Before we start, it is necessary to understand one thing. There is no perfect layout process, and no perfect theory of layout, which you can use to get the perfect working environment. The carpenters workshop, referred to above, is the end product of years and years of gradual, painstaking adaptation. During these years, the carpenter works, each day, and every now and then he does something — usually something small, and quickly done — to make the work more comfortable.

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Thus, the great comfort which is achieved, is not arrived at by being right. It is arrived at by being wrong, and by making small modest steps, to make what is wrong slightly more comfortable, slightly less wrong.

It is important to recognize that the state of mind in which the carpenter is able to achieve this, is a very humble one. He is never trying very hard to make a "perfect" environment for himself. He is never under the illusion that he can reach anything perfect. He just keeps trying to make it a little bit better all the time.

This process of gradually trying to make things a little bit better, all the time, is the only state of mind in which you can really get there, because it is low stakes, humble and fairly easy. You don't have to try too hard, you don't have to kid yourself or anyone else — you just have to keep working at it, bit by bit, and having a few small ideas which slowly make things better.

So, the state of mind in which you can arrive at an office which works well for you, is low key, and rather slow. You need a certain amount of patient. You don't have to go too fast. Just try to make things a little bit better, every few weeks, or every few days.

As you will see, this "easy" process, requires a very particular set of tools, to let you get there. The carpenter has a set of tools, available, because he always has his own workshop tools near him, and he always has a few scraps of wood lying around, so he can knock together whatever he needs. For a person working in an office, the tools are not so close to hand, and the "scraps of wood" do not exist. However, the main thing which is needed, is a set of things, which, like the nails and scraps of wood, allow you gradually to make your office right.

We shall see, later in this manual, that the tools which are needed for this process are surprisingly sophisticated. *The system of furniture which we call "2000", is a system whose characteristics come about, the way they are, entirely because we have designed it to make this process work for you.*

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2. HOW YOUR OFFICE WORKS

You need to start by getting clear what your office *is*. What we mean by this, is that you must get clear what is the essence that makes it *your* office (as opposed to someone else's), that will make it easy for *you* to work there, that makes it unique to *you*.

It is very important to be clear about this. Our experience is, that when someone understand deeply, what their own needs are, and how their own office works, then this office will almost always become something special, something very comfortable, and something which is — probably — unlike any other person's office. This is not because uniqueness is a virtue in itself. Difference for the sake of being different is just silly. But when something is profoundly understood, and when it works perfectly, it usually becomes unique, just as each leaf on a tree becomes unique — simply because the exact circumstances which it deals with, are different.

WHAT YOU REALLY DO

To get started, you must get clear what you really need. Above all, you must get clear about your actual work habits, that means, the way you really work — and get away from over simple stereotypes of office layout, which usually consist of formulas and images of what works well, but which do not necessarily work well for you, or for any other actual individual person. One way to get clear about what you do, is to pay attention to the following list of processes that may play a role in your work. Rank order them, according to the relative importance they have in your own work, by writing a number after each one.

	rank
Use of desk	___
Files, filing and storage	___
Computer use	___
Conference	___
Clients	___
Discussion	___
Concentration	___
Using library	___
Telephoning	___
Access to records	___
Overview of projects	___
Other machines (FAX, xerox etc)	___
Connection with your staff	___
Drawing and layout	___

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top six.

(or less if you wish)

Rewrite the four of these processes which are most important to you in your work, in their order of importance:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

These are the key processes which really define your work.

In the effort of putting the processes of your work in rank order, you may have some surprises. For example, if you ask yourself whether the last office you had, or the present one, really does these thing as well as possible, you may be surprised to find that it does not.

3. DREAM ABOUT YOUR IDEAL WORKING CONDITIONS

IDENTIFY A DREAM CONDITION FOR EACH PROCESS

Now start going through the short list of key processes, one by one, in the order you have ranked them. Start with the first one. Ask yourself which place or occasion you can remember where this activity was working most beautifully. It is important that you do not stick to any stereotype but that you honestly ask yourself which place you can remember, where this activity was really working most comfortably for you.

The result may be quite surprising. For example, if you have identified discussion, and you then ask yourself to remember some place where a really good discussion happened, the best that you can ever remember — you may find that it was in a cafe by a river bank — or that it was in the window seat of an old bookstore, or sitting on a packing case in the attic with your friend. The main thing, is that you are very very honest and accurate about this. You have to be accurate and honest, because we are dealing with an empirical problem here. You did actually experience a wonderful atmosphere in such and such a **particular** discussion. You therefore have the greatest chance of recreating a similar quality of process if you can identify the actual circumstances in detail, and reproduce them.

Of course this runs counter to all “normal” thought. It doesn’t matter. Do it. Dream as much as you want, and identify the most idyllic and best circumstance you can remember, and that you wish were happening in your daily life every day.

DEFINE THE ESSENCE OF THE DREAM CONDITION FOR EACH PROCESS

Now, if you have a vision of the dream condition for each process, write down the key essential elements which made it happen. This is hard to do. To do it, you must construct the essential elements in the form of a center. What this means, is that you identify the key physical elements which made that circumstance what it was, and describe their arrangement as a “center”.

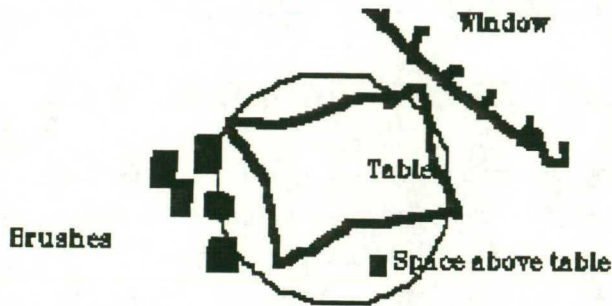
For example, suppose I am trying to visualize a perfect place to draw. I remember an ideal place, where I once very much enjoyed drawing. It was a large high table, with a very big window to the right, with lots of panes, and my brushes to the left away from the window.

This “thing” which I remember, is a center. It is a center which lets me draw as nicely as possible. The elements which make this center are the following: the table, the window, and the brushes. And in addition,

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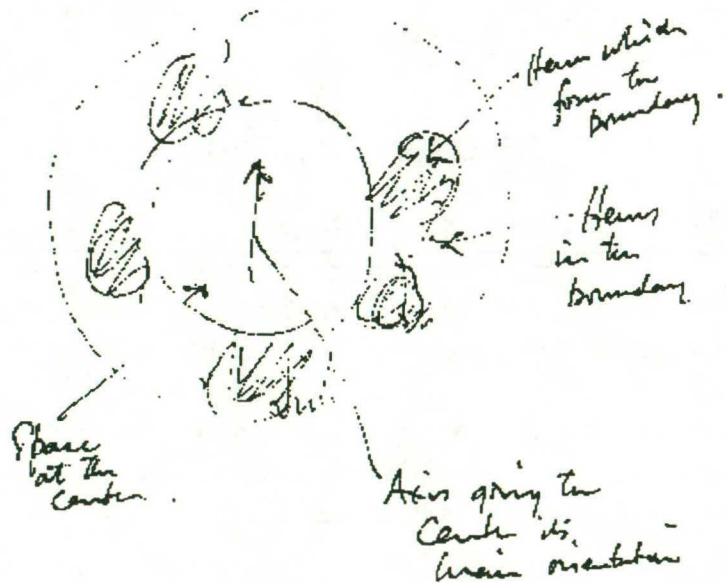
the essential thing, is the space on the table, between the window and the table and the brushes, which makes this space a center.

Diagrammatically, it looks like this:



Every center always has the same format. There is a center — which is always a space — created by some elements which surround it.

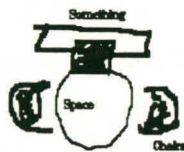
The structure of this situation is fundamental. There is a center — the space which is the heart of the whole thing. This is always space. Then, there is a crust, or boundary around this center, which forms it. The crust or boundary is always made of solid elements. In the case of this example, the boundary is made of a window, a table, and a place where brushes and paints are on the left of the table.



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To make this idea precise, fill out the following general diagram, to capture the essence of the circumstance you have in mind in each process. Write your own labels in, to show the key elements, and their relation to the condition of the center in the middle. Write any information you know, about key aspects of the situation. As a general rule, the rough size of the thing, and the way the light works around that thing, may place a key role in making it work comfortably.

Each part of what you do when you are working, is essentially a center. For example, if you spend a lot of time talking one-on-one with a single client (attorney client relationship), then it is the space which the two of you form together, which is the principle center. It may consist of two chairs, perhaps a table or a desk, perhaps associated stuff you need to talk about. In any case, the efficiency of the way you can talk with your client, depends on the extent to which this center is a concentrated focus, and really works "as a center".



The same is true of the computer in your office. Especially if it is important, then your workstation, the chair, the keyboard, the discs within easy reach, a surface for the mouse — all this forms a center. Once again, the center is comfortable and efficient, to the extent this center really is a **center**.



IN ORDER OF IMPORTANCE, MAKE A DIAGRAM FOR EACH OF YOUR KEY CENTERS.

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In the list of activities which you have put in rank order, it is probably the top three or four which play the key role in the way your office needs to work for you, and which therefore create the essence of your office.

Same
Go through the procedure of ~~steps 2-3~~, for each of these top items. In some cases, you may want to have as many as five or six. However, don't make the list too long. The best offices usually, have a very simply essential structure.

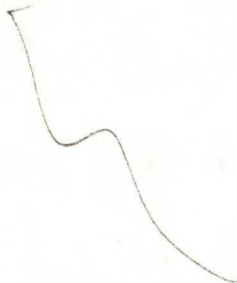
You now have the key centers for your office. You already have your main processes in a list of importance. You have so far placed the processes in a list of importance, without necessarily thinking that the physical center that corresponds to the process at the top of your list really is the most important thing in your office, or that your office should be organized around this activity. Now that you have a spatial image of each activity as a center, and you know what it takes to make a place which does this for you, you can decide whether this thing really will be the heart of your office. It is extremely important to decide what is the main center in your office, and which centers are the secondary centers that "hang" off the main center.

Unless you have a good reason for changing the order, leave it as it is.

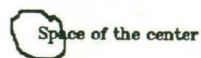
One point is very important in your use of the hierarchy of key centers. There is one main center, the first one, and a number of secondary centers — the remaining ones. However, you should be aware that even though there usually is one center that you experience as the "main" center for your office, still, your work changes from day to day, and you may make the rounds in your office. One day the so-called main center may indeed be your main focus of activity. Another day a second one may play the main role. Another day it may be a third one. You need to visualize all these centers as part of a small group of centers, which give you your arena for work — and among which one is, often, but not always, the "main center".

The system of centers which you have defined should give an accurate and general picture of the way your own office really needs to be. It should be a complete map of the essential character of your work habits, and your ideal office.

Fill in the following diagrams with your four most important centers



1. MAIN CENTER



Surrounding elements
which form the center

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2. SECOND CENTER

Space of the center

Surrounding elements which form
the center

3. THIRD CENTER

Space of the center

Surrounding elements which form
the center

4. FOURTH CENTER

Space which form the center

Surrounding elements which form the space



4. GET A PRELIMINARY LAYOUT

²⁻⁶ The process of laying out your office, consists of a process in which you now try to create the ~~three~~ or four key centers which form the essence of your work habits, inside the real space you have been allocated for your office.

In this process you not only have to use the key centers you have defined already, as building blocks. You also need to reconcile these with the naturally occurring centers in your office, and also make a layout which is simple, economical in spirit, and reasonable in price.

elaborate Also, this process must be gradual. As you will find out, it is impossible to lay out a perfect office, on paper, and then expect to move in and have it working perfectly. Like the carpenters workshop, a perfect office can only be built up gradually, over time, as you find out what works, and what doesn't work, to make you feel comfortable. This is absolutely unavoidable. Any design, or layout you make for your office, is no more than a guess about what you think will work well for you. What really works well, is always a different matter. It is therefore absolutely impossible to reach the perfect office in one jump. The only way to get a good result, is to do it bit by bit. At the very least, we recommend three stages. First, get two or three key pieces of furniture, and see how they feel, and how your work develops in relation to them. Then, a few weeks later, get a few more secondary pieces of furniture, which correct, and fill out your experience with the first pieces. Finally, two or three months later, do some fine tuning, with various minor pieces, and make the operation smooth.

In the following layout process, you should build up a system of centers, gradually, step by step. As these centers become more densely packed, and more realistic, your office will get more comfortable. The process starts on paper, and then gradually becomes real, as you start making the centers real, by ordering and placing real pieces of furniture.

START BY IDENTIFYING THE NATURAL PRESENTLY EXISTING CENTERS IN YOUR OFFICE.

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Before placing your key centers in your office, you need to look very carefully at the room you have been assigned, to find its **own** natural centers. To do this, look at the space of the office, and identify the most natural "spots", where you feel like doing something, or where you feel like staying. Examples of naturally occurring centers in a room, include the window, if there is some natural place next to the window, which has the best light, and the best view; it may include a spot in the middle of the room, if the room has a good shape and is large enough; it may include a spot near the back wall of the room, if you can sit there with your back to the wall, and with a good view across the room to the window. Make a map of your office which shows the naturally occurring centers. Draw each one of these centers as a circle of space. The naturally occurring centers usually include the following:

1. Window place
2. Thick walls zone
3. Entrance transition
4. Center of gravity

There are often others, formed by the special shape of the room, or by a particular view which is seen more beautifully from one spot, than from other.

NOW PLACE YOUR KEY CENTERS INTO YOUR OFFICE.

Now take your **own** centers — the key-centers you have defined, in the order of importance you have defined them, one at a time, and place them in the office space you have been assigned. It is essential that you take the centers according to their order of importance.

By now, you know which of your "key" centers is the most important — the one you have placed at the top of the list. Start with this center — the main focus of your office — and decide how you want it in the room, where it is, how it works, and what quality it produces in the room. *Where* is the main focus of your office, *what* is it, *which way* does it face. How are you sitting when you sit there (or stand, or lie, or whatever). Which way does it face. Where do you want the light to come from. What is the natural orientation.

The most important thing to get clear about is the *quality* of this main center in your office. What kind of place is it. Is it defined by your desk, and some equipment (a computer screen). Is it a meeting place where you hold discussions with colleagues — a table and chairs. Is it a desk where your papers are arranged. Is it a collection of files on the key projects you are responsible for.

The main center must help the space of the room somehow. So, you need to identify the most beautiful and most live part of the room you have — and make sure this main center is located there. Often this will be defined by light — a place which has the best light, and the best relation to the door.

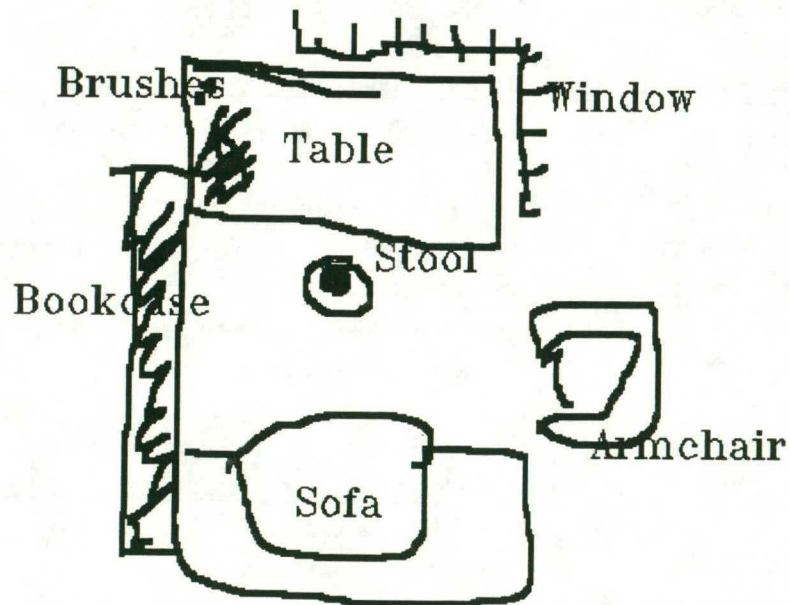
The door, and the shape of the room, and the windows, together define a natural main center. That is where the main center you have identified, should probably be placed.

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As you arrive at each one, try to decide where it is in the room, how it works, how you are facing, when you are there, where the window is where the light is coming from, what other people you can see etc. **The important thing is that the key center you place, must fit the existing centers in the room, and must help to reinforce these centers.**

MAKE A DRAWING OF THE WHOLE.

As you have been placing the key centers in your office to get the layout, make rough sketch of the way the thing works.



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5. GETTING THE SIZES RIGHT

It is very important that sizes are approximately correct, since everything that matters, and the way the centers work, is always affected by the actual size things are.

It is not so much the efficiency of the space which is affected by sizes of things, but the **feeling** of the place is significantly altered by the size things are. This is not only true for the size of the spaces, but also for the size of the elements.

One of the most important things about system 2000, is that it lets you make things just the size you want them — so you can control the feeling of you office, and make it personal.

This is how it goes.

First, we place the centers which have already been defined by the previous process.

Then, you take the items of furniture, one at a time, and place them in the positions needed to produce these larger centers. To do this, you start by making a dot at the center of gravity of the item of furniture. Then you expand this dot outward, until it forms a rectangle which goes to the edge of the zone it is supposed to fill.

Each item of furniture is taken in order.

During this process each item of furniture will fill a rectangular volume block of a particular width, depth, and height.

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6. CHOOSING THE ITEMS OF FURNITURE

MAKING AN APPROXIMATION WITH AVAILABLE FURNITURE ITEMS.

Now you choose from the catalog, the nearest dimensional equivalent of the piece of furniture you have defined.

The pieces in the catalog are:

- natural lighting system
- all purpose worksurface
- executive desk
- managers desk
- light armchair
- hardback sofa
- high bookcase
- high bookcase with flat files
- low bookcase
- conference tables
- japanese silk panels
- layout cabinet
- rolling tables
- cord curtains
- file boxes and cabinets
- window wall
- flat files
- translucent lamps
- computer table
- equipment tables
- side tables
- trim kit

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USING TRIM TO CLOSE THE GAPS.

Finally, to close the gaps between the actual available sized piece, and the full size of the rectangular volume this piece is supposed to fill, you place a series of trim pieces around the boundary of the piece, to connect it to its edges and to adjacent pieces.

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7. YOUR BUDGET

Now that you know what you want in your office, you can decide what is the nearest you can get to it, staying within your budget.

In the following chart you see that each item is shown at three different prices, the high end, middle range and low end. Decide which of these items you want, circle the price level you want it at, and — if you need more than one of the item — write the number in the column marked “number”. Write thte total cost of each item, at the end of the line, and total them at the bottom. You can play back and forth, until the price meets your bydget.

ITEM	LOW	MED	HIGH	NUMBER	TOTAL
natural lighting system	400	500	600		
light reflectors	300	400	600		
all purpose worksurface	450	650	900		
executive desk	3000	4000	5500		
managers desk	1700	2000	2200		
light armchair	400	700	900		
hardback sofa	1600	2300	4000		
sofa chair	700	950	1550		
high bookcase	600	900	1500		
high case w/ flat files	600	900	1200		
low bookcase	500	700	900		
conference tables	1300	1800	3000		
japanese silk panels	400	700	1000		
upholstered cabinet/seat	550	650	850		
cord curtains	200	300	400		
filing cabinets and boxes	55	150	475		
window wall	550	700	1150		
generous desk lamp	150	200	300		
counter with drawers	1300	2000	2500		
storage table	400	450	500		
equipment tables	400	500	700		
side tables	300	500	900		
trim kit	150	250	400		
GRAND TOTAL BUDGET					_____

8. THE MAGIC LIGHT PEN

Assume now, that you have been through the process in the previous sections. From this process, you know how to make a really useful office and workspace for yourself. As you answer the questions, one by one, gradually, the layout of your office will “fall out”, as the residue of answering the questions.

We now come to a more concrete part of the process. Once you have an idea of the answers to these questions, you need to turn the layout which they define, into a real office: that means, into a real workplace, made of real desks, chairs, tables, counters, shelves, and partitions.

In theory, any physical system could do this for you. You can go through the questions, arrive at a god layout for your work, and then have this layout built by any carpenter, or assembled from any set of furniture made by any manufacturer. In practice, though, it is easier to make the layout, from a system of furniture-making which is specifically designed to do just this. In order to explain just what it does, and what has to be done, it is helpful to imagine a kind of “magic light pen”.

Suppose you had a magic pen, and that with it, you could make desks, chairs, counters, shelves, appears wherever you wanted, in space, just by waving the pen and clicking it. What you would do, then, is to go through the questions, answer them one by one, and as you gradually arrive at an understanding of the perfect workplace, you would use the light pen to mark chunks of air — and make them into desks and tables, shelves and chairs.

This magic light pen would not be restricted in any way. You could simply make any thing, of any size, appear in the air, just where you want it, with the color, surface, and geometry you want.

Of course this is impossible — at least today.

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But the system 2000 comes as close as we know how, to making such a magic light pen possible in the 20th century. It is a system of pieces which are designed to be available, in just the size you need, with just the character you need, without trouble, and in the shape, size, and position that comes naturally out of your process.

It is because the system 2000 is like a magic light pen, that we believe it is the most useful tool there is, in helping you to arrange, and built, your ideal workplace for yourself.

9. WHY THE FURNITURE WORKS

Given the nature of the layout process, and the way that it allows each person to fit things together, why is it that the system 2000 furniture allows it to work.

What is it, about the individual items of system 2000, which makes them support the layout process as deeply as possible, and more effectively than other items currently available on the market.

1. Some of them are designed to permit dimensional variety.
2. Others are very simply made, so that they can be produced in different sizes, without tooling expense.
3. All of them have an archetypal simplicity, which allows each to be an element in a person's own fantasy or dream about their office.
4. They function as individual items, not connected system elements, so that they are "loose" and can be configured easily in any arrangement which a person wants.
5. The items span a much larger range of sizes: very large for desk light, sofa chair...very small for file cabinet, and flat file case. This range of scales, by creating an environment which has large, middle-sized, and small items, has the capacity to fill a much fuller range of size niches, than a "normal" system which has almost all its items at the same homogeneous scale.

10. GETTING IT RIGHT GRADUALLY

Finally, it is essential to recognize that no matter how carefully you plan our office, you probably won't get it right at first. The old-time carpenter with his workshop certainly knew this. It was only possible for him to make his workshop comfortable and efficient, by experiencing the process of his own work, and then gradually adjusting the shop, to make it work for him.

The same is true of offices. Even if you have a clear idea, on paper, of the way your office needs to work, the reality will always be a little different, once you experience it in practice.

As a result, we recommend that you build your office gradually. We recommend a three step process.

Stage 1. Buy those items of furniture which are needed to form the core of your main center. This will be three or four items.

Stage 2. (Four to six weeks later). After experiencing the way the main center works, and making do with temporary boxes, shelves, table etc, rework the process outlined in this instructions, and then make a second version of the piece of furniture needs to support the main center, and to back it up.

Stage 3. (Six to eight weeks after installing the second batch of items). Make a final assessment of your experience using the office, and decide which small items are needed to fine tune the office and to make it work perfectly for you. You may then order these items.

The sales program of system 2000 is designed to make this three step process easy for you, and includes an across-the-board return policy, for any items you wish to return. It is a fact of life, that sometimes the thing you ordered, isn't exactly what you need. Once you find out, you can exchange it for something which works better for you.

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CATALOG

AVAILABLE ITEMS OF FURNITURE FOR AN INDIVIDUAL
OFFICE

PRICE POLICY

The prices quoted in this catalog are wholesale prices. These are the prices available from Herman Miller, when making direct bulk purchases. If bought in smaller quantities from a local dealer, customer will have to pay additional price of dealer's mark-up and installation costs, and small volume premium.

Each item has three basic prices. A low price for the basic item, n frills, and small size, a middle price for more detail, or features or size, and a high quality version, available in large size, with additional finishes.

The assumption built into this pricing policy, is that each person will want to choose one or two of their pieces in their office, at the high price — these would be the pieces most valued — others in the middle price range, and others which are providing serviceable basic use at the lowest price. The way each person chooses the quality of items, and the different combinations of quality, will depend on individual taste and character. This is one of the ways in which system 200 is able to provide a more personal atmosphere for each persons office.

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CURRENTLY AVAILABLE ITEMS

The following items of furniture are currently
available.

NATURAL LIGHTING SYSTEM 
ALL PURPOSE WORKSURFACE
EXECUTIVE DESK
MANAGERS DESK
LIGHT ARMCHAIR
HARDBACK SOFA
SOFA CHAIR
HIGH BOOKCASE
HIGH BOOKCASE WITH FLAT FILES
LOW BOOKCASE
CONFERENCE TABLES
JAPANESE SILK PANELS
UPHOLSTERED LAYOUT CABINET SEAT
CORD CURTAINS
FILING CABINETS AND BOXES
WINDOW WALL
FLAT FILES
GENEROUS DESK LAMP
COUNTER WITH DRAWERS
STORAGE TABLE
EQUIPMENT TABLES
SIDE TABLES
TRIM KIT

*Carpet kit of thing -
upright bookcase?*

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NATURAL LIGHTING SYSTEM

Beautiful light in your office

A system of lighting that overcomes the oppressive uniformity of normal office lighting. The sparkle, and life of natural light.

The heavy and deadening quality of most offices comes from the system of lighting. Natural light has a sparkle, which works different on the eye, and differently on the body. It enormously increases your ability to work, think, discuss. It relieves your tiredness.

NATURAL LIGHT REFLECTORS

A major feature of this natural lighting system, is the use of colored surfaces, which have a geometry and sparkle, comparable to the sparkle which occurs in nature. The designs are hand-painted color structures, photographically reproduced. As the light bounces off these surfaces, the quality of the light has some of the luster and brilliance of daylight. These surfaces available are to be used on walls, immediately below lighting fixtures, and on ceilings.

These walls and ceiling panels are in the form of sticky-backed vinyl sheets in a wide variety of designs, which may hen be mounter directly on the surface.

CORNICE LIGHTS

A second major feature of the system is a system of lights which are placed at the wall-ceiling interface, to form a lighting cornice. The elements include lamp sockets, molding, and paper light shades, with light that forms a warm natural sheen, and also casts soft light on wall and ceiling surfaces.

Most effective when used in conjunction with natural light reflectors.

Wholesale price, lighting system \$400, \$500, \$600

Wholesale price, light reflectors \$300, \$400, \$600

*Green fierce.
Ceiling vinyl.*

Have green fierce photograph

HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000

ALL PURPOSE WORK SURFACE

High quality soft linoleum top with high gloss enamelled wooden trim. Legs enamelled and removable for easy storage, with adjustable height. Brackets, instead of legs can be supplied, which enable it to be connected to any other existing furniture.

The top comes in three widths 24", 30" and 36". All tops can be supplied with built-in shelves or drawers. It is made so that it can be cut and fit to any length, to fit in any gap. The structure will span up to 14 feet without intermediate support. Tops can be cut with a skilsaw, and the molding fits back over the cut, so that you can hand tailor the counter to the nearest inch, and then have a finished thing which looks as if it came straight from the factory.

Molding to finish open cut edge is supplied, so that it can be fitted and made to work in any dimension.

Top available in white, grey, black and green. Enamelled legs, brackets and trim in white, red, green and grey.

Standard widths 24", 30" and 36".

Standard lengths 48", 60" and 80" up to 170".

The following variations are available on special order, at a slightly increased cost.

Different surface for top

Lacquered trim

Special colors

Drawers or shelves below top

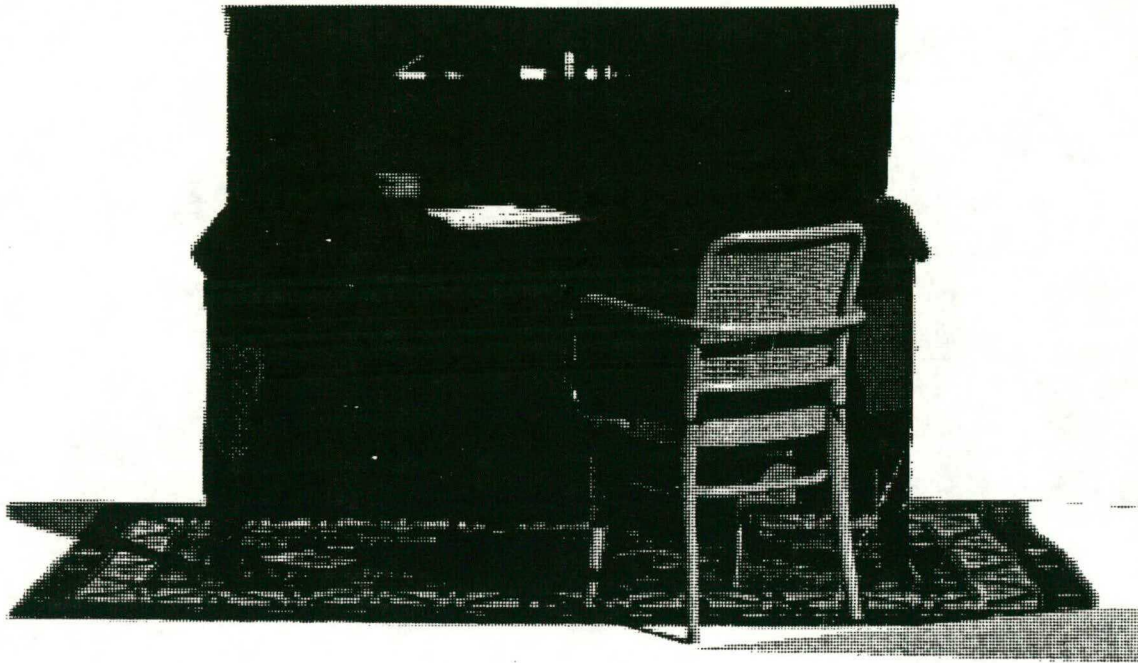
Wholesale price: \$450, 650, 900,

Legs: \$90.00

Brackets: \$70.0

HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000

EXECUTIVE DESK



High gloss lacquered surface with leather top. Lacquered knobs, brass hinges.
Available in subdued red, malachite green, dove grey, black and deep blue.
Standard dimensions Available in small medium and large.
Other variations are available on special order, at a slightly increased cost.

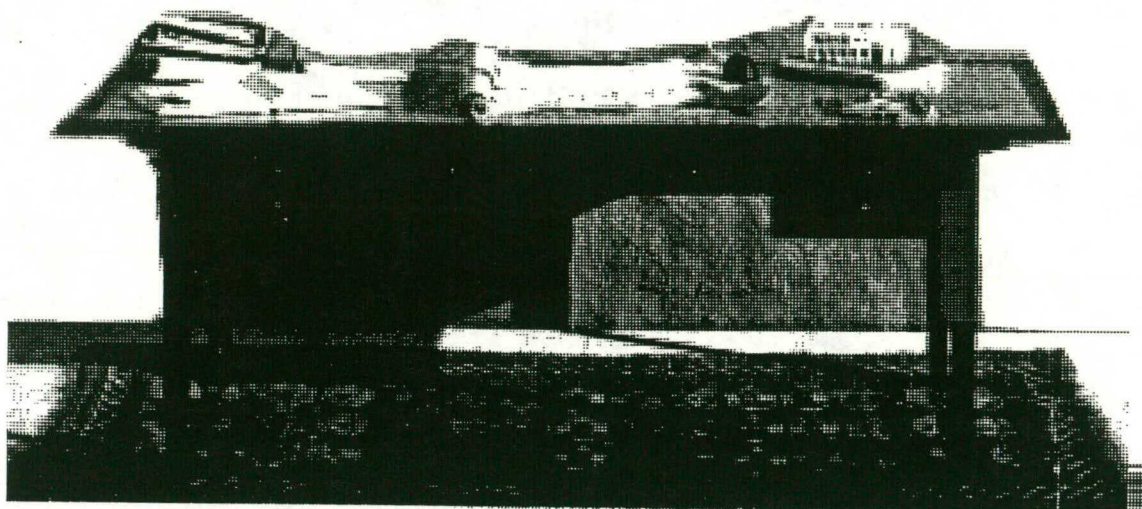
Lengths 40", 60", 69"

Depth 28"

Wholesale price: \$3000, \$4000 and \$5500

HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000

MANAGER'S DESK



Flat topped all purpose work desk.

High gloss enamelled wood surface with soft durable writing surface.

Three to five drawers below desk.

Available in subdued red, malachite green, dove grey, black and deep blue.

Standard dimensions 85" long, 35" deep and 29" high.

The following variations are available on special order, at a slightly increased cost.

Different compartment arrangements

Lengths 45", 55", 65", 75"

Depth 28"

Different numbers of drawers.

Wholesale price: \$1700, \$2000 and \$2200

**HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000**

LIGHT ARMCHAIR
**Have a chair which is your own private chair
made to measure**

Light-weight armchair for office use. Frame of high strength silver grey spun graphite. Upholstered seat in heavy duty corduroy.

Custom chairs available made to measure. For a small extra charge, this chair can be tailored to your own body size, in a fitting jig. You sit in an adaptable chair-machine, and adjust width, depth, seat-height, arms, back-height, and back tilt to your own sense of comfort.

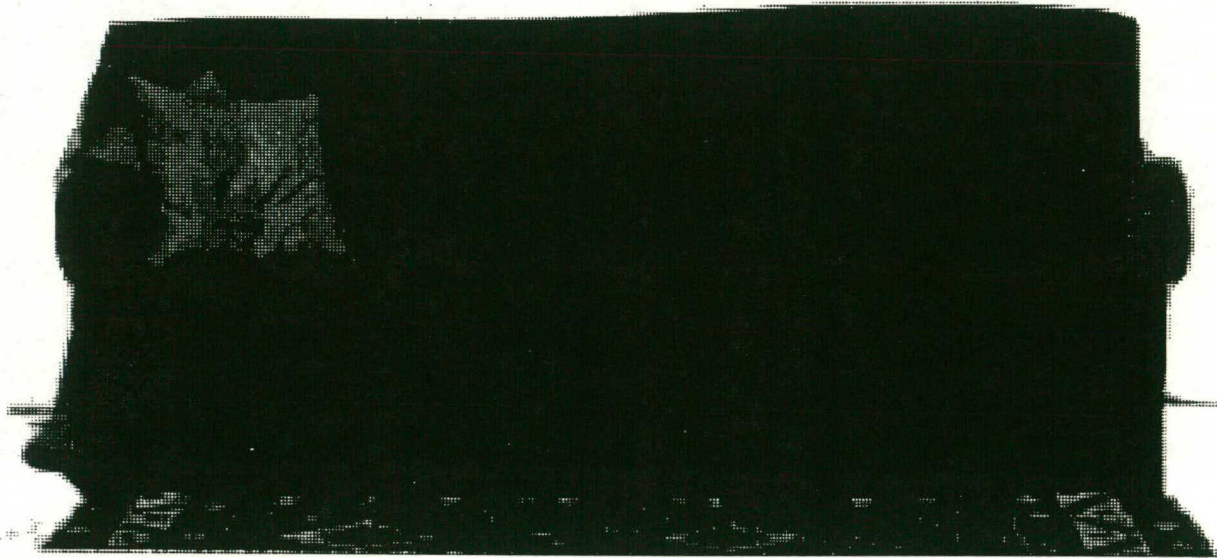
Also available in standard sizes for conference rooms, and general work areas.

Upholstery colors available: wine red, deep blue, dark grey, mustard yellow, bottle green, silver grey.

Wholesale price: \$400, \$700 and \$900

HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000

HARDBACK SOFA



Hard backed sofa, with seat at normal chair height, suitable for conferences, working at a work table, and relaxing. Can be used in conjunction with conference table.

Upholstered in durable corduroy, with sprung seats padding and wide comfortable arms.

Available in mahogany red, deep blue, malachite green, fawn, battleship grey and dove grey.

Standard depth 38".

Standard lengths 54", 66" and 80".

Variations are available on special order, at a slightly increased cost.

Different upholstery materials.

Non-standard lengths

Special colors

Wholesale price: \$1600, \$2300 and \$4000.

HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000

SOFA CHAIR

Hard backed sofa chair, an easy chair at normal workchair height, suitable for conferences, working at a work table, and relaxing. Can be used in conjunction with conference table.

Magnificent shape, wide arms for maximum comfort, spacious and deep, a place where you or your visitor can feel secure, and comfortable, and highly formal or informal.

Upholstered in durable corduroy, with sprung seats padding and wide comfortable arms.

Available in guava red, tangerine, lime green, steel blue, fawn, battleship grey and dove grey.

Standard depth 38".

Standard lengths 54", 66" and 80".

The following variations are available on special order, at a slightly increased cost.

Different upholstery materials.

Non-standard lengths

Special colors

Wholesale price \$700, \$950, and \$1550

HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000

HIGH BOOKCASE

Full height bookcase, to create library surrounding effect. All stored items available for easy view. Graded shelf sizes, with elegant vertical lines and moldings.

Available for wall to ceiling or for counter to ceiling installation.

Enamelled or lacquered wood.

Specify height and length to nearest 6".

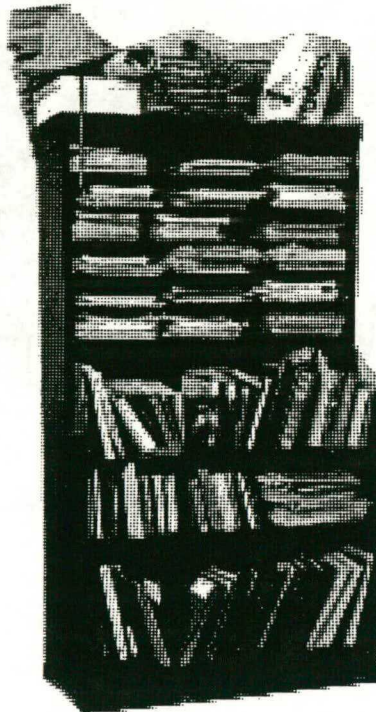
Supplied with adjustable crown molding to fit to ceiling.

Colors: black, mahogany brown, dark grey, white, grey, pale yellow, pale green, cinnabar red.

Wholesale price: \$800, \$1000 or \$1200

HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000

HIGH BOOKCASE WITH FLAT FILES



Unique system of flat files, for easily visible storage of files, papers, manuscripts, and other flat items. All open for easy inspection. High version supplied with counter top.

Available for wall to ceiling or for counter to ceiling installation.

Enamelled or lacquered wood.

Specify height and length to nearest 6".

Supplied with adjustable crown molding to fit to ceiling.

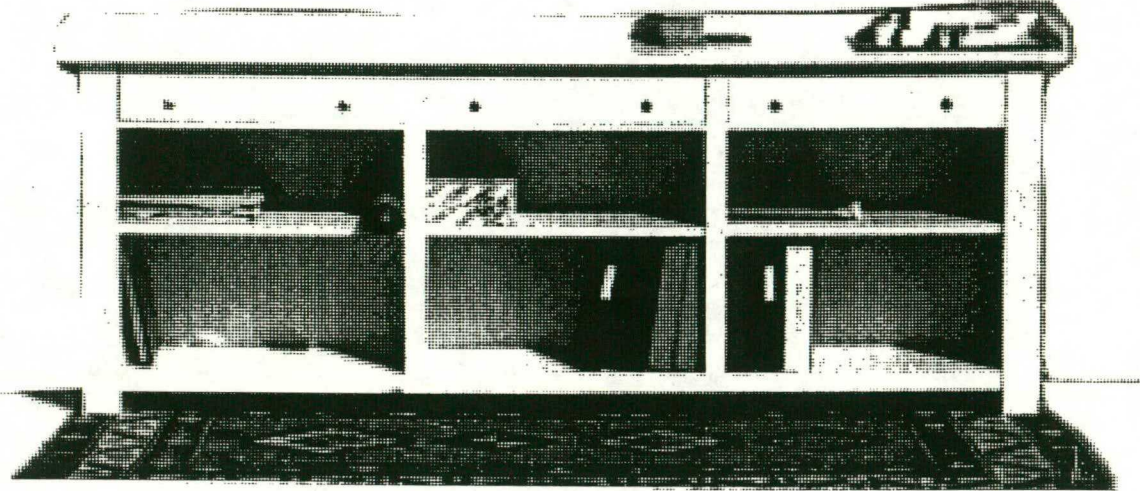
Colors available: sea green, deep blue, black, mahogany brown, dark grey, white, grey, pale yellow.

Wholesale price: \$600, \$900, and \$1200.

or \$395/ft, floor to ceiling.

HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000

LOW BOOKCASE WITH DRAWERS



White enamelled wood construction. Three drawers. Wide top with upstand on three sides to keep things from falling.

Simple and elegant storage for books and other objects. May be used against a wall or as a separator between two areas.

Height 29".

Depth 14".

Lengths available 4', 5', 6', 7', 8'.

The following variations are available on special order, at a slightly increased cost.

Special lengths which are not exact multiples of 1'.

Glass doors.

Colors other than white.

Custom cabinets below.

Upstand on two sides or four sides

Wholesale price: \$500, \$700, and \$900.

or \$250.00 for 4' length, plus \$100 per foot for each incremental foot above 4'.

**HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000**

CONFERENCE TABLE

Long table for major conferences, cherry and painted wood. Central panels and sides panels, polished cherry. Work surface, hand stencilled painted design, to order by your company.

Very solid construction built to last. Central panel for water carafes, snacks, microphones or center piece. Worksurface pleasant to touch, and hand crafted, according to your own company's specifications.

Sizes available 35" wide, 84" long.

Height: 29".

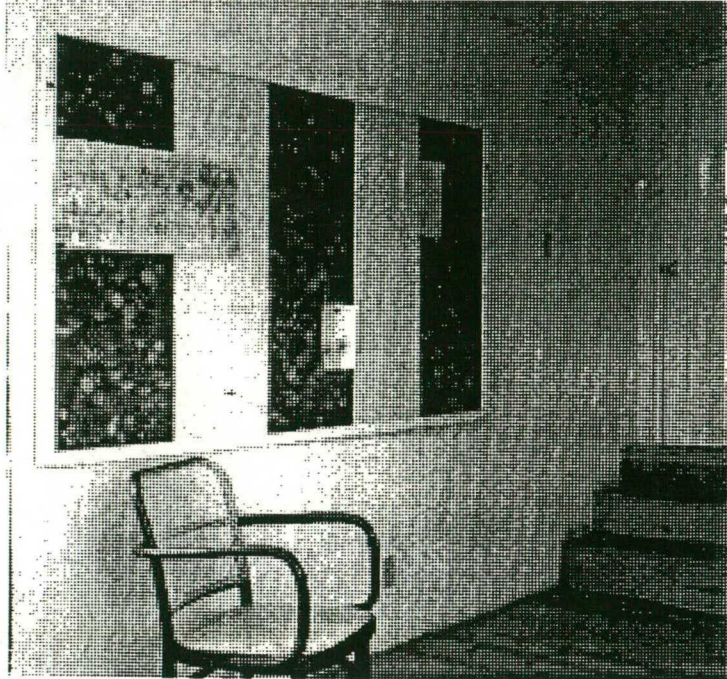
Base: legs or pedestal.

supplied under all pedestal tables at an extra price of \$150/drawer.

Wholesale price \$1300, \$1800, and \$3000.

HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000

JAPANESE SILK PANELS



Panels of hand made japanese silk, no two alike. Shining colors, beautiful drawing. Blue-grey with white birds, olive green with leaves, red lilies, multicolored carp, yellow and orange with sprays of leaves and swans

One panel like this makes the quality of an office. To be used either as wall decoration mounted on the wall, or as pin boards for pinning notices and miscellaneous notes.

Each panel has a cork/celotex backing, for stability, and for easy insertion of pins. Frame is wood molding section, enamelled white or solid color to match silk. Brass mounting screws.

Available in any size. Silk to be chosen by color, and by photographs of actual pattern. Since almost no two silks are alike, individual silks cannot be chosen from a catalog. Panel will be supplied in integral one foot increments, next size above size order. Panel may then be cut, and trimmed out to desired size, and frame reset to fit.

The following variations are available on special order, at a slightly increased cost.
Textiles other than japanese silk, chosen by customer.

Wholesale price: \$400, \$700, and \$1000.

Example panel 4'x6', \$720.00. Example panel 10'x1'8", \$600.00.

HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000

UPHOLSTERED LAYOUT CABINET SEAT

Storage bench on rollers, which provides a low work and layout surface anywhere in the office. At seat height, so people can also use it as a seat. Hinged top. Storage under seat.

Materials Lacquered wood, with cabinet doors in woven cane, and upholstered top in corduroy or brocade.

Sizes available 14", 16" or 18" wide, 40", 48" or 60" long.

Height: 24".

Base: rollers.

Wholesale price: \$550, \$650, and \$850.

HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000

CORD CURTAINS

Multi-purpose office curtains, heavy duty corduroy, with brass rods and fixtures. May be installed in windows, over doors, on walls, over cabinets, or between spaces to provide flexibility of use in larger rooms.

Sizes available made to measure.

Wholesale price: \$200, \$300, and \$400.

HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000

FILING CABINETS AND BOXES

Small rolling cabinet, for personal files. Drawers below, and hinged glass top is also available. Enamelled wood, two colors, flat files drawers below, glass top in enameled frame, drops away for easy access. So small you hardly notice it in your way, but always near you when you want it.

Individual boxes for filing also available. Enamelled wood, supplied with handles for easy pickup, and steel bars for hanging files. Can be stacked, moved, stored in cabinets, used on the floor, on the desk. Extremely flexible and simple to use.

Sizes available 19" wide, 23" long.

Height: 27".

Base: legs or rollers.

Wholesale price of file cabinet: \$475.00

Wholesale price of individual file boxes: \$55.00

HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000

WINDOW WALL

A set of three panels which can be used to form a window place in any office. These panels create wall surface and header, and sill. In enamelled wood.

The window place, so created, has a major impact on personalization of the office, and transforms a homogeneous space into one with focus and character.

May be used with cord curtains.

Available panels can be used to produce a window place within any standard office up to 15 feet width.

Colors available: white, grey, pale yellow, pale green, cinnabar red

Wholesale price of window wall: \$550, \$750, and \$1150..

HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000

GENEROUS DESK LAMP

Many people need intense light on their work surface, above everything. This lamp provides an intense uniform spotlight, of warm color.

The head, lamp, and reflector, are larger than in most currently available lights, and the reflector is designed to specifications of silvered reflector common in photoflood equipment.

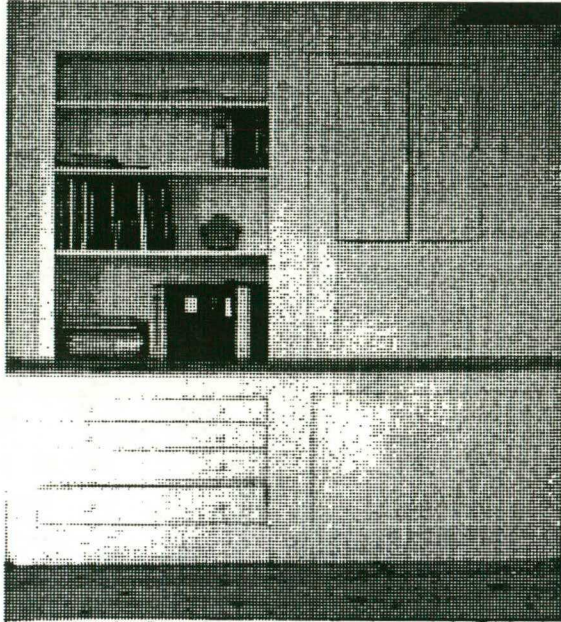
The arm is designed to clamp anywhere on your desk top, by means of a special attachment which completely overcomes the flimsy and loosening clamps on typical lights.

The arms are designed for special stability, and to permit instant positioning of the lamp head over the work surface and work area.

Wholesale price of desk lamp: \$150, \$225, and \$300.

HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000

COUNTER WITH DRAWERS



Drawers below in enamelled wood. Sturdy

Counter top in natural wood. Drawers below in enamelled wood. Sturdy, provides excellent combination of storage and layout space.

Depth of counter 28".

Counter height 28".

Drawers below, are on easy slide steel and polyethylene rollers. Drawers are shallow, to increase total visible surface .

Drawers in one standard width 28".

Each counter can be supplied with one, two or three sets of drawers below, depending on length.

Portions of counter front not occupied by drawers are supplied with a solid enamelled panel.

Standard lengths 3',4',5',6', 7', 8', 9',10'.

3', 4' and 5' can be supplied with 1 set of drawers.

6', 7' and 8' can be supplied with one or 2 sets of drawers.

9' and 10' can be supplied with 1,2 or 3 sets of drawers.

Colors available: white, grey, pale yellow, pale green, cinnabar red

Wholesale price of counter with drawers: \$1300, \$2000, and \$2500.

**HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000**

STORAGE TABLE

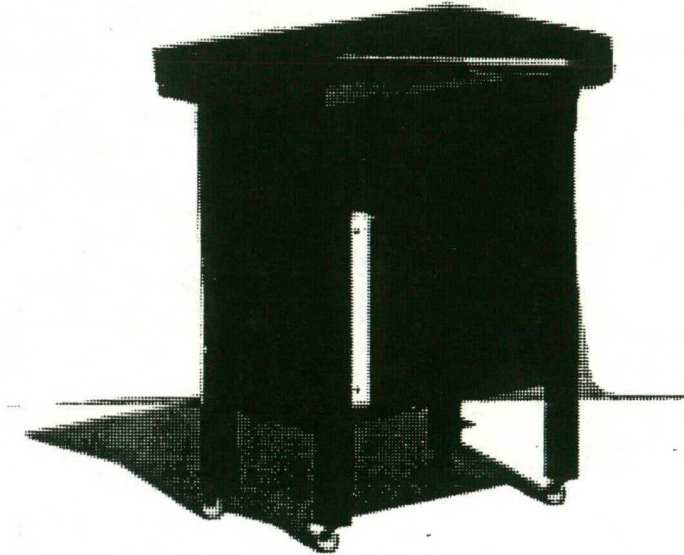
Aa low multi purpose table with a square format, AND all kinds of storage cabinets, lockers, shelves and compartments.

Multi colored. Hand painted stencilled ornament along the sides.

Wholesale price of storage table: \$400, \$450, and \$500.

HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000

EQUIPMENT TABLES



Rolling tables for miscellaneous machines and equipment, and sundry small items. Easy rolling, bulk storage below, easy access, ease of movement, sturdily built. Can be used for FAX machines, typewriters, small copiers, computers and computer peripherals. We also find these tables enormously useful for other miscellaneous items, spools, glue guns, files, assorted books, manuals, directories, pencils, pens, and other miscellaneous equipment.

Tables are easy to clean, and light rolling.

Finishes available, brass, zinc, black or grey enamelled metal, white translucent corian.

Standard size height 28", top 32" by 17".

Wholesale price, \$400, \$500 and \$700.

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SYSTEM 2000

SIDE TABLES

Tables for general use throughout the office come in a variety of sizes, styles and finishes, and are made as nested sets for easy storage.

Tables are durable, solid, and easy to carry.

Tabletop finish is varnished softwood, high quality colored formica, enamelled wood, linoleum, brass and lacquered plywood, white translucent corian, or spun graphite.

With pedestal or with legs, with and without drawers, round and rectangular, low medium and high.

Height: 26", 29" and 32".

Base: legs or pedestal.

Round or square, or rectangular.

Deep overhang suitable for conference, or small overhang for normal use.

Finish:

Drawers below:

Pedestal tables, round, diameters 18", 24", 36", 50".

Square tables, pedestal, diameters 18", 24", 36" and 50".

Rectangular tables, pedestal, 24" wide, length 36", 48", and 84".

Rectangular tables, pedestal, 34" wide, length 60", 80".

Rectangular tables, legs, 34" wide, length 60", 80".

Tables can be supplied in three heights: 26", 29" and 32".

Drawers can be supplied under all pedestal tables at an extra price of \$150/drawer.

Wholesale prices range from \$300 to \$900.00 depending on size and finish.

HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000

TRIM KIT

**Connects any two pieces of furniture in the
2000 system, or connects any one piece to a
wall.**

A kit of trim parts which allows a smooth and permanent connection to be made between any two pieces in the Herman Miller system 2000. The kit includes brackets, rubber pads, mounting screws, and final trim pieces. All trim pieces are supplied in enamelled wood, with touch-up paint, and instructions.

The essence of a permanent office, is that it feels as though "it has been there for ever". To achieve this sturdy permanent and comfortable quality, with items of furniture which can be freely moved about , Herman Miller has developed a system of trim pieces which make permanent connections between the pieces of furniture, and which create a continuous seamless whole in the office.

At the same time, the attachment of these trim pieces covers gaps, but it does relatively little permanent damage, and pieces can be disconnected, and re-used.

The trim pieces are intended to permit cutting, sizing and shaping of individual pieces, in such a way that the pieces can be adapted to new situations in the office, without marring surfaces or finishes.

Colors available: white, grey, pale yellow, pale green, cinnabar red.
Custom colors available on request.

Wholesale prices per kit: \$150, \$250, \$400.

**HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000**

**SYSTEM 2000
THE PERSONAL WORKPLACE**

A system of office furniture designed for comfort

4

**BUSINESS PLAN FOR MANUFACTURE
AND DISTRIBUTION OF SYSTEM 2000**

**HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000**

HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000

TABLE OF CONTENTS

In order to implement system 2000, Herman Miller should consider the following possible changes in design, marketing, and production.

1. COMFORT OF THE CUSTOMER AS THE PRIME IDEA
2. CLIENT IS USER NOT PURCHASER
3. A SERVICE INDUSTRY
4. CUSTOM OFFICE.
5. LOCAL MANUFACTURING OF SOME PARTS
6. VARIETY OF FINISHES
7. GRADUAL FURNISHING OF OFFICE AS A WAY OF FINE TUNING
8. ROVING RODNEY
9. VARIETY OF PRICES FOR EACH ITEM
10. PRICES EXPLICIT IN THE CATALOG
11. APPEAL TO SMALL BUSINESS NOT ONLY GIANT CORPORATIONS
12. EASY TO UNDERSTAND CATALOG
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14. POSSIBLE COMPUTER LAYOUT PROCESS
15. PRICING POLICY
16. TASKS OF LOCAL HMI OUTLETS
17. EDUCATION OF LOCAL HMI OUTLETS AND SALES FORCE
18. IMPORTANCE OF THE FACILITIES MANAGER
19. COMFORT AS THE BASIC IDEA
20. THE OFFICE AS IMPORTANT AS THE HOME

HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000

1. COMFORT OF THE CUSTOMER AS THE PRIME IDEA

2. USER NOT PURCHASER IS CUSTOMER

In theory the furniture is always aimed at the user. However, in practice, purchasing decisions are usually made by facilities managers, corporate executives, and designers and specifiers.

With system 2000 we aim, consciously, to address the end user and make his and her comfort the primary target of the system.

This should be reflected in a conscious marketing strategy, which includes the following:

1. Pamphlets which appeal so strongly to the user, that the user will bring pressure on top management and facilities and designers, to buy system 2000 for them.
2. A pricing policy which is so explicit and clear, that customers can easily be involved in decisions about trade-offs.
3. A form of presentation which provides backup information at every level, for customers, from the simplest to the most sophisticated.

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SYSTEM 2000

3. A SERVICE INDUSTRY

**HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000**

4. CUSTOM OFFICE.

The system is presented as a custom office — a way in which the user can have a custom environment, individually tailored to each persons needs.

At the same time the key idea is that this can be provided for a price which is similar to action office.

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SYSTEM 2000**

5. LOCAL MANUFACTURING OF SOME PARTS

HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000

6. VARIETY OF FINISHES

To allow the customer the make trade-offs, and so to get the best working environment for him/herself, one of the crucial ideas, is that each item can be provided at three price levels, high, medium and low. We assume that each person will want the high level (luxury) item, in one or two categories, and will compensate for this by having medium items in some categories, and low items in other categories.

This will produce a much more realistic, and less sterile environment, since pleasure in the high end items, and acceptance of limited money in the low end items will create a world which is less uptight, and more human in its essence.

It is important that this strategy be assessed as to feasibility, by marketing.

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SYSTEM 2000

7. GRADUAL FURNISHING OF OFFICE AS A WAY OF FINE TUNING

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8. ROVING RODNEY

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SYSTEM 2000

9. VARIETY OF PRICES FOR EACH ITEM

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SYSTEM 2000

10. PRICES EXPLICIT IN THE CATALOG

11. APPEAL TO SMALL BUSINESS NOT ONLY GIANT CORPORATIONS

In view of the nature of this project, it is both very appealing, and very natural, to aim it at small businesses and individuals, as well as at large corporations. This means that the material, can be used by sales force, with great efficiency, and that the system does not require an "expert" for sales, purchase, or installation.

In other words, it sells itself, and it sells itself as easily to an individual or a small business, as to a large corporation.

What are the implications.

12. EASY TO UNDERSTAND CATALOG

To make the system highly accessible, the catalog must be **completely** different from current HMI catalogs. It must be easy to understand, by a lay person, and absolutely straightforward in tone, content, and appearance.

We believe that this will also require a change in the cabalistic pricing policy, which has existed in the past, with a forest of discounts, margins etc, making it impossible for the average joe to understand how much anything costs.

Some way must be found, consistent with federal law, that allows HMI to set prices, at least to such an extent that clear information about actual prices — not fictional target retail — can be published distributed, and understood.

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SYSTEM 2000

13. LAYOUT PROCESS AS FUNDAMEN- TAL

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14. POSSIBLE COMPUTER LAYOUT PROCESS

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15. PRICING POLICY

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16. TASKS OF LOCAL HMI OUTLETS

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SYSTEM 2000

17. EDUCATION OF LOCAL HMI OUT- LETS AND SALES FORCE

18. IMPORTANCE OF THE FACILITIES MANAGER

It is extremely important that as soon as possible, we establish the idea that this system is going to be helpful to the facilities manager, make his life easier, and satisfy **his** people better. This means we need to bring one or more facilities managers in as soon as possible, and work with them, so that the system evolves in such a way that they will accept, enthusiastically, with the recognition that it works for **them**.

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SYSTEM 2000

19. COMFORT AS THE BASIC IDEA

20. THE OFFICE AS IMPORTANT AS THE HOME

The present problem in office layout and office comfort and office efficiency, has arisen, in large part, because the office has been forced to conform to a kind of image, which is sterile, and makes real work more difficult, not easier.

It is therefore a part of this project, and needs to be seen as a conscious strategy, to find ways of breaking down this image, and beginning to teach the American people a new way of seeing the office, which is closer to the way they see their own homes, and less governed by artificial images of what is OK in the workplace.

HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000

SYSTEM 2000 THE PERSONAL WORKPLACE

A system of office furniture designed for comfort

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**PATTERN LANGUAGE FOR THE
INDIVIDUAL OFFICE**

**HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000**

- 1. WINDOW PLACE**
- 2. WORKSPACE ENCLOSURE**
- 3. POOLS OF LIGHT**
- 4. NATURAL LIGHT**
- 5. CONFERENCE TABLE IN THE OFFICE**
- 6. COMPUTER TABLE**
- 7. RECLINING COMPUTER CHAIR**
- 8. EVERY PIECE OF FURNITURE IS A CENTER**
- 9. ENHANCEMENT OF DETAIL**
- 10. LOOSE ARRANGEMENT OF PIECES**
- 11. MANY SURFACES OF DIFFERENT HEIGHTS**
- 12. DIFFERENT CHAIRS**
- 13. WORK SURFACE HEIGHT**
- 14. COLOR AND LIGHT**
- 15. NATURE OF THE WORK CHAIR**
- 16. MAKING THE OFFICE PERSONAL**
- 20. RIOT OF COLORS**
- 21. TYPES OF CHAIRS**
- 22. TYPES OF TABLES AND DESKS**
- 23. CONVENIENT FILING CABINETS**
- 30. THICK BOUNDARY ZONES FOR STORAGE TO ALLOW FREE SHAPE OF INDIVIDUAL AREAS**
- 32. ACCOMODATION OF CABLES**
- 33. QUALITY OF ARTIFICIAL LIGHT**
- 36. WORKERS CONTROL OVER INDIVIDUAL AND GROUP WORK SPACES.**

HERMAN MILLER FURNITURE SYSTEMS
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- 37. THE MYTH OF THE FLEXIBLE OFFICE
- 39. HIERARCHICAL DISTRIBUTION OF MATERIALS
- 41. CONTINUUM OF SUBSTANCE VS. SEPARATE PIECES
- 42. DIFFERENTIATION OF SUBSTANCE TO CREATE A FIELD OF CENTERS
- 45. GOOD GEOMETRICAL QUALITIES AS IMPORTANT AS FUNCTIONAL QUALITIES
- 46. THE FURNITURE HAS A FEELING OF ELEGANCE AND LIGHTNESS; IT IS MORE LIKE THE FEELING OF FRESH AIR THAN OF A SOMBER DAY
- 55. FOOT STOOLS, —AN EXAMPLE OF MORE HIGHLY DIFFERENTIATED FUNCTIONS
- 56. THE FORM OF EVERY PIECE OF FURNITURE IS SIMPLE; SO SIMPLE, THAT COULD BE SEEN AS A CLEAR VOLUME OR RELATIONSHIPS BETWEEN VOLUMES
- 57. THE USE OF CLOTH AND TEXTILES

Clutter is better.

Storage in piles

Choice of places to sit / equally and choose end
plan protected.

Most comfortable chair for visitor.

When is light coming from.

VARIETY OF TABLE AND WORK SURFACE HEIGHTS

**HERMAN MILLER FURNITURE SYSTEMS
SYSTEM 2000**

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SYSTEM 2000

**SYSTEM 2000
THE PERSONAL WORKPLACE**

A system of office furniture designed for comfort

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**PATTERN LANGUAGE FOR THE
SYSTEM AS A WHOLE**

PATTERN LANGUAGE FOR A NEW GENERATION OF OFFICE FURNITURE

Enviin the following language, are, so far, very sketchy and tentative. In some cases we feel that the patterns are based on genuine and reliable insights. In other cases, they are no more than hints which give us something to think about.

The patterns fall into two groups. The first group contains patterns which deal with the overall character and layout of the office. The second group contains patterns which deal with the actual physical character and substance of the furniture itself. To some extent the two groups overlap.

Group 1 is approaching completion. Although the patterns are so far often extremely sketchy, we do feel that in their scope and range, we have identified something approaching a complete system of the large scale ideas, which must control the design of the new furniture system. A few of the patterns raise extremely thorny questions about philosophy and manufacturing, which will have to be resolved.

The patterns in group 2 are definitely NOT complete. They are more like a first staking out of territory. They give us some idea of the kind of matters which must be addressed, but in this case we are fairly sure that we do not yet have anything approaching a complete system.

On the next three pages we have given a list of the patterns so far identified. On the following pages 8-33, we have given some indication of the content of some of the patterns so far identified.

Patterns 1 and 38 (the first in each of the two groups) give a kind of general framework which sets the stage for the group.

GROUP ONE THE CHARACTER AND LAYOUT OF OFFICES

1. ENJOYMENT OF WORK IS THE MAIN CRITERION: PRODUCTIVITY IS DIRECTLY LINKED TO IT
2. SMALL WORKING GROUPS
2. PERSONAL CHARACTER OF WORKPLACES
3. GROUP CHARACTER
4. SOLID AND PERMANENT ENCLOSURES
5. FRAGMENTATION AND CONTINUITY
6. CUSTOM MADE FURNITURE
7. EVERY PIECE OF FURNITURE IS A CENTER
8. ENHANCEMENT OF DETAIL
9. INFORMAL ARRANGEMENT VS. FORMAL
10. HIERARCHY OF ENCLOSURE
11. WORKSPACE ENCLOSURE
12. THE INDIVIDUAL WORKPLACE IS STRUCTURED AROUND THE COMPUTER, THE PHONE AND A GOOD SIZE TABLE, AS ITS MAJOR CENTERS
13. HUMAN VITALITY
14. COMFORTABLE DISTANCE BETWEEN PEOPLE
15. ACCESS TO VIEW NOT DAYLIGHT

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- 16. EXACTLY COMFORTABLE LEVEL OF NOISE**
- 17. GOOD MATERIALS**
- 18. FURNITURE WITH EASY AND LOW MAINTAINANCE BUT LONG LIFE**
- 19. LIFE OF ENCLOSURES LONGER THAN FURNITURES**
- 20. RIOT OF COLORS**
- 21. TYPES OF CHAIRS**
- 22. TYPES OF TABLES AND DESKS**
- 23. CONVENIENT FILING CABINETS FOR PERSONAL AND GROUP USE**
- 24. INTENSIFICATION IN THE USE OF SPACE**
- 25. CLOSED-OFF, PRIVATE OFFICES ARE RARE**
- 26. POSITIVE USE OF PASSAGES**
- 27. EVENLY SCATTERED SMALL MEETING ROOMS WITH ROUND TABLES AND VIEW TO OUTDOORS**
- 28. LIMITED NUMBER OF LARGE CONFERENCE ROOMS**
- 29. INTENSITY NODES, WITH HOME-LIKE CHARACTER**
- 30. THICK BOUNDARY ZONES FOR STORAGE TO ALLOW FREE SHAPE OF INDIVIDUAL AREAS**
- 31. COMMON FACILITIES —OFFICE EQUIPMENT, BATHROOMS, COFFEE, DRINKING FOUNTAINS— ARE SHARED BY SEVERAL SMALL GROUPS**
- 32. ACCOMODATION OF CABLES**
- 33. QUALITY OF ARTIFICIAL LIGHT**

In addition, the following four general patterns do not describe spatial characteristics of the furniture. However, they do describe important general philosophical problems or conditions, which will greatly affect our approach.

- 34. INACCURATE JUDGEMENT OF FACILITY MANAGERS**
- 35. START WITH A SMALL MARKET**
- 36. WORKERS CONTROL OVER INDIVIDUAL AND GROUP WORK SPACES.**

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37. THE MYTH OF THE FLEXIBLE OFFICE

GROUP TWO
PHYSICAL SHAPE AND SUBSTANCE
OF THE FURNITURE

38. INTENSELY POWERFUL PERFORMANCE

39. HIERARCHICAL DISTRIBUTION OF MATERIALS

40. PIECES OF FURNITURE WHICH ARE MOVED OFTEN, LIKE TABLES AND DESKS, ARE FREESTANDING

41. CONTINUUM OF SUBSTANCE VS. SEPARATE PIECES

42. DIFFERENTIATION OF SUBSTANCE TO CREATE A FIELD OF CENTERS

43. POSSIBLE MATERIALS

- PORCELAIN COATING ON STEEL
- MARBLE TOPS WITH WOODEN BASE FOR SMALL TABLES
- GRAPHITE OR SPUN CARBON STEEL FOR THE STRUCTURE OF REGULAR CHAIRS
- WOOD
- FIBER GLASS
- REPLACABLE CUSHIONS WITH LONG LASTING FABRIC FOR THE SEAT AND BACK OF CHAIRS
- LEATHER AS FINISHING MATERIAL FOR COMPUTER CHAIRS
- PAINTED CAST STEEL FOR FILING CABINETS
- BRASS IN SMALL QUANTITIES, FOR KNOBS...
- HEAVY MAT BOARDS, LINOLEUM, VINYL, SOFT WOODS FOR WRITING SURFACES
- GOOD QUALITY PLASTIC FOR THE FRAME OF COMPUTER CHAIRS

44. MATERIALS FOR PARTITION WALLS

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45. GOOD GEOMETRICAL QUALITIES AS IMPORTANT AS FUNCTIONAL QUALITIES
46. THE FURNITURE HAS A FEELING OF ELEGANCE AND LIGHTNESS; IT IS MORE LIKE THE FEELING OF FRESH AIR THAN OF A SOMBER DAY
47. VERTICALITY OF ELEMENTS; NOT PRESENT HORIZONTAL EMPHASIS
48. ACCURACY OF DIMENSIONS AND WEIGHT
49. COMPACTNESS AND DENSITY
50. PHYSICAL WEIGHT
51. SHAPE OF PARTITION WALLS
52. PARTITION WALLS TIED TO BUILDING THROUGH POSTS OR OTHER ELEMENTS, SPANNING FROM FLOOR TO CEILING
53. MONOCOQUE CONSTRUCTION FOR PARTITION WALLS
54. A BANK OF PRECISELY MADE DRAWERS AND CUPBOARDS
55. FOOT STOOLS, —AN EXAMPLE OF MORE HIGHLY DIFFERENTIATED FUNCTIONS
56. THE FORM OF EVERY PIECE OF FURNITURE IS SIMPLE; SO SIMPLE, THAT COULD BE SEEN AS A CLEAR VOLUME OR RELATIONSHIPS BETWEEN VOLUMES
57. BOUNDARIES
58. CORNERS ARE SQUARE; NOT ROUNDED
59. CRISP AND CLEAN EDGES; SQUARE AND SLIGHTLY CHAMFERED
60. THERE IS A PARTICULAR TREATMENT IN THE PART OF THE FURNITURE THAT TOUCHES THE FLOOR
61. DURABLE INTERNAL JOINTS —WHICH OFTEN GENERATE SHAPE
62. TOPS OF TABLES AND DESKS ARE MADE OF SOLID MATERIAL
63. THE TOP OF A TABLE EXTENDS BEYOND ITS FRAME
64. DRAWER HANDLES ARE NOT CUT-OUTS; THEY ARE KNOBS OR HANDLES

EXPLANATION OF PATTERNS

In the following paragraphs we have tried to summarise, often in a paragraph or two, the key insights that underlie the patterns.

As said before, in some cases the insights are still weak. In other cases there is no insight yet, just a vague hunch that there is something there, and that sufficient talking and research will uncover it.

GROUP ONE THE CHARACTER AND LAYOUT OF OFFICES

1. ENJOYMENT OF WORK IS THE MAIN CRITERION. PRODUCTIVITY IS DIRECTLY LINKED TO IT

During the early and mid-twentieth century, furniture and appliances have been dominated by a desire for "efficiency".

In the case of office furniture this was symbolised most clearly, perhaps, by Robert Propst's "action of-fice". So far all 20th century studies of office layout, management, furniture, and equipment, have put their emphasis on time and money, efficiency, and productivity.

However, at this stage in the last quarter of the 20th century, many serious doubts have entered into the picture. Unions have slowed down in their search for high wages, and have instead begun seeking involvement for workers, and greater levels of satisfaction in work.

The crude type of mechanical efficiency pioneered by Taylor in the 19th century, has now given way to deeper levels of understanding in which it has become clear that the worker's welfare as a person, his ultimate satisfaction, and the wholeness of his experience, are the keys to a new type of management, and to a new conception of the workplace.

All of this can be summed up in a single idea: The productivity of a company will be highest, when the level of human satisfaction in the work is high.

In order to invent a new type of office furniture, capable of providing the environment in which this new level of human understanding and this new approach to management can succeed, we have decided to take a single criterion as the fundamental criterion for the success of the furniture.

We shall try, quite simply, to make an environment in which work is enjoyable. We assume that if we can succeed deeply, in this task, high levels of productivity will then follow automatically.

This attitude means that conceptions of the workplace based on narrower ideas of efficiency, will almost certainly have to go. Almost all our ideas about furniture, will have to be scrutinised, and replaced by new

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ideas, in which the enjoyment of the worker, and the enjoyable character of the work experience, is given first priority.

All the following patterns should be understood and tested from the point of view of their ability to satisfy this demand.

2. SMALL WORKING GROUPS

In general, we should assume that people work in a place where an easy community can exist. This means, a place where four or five people feel comfortable together, separate enough, and individual enough, but where there is a real, and comfortable community of a family size.

Except in rare cases, people prefer to work in SMALL GROUPS. If people are forced to work in isolation they feel detached, or if they are forced to work in a huge mass of people, they feel oppressed.

Therefore, the size of the group is critical

for a good working atmosphere; empirical evidence indicates that in no case a group should be larger than about 12 people.

The space of the small working group has to be clearly and strongly defined; it should not be open to a huge undifferentiated space.

3. PERSONAL CHARACTER OF WORKPLACES

Each person's own workspace must be a place where he or she feels PERSONAL AND UNIQUE and where the person feels free to arrange things the way that suits their own needs and ways of working. This requires absolute destruction of the "institutional" environment.

However, personalization of space involves something more than simply bringing in personal things; it involves A QUALITY THAT IS EMBEDDED IN SPACE, rather than added to it afterwards.

This quality is built up over TIME; it is only with time that one realizes what works and what does not, what is needed and what is not, and therefore modifies, adjusts, adds.

We believe we can define this concept precisely.

3a. GROUP CHARACTER

It is also true that each work group must be able to establish the character of their own environment, once again, unhampered by the institution in which the group exists. This is a communal version of the unique and personal character of individual workspace.

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4. SOLID AND PERMANENT ENCLOSURES

Real enclosures, which can take the place of old fashioned rooms, are fundamental. The low, flimsy enclosures produced by office landscape completely fail to meet the bill. So do the modular partitions often used in office buildings. Regardless of their thickness and height they create space that feels temporary. Somehow, a range of enclosures, which are solid, but easily changed, must be produced. We have considered various possible solutions to this problem, which would then totally change the internal character of the office environment in a large building.

This is one of the most important issues. We believe it must be dealt with at a fundamental level.

5. FRAGMENTATION AND CONTINUITY

The present modular character of office furniture causes an intense fragmentation of the world, and makes it impossible for any worker, or group, to create unity in the world around them.

The effect is devastating in terms of emotional exhaustion.

In order to beat it, office furniture and components must be capable of cementing a unified world, which is a continuous unbroken whole. This may require a much greater range of sizes, or, in the extreme case, custom making of individual pieces, to fit different situations.

6. CUSTOM MADE FURNITURE

The modularity and standardization in office furniture and enclosures is directly related with its mass production process.

There is no doubt that one can try to improve the quality of office furniture and office space, within the existing production system. But, one won't be able to make furniture which unifies space, which responds to the needs of a particular office space unless the current system of production changes; unless the character of mass production is alleviated.

The only way to cure this problem is by custom made furniture. Considering this, our proposal to Haworth is the following: Haworth establishes a chain of franchised furniture makers, all of them making "Haworth" furniture. Each furniture builder will be responsible for producing the furniture for a small company, or for a department of a larger company, made primarily for the particular company and for the particular needs of space what the company occupies.

7. EVERY PIECE OF FURNITURE IS A CENTER

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The development of systems furniture fails to appreciate the character and uniqueness of each individual piece of office furniture; office furniture pieces have ceased to exist as distinct and identifiable entities; they have become components of assemblage.

It is worth noticing that in today's office furniture manufacturing the word "desk" does not exist; it has been substituted by the word "working surface". The first has the potential of becoming a beautiful piece; the second is just a component.

Every piece of furniture, even if mass produced, must be a beautiful piece by itself. It should have its own character, uniqueness, substance and personality.

8. ENHANCEMENT OF DETAIL

Details are crucial in making; they attribute to the thing to be made its character, levels of scale, coherence; its beauty, in one word.

Actually, in today's office furniture there are no details. There is a tendency to hide the joints where different materials and components meet; and joints is the place where detailing should normally occur. In today's manufacturing, joints are being designed and resolved in a mechanistic way, instead of being worked out into beautiful details, which enrich the piece of furniture.

9. INFORMAL ARRANGEMENT VS. FORMAL

It is clear, that the workspaces which people make for themselves have a character we might simply call "informal". They have a loose order of grouping, quite dissimilar to the regimented arrays which occur in large corporations.

There are some reasons for thinking that this is perceived by managers as hostile or threatening. It is also clear that some managers think that it will lower productivity, and shrink from it. It is also possible that it is seen as damaging to the corporate image.

However, empirical research leaves no doubt that this kind of arrangement is objectively better for the worker, and for productivity, even though facility managers would tend to think exactly the opposite.

10. HIERARCHY OF ENCLOSURES

Each person is an entity. He is also part of an immediate group, and part of a larger group. The membranes around him, and around the smaller group, must be of a character which allows him the right balance between privacy and contact, and also allows the right balance between privacy and contact, for the group he is a part of, with respect to the larger group in which that group is embedded.

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In order for these three entities to maintain their identity, while at the same time they create a coherent whole, a hierarchy of boundaries is necessary.

The boundary which defines the small group has to be distinct in character and weight compared with the individual enclosure, so that the right balance between privacy and contact can exist.

Furthermore, the boundaries around the smaller group should, at the same time, create the right balance between privacy and contact with regard to the larger group, in which the smaller group is embedded.

11. WORKSPACE ENCLOSURE

In many offices, people are either completely enclosed and feel too isolated, or they are in a completely open area, as in office landscape and feel too exposed. It is hard for a person to work in either of these two extreme situations —the problem is to find the right balance between the two.

12. THE INDIVIDUAL WORKPLACE IS STRUCTURED AROUND THE COMPUTER, THE PHONE AND A GOOD SIZE TABLE AS ITS MAJOR CENTERS.

The primary activities that people repeat again and again in their everyday work in an office are: working on the computer, talking on the phone for business matters, doing research and preparation for a project and collaborating with one or two other people.

The particular requirements, in terms of space and furniture, for a proper and enjoyable conduct of these activities are the following:

A. Working on the computer for long hours is an activity that may affect the health of the individual in a bad way. Medical data exists which indicates that the main areas of the human body which are mostly affected are the eyes, the neck and the back. Therefore, the primary requirements connected with health considerations are:

-indirect, dim and concentrated light

-a comfortable chair that can support properly the back and the neck

-longer distance from the screen than the one people are used to today

What is really needed for working on a computer is a comfortable lounge-type chair, placed at a distance of about three feet from the screen, with the keyboard supported on the chair or on the person's knees, and a small table next to it to keep a cup of coffee or the manuals and disks in use.

B. Talking on the phone for business matters requires a comfortable chair, easy access to filing cabinets, a small writing surface that does not allow the paper to slip, a reduced level of noise and extended horizon of view.

C. Individual research and preparation for a project, or collaboration with one or two other people are activities which require a good size table, with good light, regular up-right chairs, and easy access to books and other necessary materials.

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13. HUMAN VITALITY

Surprisingly, some workspaces have real human vitality — a kind of spontaneous joy — and others — the majority — do not. Those which do are obviously more enjoyable to work in. Empirically, they also have higher levels of productivity.

This is a surprising characteristic to think about. One does not normally think of workplaces this way. There are specific physical conditions which create this atmosphere.

14. COMFORTABLE DISTANCE BETWEEN PEOPLE

Distance alone — just distance — between people, is by itself one of the crucial variables which affects working comfort. If too large, no good. If too low, no good. There is a critical range, which is just right, and which then makes for enormous comfort.

(The striking difference in the quality of the working atmosphere between the A.P. and Financial Departments in Computerland was primarily due to the distance kept between workers. People in the second case were situated so close to each other that the situation felt congested, cramped and unpleasant.)

15. ACCESS TO VIEW, NOT DAYLIGHT

People think that the critical parameter that makes office environments pleasant is daylight; but actually what really matters is VIEW TO THE OUTDOORS. It is , therefore, essential for every person to be in the position to get a glimpse of the outdoors.

What implication for furniture.

16. EXACTLY COMFORTABLE LEVEL OF NOISE

The predominant attitude towards noise in corporate offices is that the lower the level of noise in a place, where a number of people work, the more comfortable and productive the working situation becomes. Consequently a lot of effort and money is being spent in trying to reduce its level to the lowest possible. However, there is a deception in this approach towards noise. When the level of noise is too low, the workplace takes on a very uncomfortable quality. The people start talking in hushed tones , because everything that is said is magnified and heard by everybody in the room

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On the other hand, if the level of noise in a working place is too high, workers will feel distracted from their work; they won't be able to concentrate, formulate their thoughts, hold a talk on a normal level of voice.

Therefore, we have to specify precisely the level of noise that has to be sustained in an office, so that it allows concentration in the work and at the same time induces a vital working atmosphere.

Most probably, this will have some serious repercussions on the extent of the use of the acoustical panels, and on the range and quality of noise barriers. At the moment, acoustical panels are being used, more and more, in the enclosure of EVERY SINGLE INDIVIDUAL WORKPLACE. However, when used so extensively, they tend to create a rather low and homogeneous level of noise, which is highly undesirable.

17. GOOD MATERIALS

A paradox characterizes the use of materials in office furniture manufacturing; quite often high quality materials are being used — ie. Haworth uses wool for their most expensive panels; however, the overall feeling is that of cheap quality.

The cause for this paradox is that the high quality materials are used only as finishings. The impression that is created is that they are covering up a structure made of cheap materials with no substance.

This inconsistency is really disturbing; it is impossible to touch a desk made this way, and like it.

The reason is probably high cost of materials; however, a better approach, taking cost into consideration, would be to put the money into building a solid and substantial structure for the piece of furniture and reduce the high level of gloss. For example, high-density linoleum, not expensive, makes a writing surface that is superior to almost any other.

In addition, the materials which people like are wood, cloth, etc. What office furniture usually gives them is plastic, steel, glass. This is a fundamental problem. Of course, long life, and easy to clean, are important. However, the basic change of materials cannot be ignored as a serious issue in office furniture.

For example, Xerox research, where they consider the pleasant environment is part of the salary, has wooden planter boxes. A crude touch. But the message is clear. Also, although crude again, plastic wood finish veneer is clearly preferred, when compared with monochrome plastic. HORRIBLE. But the desire for real wood is fundamental somehow.

At the same time, wood cannot be used as the main material. We are sure that a pseudo victorian pseudo 1960's solution will not work either.

This is a very complicated problem.

18. FURNITURE WITH EASY AND LOW MAINTENANCE BUT LONG LIFE

1. Classical design which doesn't have to be changed every few years to stay in fashion.

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2. Good joints
 3. Substantial structure that is well thought out, simple and elegant and sensible.
 4. Examples; solid wood, not veneer, ceramics,
- JUNK: No real implications yet.

19. LIFE OF ENCLOSURES LONGER THAN FURNITURE'S

1. The enclosures should not be thought of as just another piece of furniture, but must be a substantial and long lasting element in the office environment.
2. The intention of this pattern is to give a level of scale to what is more and less permanent.
3. Furniture is changed quite often, the enclosures are not.

20. RIOT OF COLORS

The color scheme in modern day offices looks as though it was designed by corpses for corpses. If there is ever to be a sense of life brought into the office scene, there will have to be a radical shift away from the cold, monotonous and drab colors that presently dominate.

The crux of it is that the colors cannot be controlled by the (or any) designers.

The colors need to come spontaneously, as they do in a market.

21. TYPES OF CHAIRS

1. Specialized computer chair that supports the neck and back of the person
2. Arm chairs
3. Regular up-right chairs (relatively cheap)
4. Couches

22. TYPES OF TABLES AND DESKS

1. Small round tables for small groups
2. Small personal table replacing the current notion of "the desk" or "working surface" that 2 or 3 people can sit around to collaborate.
3. Very small table that can hold a writing tablet for answering the phone, may also be used next to the chair when working on the computer.

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4. Large layout tables
5. Conference tables
6. A table of some size, yet to be determined, that supports the computer
- 7 Low tables near couches and chairs, like coffee tables.

23. CONVENIENT FILING CABINETS FOR PERSONAL AND GROUP USE

The current design of office filing cabinets has three major problems:

1. The filing cabinets are usually deep and narrow and require a lot of space in front of them for using them, and they become unstable when the drawer is pulled all the way out;
2. The bottom filing drawers are rarely used because they are very inconvenient to get at;
- and 3. the design of the drawer is such that it is difficult to get a quick overview of what is in the drawer.

Wide, shallow drawers, with a sloping bottom that slopes up as it moves toward the rear of the drawer would be an improvement on the current system. In addition, for filing cabinets that are used while the person is sitting, the lowest drawer should be at least one foot above the floor.

24. INTENSIFICATION IN THE USE OF SPACE

25. CLOSED-OFF, PRIVATE OFFICES ARE RARE

26. POSITIVE USE OF PASSAGES

The predominant character and use of passages

connecting individual and group workplaces within corporate offices tends to be **NEGATIVE**.

Passages have no character and feeling of their own, since they are always defined by the back side of the panels which enclose workplaces.

Passages are negative as spaces; they lack distinct and good shape. The definition of the boundary between workplace and passage is so harsh and, at the same time, lacks any substance, that passages become long and narrow strips of space.

Passages feel dead and deserted. The unnecessary high ratio between passage areas and work areas, which in quite a lot of cases tends to be 1:1, lowers immensely the intensity in the use of passages.

Passages have to be looked at as positive spaces, both in terms of use and shape. Short passages, with good shape and clear destination point could become the common ground for a working group.

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27. EVENLY SCATTERED SMALL MEETING ROOMS WITH ROUND TABLES AND VIEW TO OUTDOORS

28. LIMITED NUMBER OF LARGE CONFERENCE ROOMS

29. INTENSITY NODES WITH HOME-LIKE CHARACTER

In places that people love, where there is excitement, vitality, and enjoyment of work, there will always be areas of relative calm, and areas of intensity, where people meet in the course of their work and chat and joke while accomplishing more menial tasks.

In present day offices this quality is totally lacking. The reasons are two: first of all, the individual worker isolated in his individual workplace, feels almost self-sufficient with all his strictly personal amenities, and very rarely has any reason to move; and second, because the places which could serve such a purpose—where there are copy and coffee machines—tend to be located in the most ugly, out-of-the-way places; they are left-overs of space.

30. THICK BOUNDARY ZONES FOR STORAGE TO ALLOW FREE SHAPE OF INDIVIDUAL AREAS

31. COMMON FACILITIES —OFFICE EQUIPMENT, BATH ROOMS, COFFEE, DRINKING FOUNTAINS— ARE SHARED BY SEVERAL SMALL GROUPS.

32. ACCOMODATION OF CABLES

There is something almost approaching a mania about cables. Studies now mention it frequently. Facilities managers, who have been programmed by the studies, also mention it frequently. But it is totally unreal. The cables between computers, printers, etc, are very easy to handle, and there is no special reason why they should be invisible.

The office needs a kind of naturalness, comparable to the naturalness of a house in which hi-fi components are connected as they need to be, by freely running wirers.

Proposing a uniform system of cable management is comparable to a nationwide movement which would try to replace all existing hi-fi components in peoples houses, with old style victrolas where the wires are internal and hidden.

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This belongs in the victorian era, not the 20th century.

It is essential to reduce the leverage of these considerations; because the goal is to INTEGRATE computers into the office environment and not to let them dominate its order and structure.

NOTE: The fact that computers are allowed to take over and determine office layouts and furniture design to such an extreme extent indicates that there is no solid and deep order in the structure of office space. If there was, computers would be integrated quite naturally. (probably the lack of solid and deep order in office space should be expressed as a pattern by itself)

33. QUALITY OF ARTIFICIAL LIGHT

Uniform illumination destroys the social character of space, and makes people feel disoriented and unbounded.

People must be able to create their own pools of light so that their environment, defined by light, is personal, contained and pleasant. Movable and adjustable light fixtures which direct light on the particular place of work are necessary.

34. INACCURATE JUDGEMENT OF FACILITY MANAGERS

There is a discrepancy between what the facility managers tend to identify as good quality of working environment and what the experienced reality is.

In all of our visits in the corporations, whenever we saw a place that looked vital, where people enjoyed their work, where they made a small step to personalize their space, the reaction of the facility managers was always really negative. And the workplaces that the facility managers were really proud of, the ones they wanted to show, because they considered them the best, were places of an extremely formal character, where the personality of the worker was completely wiped out.

We have the impression that often, what mainly concerns the facility manager is not to provide for a working environment where work is enjoyable, but to create an image which will give the impression of an effective corporate world.

The facility managers, in today's corporate offices, are thus often destroying potential vitality. They are choking the very life out of the place, both with concerns about trivial matters, and with their very narrow perception of what is really desirable and good for the people working there, and what is not.

How can this problem be solved. Since Haworth mainly sells through the facility managers. This is a crucial, and very difficult problem.

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35. START WITH A SMALL MARKET

It is our belief that the kind of furniture, that all of us envision, cannot immediately appeal to a large market, since prejudices are so deep. We also believe that Haworth should not compromise on the character and quality of the product because of this problem.

We recommend, that Haworth builds the most extreme solution possible, which REALLY solves the problem for the user,...and that they should then plan for a slow start, with a long build up over some 8-10 years, as the superiority of the product becomes obvious and accepted.

For this reason it may be helpful to give some thought to small companies. Even though they are a small percentage of the market, it may be just through the smaller companies, with less to lose, that the new product may find acceptance, and ultimately reach the larger companies.

Remember the SONY story.

36. WORKERS CONTROL OVER INDIVIDUAL AND GROUP WORK SPACES

37. THE MYTH OF THE FLEXIBLE OFFICE

Many office systems are supposed to be flexible. However, in reality people experience an enormous amount of difficulty making ordinary changes— even moving a desk, or files, or rearranging their space. The furnishing must be of such a kind that people can easily make these day to day changes, and in such a way that they feel the furniture is actually helping them to do it.

In addition, our present conception of "Flexibility" is an invented concept, not a natural one. It is not clear what it means, and to make any headway with it, it needs a great deal of precision in its formulation. A flexible office should be adaptable to changing needs, all the way from the very small, day to day, changes —such as re-arranging a desk — to the very large scale changes — such as accomodating more or less people.

The panel system, though invented for this very purpose, fails to accomodate this need.

Neither the workers, nor the facility managers are happy with it. The workers experience an enormous amount of difficulty making ordinary changes. And the facility managers rarely move the panels, because of the high costs incurred.

The degree of changeability of each element in an office is the critical variable for a flexible office.

One has to be able to define the right degree of changeability for each distinct entity.

Each entity has to have its own degree of changeability, based on empirical observations.

38. INTENSELY POWERFUL PERFORMANCE

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Now we come to the pattern which starts group two: the group of patterns which describe the actual physical substance, style, shape and manufacturing of the furniture.

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Present day office furniture has an uncomfortable feeling of slickness and cheapness. Sometimes the slickness dominates. Sometimes the cheapness dominates.

In order to create a new line of office furniture in which peoples FEELINGS and well being are the central focus, we must change the character of the furniture - its actual physical character — COMPLETELY.

The key to its character must lie in quality. Genuine quality, the kind which can be perceived by everyone, the kind which cannot be faked.

In order to develop this idea, lets give a few examples, from areas of manufacturing which lie outside the field of office furniture.

In the field of small machine tools, every craftsman or construction woerkers, knows the difference between well made tools, and cheap tools. A Milwaukee drill is an example of a high performance, heavy duty well made tool. Everyone who has experience using tools, knows that this tool is ultimately reliable, solid, gives good performance, will outlast by three or four or even ten times a cheaper tool like a Black & Decker or a Skilsaw drill.

In the field of kitchen equipment there is a similar kind of difference.

Heavy duty restaurant cups and plates are the best. Saucepans, frying pans, stoves, ovens — sinks made of carefully edged stainless steel wrapped over weood — all these things not only perform better, and outlast the others by a large factor — they are also enormously more enjoyable to use. They are so much better made, that they induce an entirely different mental state in the user.

In the home, minor economies sometimes make people who know no better, to buy a cheaper thing, without realising that the cheapness is in the end ALWAYS MORE EXPENSIVE.

But in the field of office furniture, prices are already high — so money is not the main issue. Also, the users are — by definition — professionals. It is therefore perfectly reasonable, and natural, that the main element of the furniture should be a fanatical attention to detail, perfection in the choice of materials.

At the most basic level, the furniture must be designed not by slickness of line, not by image, but by the quality of working, performing far far better than any others.

But this takes very careful study.

The original black body Leica made in the 1930's — perhaps the best camera ever made from the point of view of handling — was developed by experiments which took three years, just to establish the shape, weight and material of the body. No one has ever equalled its design. It simply took enormous care and patience, and attention to detail, and real attention to the actual comfort in use.

What is interesting and remarkable, is that this carfeul attention to detail, the careful design of true reliability, true comfort — always produces things which have a unique physical shape and character — but at a level of emotional weight which can never be duplicated by design for image.

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The traditional classic line of french kitchen equipment for example. It was not designed by designers. It was designed by people who tried to make it as perfect, as durable, as workable as possible. We propose that the new line of furniture will be of an excellent quality and high performance, so that it becomes for the furniture world what Milwaukee is for hand tools, what Leica was for cameras. The common characteristic of these things is that they are made to be extremely durable and to perform well. This will then inevitably lead to a unique form.

39. HIERARCHICAL DISTRIBUTION OF MATERIALS

Places with great character and quality, which create a powerful image, always have a very definite, logical and discernable distribution of materials. Their actual distribution approximately follows a logarithmic curve.

There is a material that predominates, which is the structural building block of the space, and gives to the place its identity.

And there are other materials, used in smaller and smaller quantities, which support and strengthen the more predominant material, and which intensify and embellish particular centers in the structure of space. Therefore, it is essential that the new line of furniture be designed with very specific ratios in the distribution of materials, which have yet to be determined.

40. PIECES OF FURNITURE WHICH ARE MOVED AROUND OFTEN, LIKE TABLES AND DESKS, ARE FREE-STANDING

41. CONTINUUM OF SUBSTANCE VS. SEPARATE ELEMENTS

The geometry, as well as the connections and relationships among the individual elements within a piece of furniture are characterized by NOT-SEPARATENESS.

Good shape, positive-negative, deep interlock, echoes ... are geometric properties which have the capacity to generate continuum of substance.

42. DIFFERENTIATION OF SUBSTANCE TO CREATE A FIELD OF CENTERS

Continuum of substance does NOT imply an undifferentiated and homogeneous piece of furniture; on the contrary, it needs differentiation of structure, with regard to the particular position and function of every part in the piece of furniture. The continuum of

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substance will ultimately work only when the right amount of differences and similarities among the parts of a whole is introduced.

Within a piece of furniture every part of it contributes on the whole on its own particular way; with regard to its position, its function, its relationship with the whole piece. This type of distinctness and individuality in the piece has to be manifested in its ...

43. POSSIBLE MATERIALS

Possible materials for furniture:

- graphite or spun carbon
- wood
- linoleum, vinyl, heavy mat boards, soft woods for writing surfaces
- painted cast steel
- replacable cushions with long lasting fabric for the seats and backs of chairs
- marble tops on wooden base, for small tables
- good quality plastic
- porcelain coating on steel
- fiber glass
- leather as finishing material for the computer chairs
- brass in small quantities
- painted surfaces

44. MATERIALS FOR PARTITION WALLS

Possible materials for partition walls in office spaces are:

- plaster
- light screens with delicate fabric
- wood, in limited quantities
- heavy screens made of wood and stretched fabric
- sliding doors or opening folding doors

45. GOOD GEOMETRICAL QUALITIES AS IMPORTANT AS FUNCTIONAL QUALITIES

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The role of a piece of furniture is not limited to its proper function. It has to be a beautiful thing in itself, with good shape, right proportions; it should contribute to the enhancement of unity and coherence in office space.

46. THE FURNITURE HAS A FEELING OF ELEGANCE AND LIGHTNESS; IT IS MORE LIKE THE FEELING OF FRESH AIR THAN THAT OF A SOMBER DAY

Kill the institutional character of office furniture.!!!!!!!!!!!!!!!

47. VERTICALITY OF ELEMENTS; NOT PRESENT HORIZONTAL EMPHASIS

The feeling of verticality should be enhanced in office furniture, and office space as a whole. Space should be grabbed in all its dimensions, so that a continuous and tightly connected fabric of space comes through.

This by no means implies, that the furniture pieces have to be tall and narrow, but that their elements have to be structured and connected in a fashion that enhances the feeling of verticality.

Shaker furniture is a good example.

48. ACCURACY OF DIMENSIONS AND WEIGHT

A tool that performs really well, whether a drill or a camera, or a frying pan, has always been designed with emphasis on accuracy of dimensions, weight, balance, details. Exactness of dimension and shape in every curve, corner, edge,is the primary variable for a thing that functions well and has a good form.

49. COMPACTNESS AND DENSITY

Existing office spaces have an uncomfortable homogeneity — an emotional greyness - which is generated by sameness of scale among all the elements. Gradation of scale is needed, with an emphasis towards the small end.

A series of observations have led us to believe that there is a number of things that get better when they become smaller, and a few things that get better when they become larger, resulting to an overall more connected structure of space. It is important to approach office furniture and space from this point of view, and identify which entities will get better when smaller, and which better when larger, and therefore create a more compact, connected and dense environment.

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50. PHYSICAL WEIGHT

A settled and permanent place has a particular distribution of heavy and light objects; the heavy objects, the ones that are not moved very often, tend to be more numerous than the light objects, which are moved frequently.

Coupled with this is the observation that a lot of things get better when they have substantial physical weight, and a few things get better when they get lighter. The design of office furniture has to consider this variable rather seriously.

The best example that we have to explain this pattern is the plastic beer mug that is often used in restaurants and cafe's today. Although they are extremely practical, cheap to buy, easy to clean, hard to break, the fact is that they cannot compare in feeling to the heavy glass mugs. Anyone who has experienced both types of mugs will readily agree.

51. SHAPE OF PARTITION WALLS

Walls are always straight, never rounded. Because, they do not only generate positive space in the place they enclose, but also in the spaces adjacent to it.

52. PARTITION WALLS TIED TO BUILDING THROUGH POSTS OR OTHER ELEMENTS, SPANNING FROM FLOOR TO CEILING

Partition walls are not free-standing; they are connected with the existing structure of the building in order to encapsulate space in all its dimensions, in order to create a real enclosure.

53. MONOCOQUE CONSTRUCTION FOR PARTITION WALLS

In this scheme, the walls would be fabricated from internal ribs with membranes on both sides. The ribs should be very wide (2-3 feet) so that benches, book shelves, and counters could be built right in.

54. A BANK OF PRECISELY MADE DRAWERS AND CUPBOARDS

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A wall of precisely made drawers and cupboards of wood and formica, is an effective way of enclosure and storage at the same time

55. FOOT STOOLS —AN EXAMPLE OF MORE HIGHLY DIFFERENTIATED FUNCTIONS.

56. THE FORM OF EVERY PIECE OF FURNITURE IS SIMPLE; SO SIMPLE THAT COULD BE SEEN AS A SIMPLE VOLUME OR RELATIONSHIPS BETWEEN VOLUMES

Simplicity, not simple-mindedness. Every piece of furniture, regardless of how complicate is, has a clear and distinct form,

simple in its overall configuration.

However, locally is not simplistic; the complicateness of its structure is expressed in its detailed articulation than in its overall form.

57. BOUNDARIES

58. CORNERS ARE SQUARE, NOT ROUNDED

59. CRISP AND CLEAN EDGES; SQUARE, AND SLIGHTLY CHAMFERED

60. THERE IS A PARTICULAR TREATMENT IN THE PART OF THE FURNITURE THAT TOUCHES THE FLOOR

There should always be a particular treatment in the part of the furniture that touches the floor; obviously for practical reasons, somebody would respond —it will stand better on the floor.

But actually the main reason for articulating the part of the furniture that meets the floor on a particular way is that it will become a more connected and integrated part of space.

61. DURABLE INTERNAL JOINTS — WHICH OFTEN GENERATE SHAPE

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Joints which allow one piece of material to rest on another without extra fancy connectors

62. TOPS OF TABLES AND DESKS MADE OF SOLID MATERIAL

63. THE TOP OF A TABLE EXTENDS BEYOND ITS FRAME

Only then interlocks and is deeply connected into one with the space around it.

64. DRAWER HANDLES ARE NOT CUT-OUTS, THEY ARE KNOBS, OR HANDLES