Designing with Time
dan boyarski

Good morning and thank you. Thanks for the invitation to be here and I'm happy to be kicking off today's proceedings. It's a little bit daunting to be the first speaker and I'm reminded by a quote by Steve Allen, the comedian and musician. He said, "The mind starts working the minute you are born and stops the minute you get up to make a speech." But I have a lot of good examples to show you and I'm really not at a loss for words because the work speaks for itself.

I have been teaching for quite some time. It's actually close to 30 years now. And if I didn't like it I would be doing something else. But I do love to teach. I also love to design. I think it's important for design teachers to be practitioners as well since we are educating tomorrow's designers. So we've got to be active ourselves.

Anyway about 8 years ago, I was preparing for a fall typography class. It was an advanced typography class and I was preparing the first project. In the midst of it I stopped myself and realized I was preparing another print design piece. A piece where they would compose typography on a page. I said to myself, "Why are we still teaching our students, who will be designers of communication tomorrow, only about print typography, about static typography when their lives are filled with movement. They work on computers. They've watched TV and movies since they were born. There's movement and life around them. Why don't we involve that in the work they do?" So at that time more recently I had been introduced to a Beta version of Director that, Macromind which, at that time, it was called, had introduced. I was fascinated with it. I thought that maybe this was a chance to play with this new software and have the students do a project that involved it, and still achieve the goal of my project. So the project was to come in and tell us about what they did last summer. I said come in and write a few sentences about what you did last summer, and they did. And I had one student get up and read his lines and the first two attempts were pretty lame. And I said and his colleagues said, "No, no no. Read it with more feeling. Really read it so we understand what you're saying." So he did. Three or four or five more times. And finally he was actually saying the words with some feeling. And so after that I stopped him and said, "Ok, let's just parse what you just did. You read the first three words at a fairly normal tone at a fairly slow pace and then you stopped for two beats. And then you raised your voice and said this one word really loudly and then you paused again for two beats and then you finished the rest of the quote in the same tone and pace as the first three words. Now take that and present that using the software." So it's not going to be printed on a piece of paper. It'll be

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on a screen.

So let me first show you the words that he spoke, or he wrote. And these are those words. Now as a graphic designer and as typographers, we have a number of things we can do with type on a page. We can break lines where they make sense, right. So rather than just say we're going to fill a column of type, there are times especially when we have just a few words, where in fact breaking the words at sensible places makes for easier, and I think more meaningful reading. We can play with calling out certain words. The word real starts to connect these thoughts. So you might use colour. You might use size change. You might move the lines of type around. So there are things we do. Things we learn in our first one or two typography courses to make words live on a page. But let me show you what he did with those very same words using this early version of Director.

Same words. Same voice. Maybe. But I was intrigued with the way he could take the word *real* and emphasize it in ways that maybe he might not have been as successful had he said them out loud or done the typographic, worked with typographic elements on a page. The fact that he could give you these phrases, a *real* office, a *real* job, *real* clients, fade the words out, with the exception of the words *real* and hold those for a moment or two longer and then fade those out. Interesting. Difficult to do on paper. And what was interesting about this too, was that all he did was he sequenced. Ultimately what we realized he was using time as a design element. So rather than the words appearing simultaneously on a piece of paper and us as typographers moving the eye around the page or over several pages, he was saying, "Sit there and I want to show you these words in the sequence that I want to control, that I will control, so that you get the effect that I want you to get." Interesting.

Let me show you another example. This one uses sequencing, but also uses some motion. Movement becomes really important here and I asked him. I said, "How did you get…you got those doors really right. How did you do it?" And he said "I just stood in an elevator for awhile and just watched the doors open and close." I thought, that's good you know, because he did go and study what you're trying to replicate. Interesting thing for those of you who are teachers and students. This was a junior class and teachers will talk amongst themselves about an upcoming class, "how are they? Are they pretty good you know?" This guy was sort of labeled as an "ok" typographer. He was kind of mediocre. He was sort of the class clown. And he nailed it with this piece. I mean I think this is an absolutely wonderful piece. I thought, he's found his medium. Maybe type on a page isn't where he wants to be and subsequently has worked in doing time based communications after school. But what's wonderful about this again, is that he reveals the information to you over time. And there are moments, or there are jobs, there are pieces that we would love to do that with you know. A print piece where you say, "God I wish I could just show these few words and then reveal something else to them later." Well in a way you can. You can turn the page. So you can play with those elements even of time in reading several pages. But what if you don't have several pages? What if you just have one page of poster let's say and so on? I guess you could say a poster kind of works like that also. From afar you get the first level of

reading and then you come closer to the poster and you get to the second level of reading. And so on. I mean there is that time element as well. But not to the degree of control that something like this has. And I realized that actually this is much closer to film and performance than it is to print design. It's still communication, and I think that's something for us to remember.

Let me show you one last piece from that first class 8 years ago and I had shown the students a 30 second commercial that I had seen on TV and was very impressed with because it was purely typographic and it was a public service ad about an ad campaign about save the earth. One of those, save electricity, save paper, that kind of thing. And it was wonderfully done because it showed a few words and sort of gave you an idea of what was being said and then a few other words appeared here and there on the screen until a full sentence appeared. And I loved that. I thought that's a wonderful way of revealing again, the information. And this student was

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obviously influenced by that. But he was also dealing with an event that was not very pleasant over the summer and this is what he did. It's still a strong piece after 8 years. Interesting thing about reading, we read in the linear fashion. Or in most cases we do. Books are designed for that. Printed matter is designed for that. But what's interesting here is that each sentence is presented in a non-linear fashion. That a few key words can begin to frame a thought and idea in your mind. Then the other words that begin to appear afterwards continue to shape that thought or change the shape of that thought. Interesting. Again, it's an experiment, it's an exploration, but often times it's with these explorations that ideas, new ideas, new solutions might emerge. And I wish for all of us, all of you in the profession, that you afford yourselves the time once in awhile to just play. To try things that are not meant for a particular job. The nice thing about being a student and about being in school is that you can try these things out and sometimes fail. You should give yourselves permission to fail in school, because that's where you learn these lessons. Unfortunately we learn more from mistakes than from successes.

Anyway, after that first assignment and the first semester of working with time as a design element, I began to realize that this was something that really interested me and really excited me because it brought my early interests in film and animation into bearing upon graphic design. And I thought well why can't the two be joined together? Why is there always a separation between print and time based communication. In fact why is time based communication often done by non-graphic designers or non-communicators? So I've pursued this over the past 8 years and it's been a passion. It's been an interest and I've been happy to be able to introduce it in different ways in my classes. It also has brought me to think about what is going on here. I just wanted to do a little review of some of the issues that I've been thinking about over these years in

dealing with this transition that I believe we're making from book culture, what I refer to as book culture to a digital culture. So yes, everything is changing. Marshall McCluhan said that a good 40 years ago. When I was in college in the '60s, McCluhan was very influential in the work, or in

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the studies that I had and certainly in a lot of the classes and discussions that we were having in school at that time.

So let me just characterize what I refer to as book culture and pull out some issues and compare that to digital culture. This is by no means an exhaustive list. It is not meant to be a pedantic tone on it, but just a few things for us to think about. In most cases books are linear. That's why we have bindings. That's why we have beginnings, middles and ends. And books have shaped the way we think about communication. The way we present communication. Books are physical and they are tactile. And that's something to remember also. I for one believe that there will always be paper. There will always be printed matter. There will always be books. Because right now the experiences we have digitally don't compare to the experiences we have with books. And frankly I don't think one should supplant the other. It's wonderful to hold books in your hands, especially maybe handmade books or books that are made of wonderful paper. Not just to hold the book, but open it, smell it even. Touch the surface of the paper, especially maybe if this was a letter pressed book. See how the type's been pressed into the paper. Because it's physical, there are cues that are both physical and visual. So for example if I'm looking for a volume I just simply look at spines of books on my bookshelf. I don't have to grab the book and open it up. I can simply look at the shape of the book. I know that it's a thin yellow spine and it's got red type on it. Things like that. Physically I can also pull the book and look at where my bookmarker is and know that I'm halfway through the book or that I've only got about two more hours of reading to do. So there are those cues that are inherent in the physicality of the book that we still don't have digitally. And I think that's a very interesting challenge. How can we look at our icons if you will, of files on our desktop and know and get the kind of information we get when we pull out a book without having to open it. I would love for icons to say this is that file that you were working on and it's about two-thirds done. You still have about three more hours of work left on it so maybe you want to get to it.

Primarily the information in books are words and images. We have hundreds of years of incredibly beautiful examples of words and images that work together. That are composed together. But the words and images are static on the page. It's ink that's married to paper. They don't move. And this is a highly controversial issue. I say that they are non interactive and I say that simply to compare what I'm going to be saying about digital artifacts. Of course they're interactive. I mean

you interact with the artifact. You open it, you turn pages. You bookmark it. You might even make notes on it. And as you're reading you're shaping, you're interacting with that information. Yes that's happening. But when I talk about interactivity in the digital realm, then I want to make that distinction with sort of a non activity of books. So that's book culture.

What about digital culture? And again these are terms that I'm just simply using. I may change them a few years from now, but in essence I'm trying to say that we are going through this slow, and it's a very slow evolution, from this culture based on books to a culture based on digital artifacts. Digital information display. Communication display and so on. So the information, the content may be linear and non linear. I mean that's certainly one of the big issues. I'm not going to call it an advantage of the internet for example, is that you can navigate your way through it anyway you wish. That's wonderful on the one hand, but it's also an incredible challenge for us as the shapers of the information that they're going to be accessing. Because not only are we shaping the information, we're shaping the access to that information. And we know how to do that with books. We have tables of contents. We have induces. We have back numbers. We have headers, we have footers. We have margins. We have large and small columns. We have different sizes of type etc. that help shape one's navigation through that information space that's called a book.

How do you shape the access to the information and the information itself within a web site, within a CD-ROM? And within other artifacts that we're not even able to conceive of today? That's terribly, terribly important. It's digital and therefore it's virtual. You can't really touch it. I can touch the hardware. I can't touch the software. There are visual and audio cues. I mean right now, the primary means of interface is primarily visual. Screens, icons, type, colour, movement and so on. Some audio. A little bit. Much of the audio right now in terms of using software for example, tends to be silly beeps and quacks and you know, things that you can change. But I think, but I mean I know of research that's going on in a number of places where sound within the interface as communication is being explored and needs to be explored much, much further. Because right now silly beeps and quacks mean absolutely nothing. They might attract your attention, but other than that it's doing nothing. One issue that we've been looking at is sound on the periphery. I mean we can see peripherally. We can also hear peripherally. So we know that at one of our breaks or at the reception we hear this murmur even though we might be talking to one person and be attentive to that conversation, we know, we can sort of know what's going on here. Why not use that as an interface issue? Why not have certain sounds, ambient sounds let's say, that say my team's still working away? It's fine. I don't need to pay attention to them. I don't need to take up real estate on my screen to also say that. But the minute that sound changes we will recognize it and we know that the meeting's over, or that they need me at the meeting. Or maybe that mail has come in that's pretty urgent that I need to pay attention to. All this can be done with sound. You don't need to see it.

Here's a big change. And this is the part that intrigues me and that excites me, is that now as communication designers, as visual designers, we have word and image, but in addition to those

we have sound and we have movement. And you young designers, that's what you're going to be dealing with. And so you teachers of these young designers get them involved in this now. Easy for me to say, I know. It's a dynamic environment. It's not static. Things can move. It's not flat either and this is another issue that I have with a lot of interfaces, especially on the web.

The web right now replicates paper. The web replicates books. And that's natural. Mc-Cluhan had a wonderful saying about "driving into the future looking at the rear view mirror" because that's what we know. That's what we've left. That's what we're comfortable with. We're comfortable with books, so we talk about web pages. There's nothing physical on the web and why do we still put pieces of paper on the screen and you click on a button, another piece of paper comes up. Click on another button, another piece of paper comes up. We've forgotten that that screen is simply a window into a space. So it's not just the x and y access we have to work with, we have zed access to work with as well. And very few websites are taking advantage of that. There are some interesting CD-ROMS that do take advantage of that depth, but we're not doing that on the web at all. The tools in some cases don't allow us to do that. So write new tools. Make new tools. I think also future designers have to be proficient to some degree with some

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programming. That's the way for you to talk to this machine. Don't rely on software and say Photoshop won't let me do anymore. So do something else. Write you know, either you write the code or get somebody who can write the code to change them and make it happen. Make it work for you, because it is dynamic, it is interactive. And because there is no one linear way of going through the information, it demands your involvement with it as well. So you can say I want to go here today, tomorrow I'll go there. The next day I might go over there. And that's I think, one of the most exciting, but also the most challenging aspect of this new digital arena that we're involved in. That's the digital culture that I'm referring to. But the issue that I started to talk about and will continue to talk about is time. What does it mean for us as designers to deal with time. Time is a design element. The implications are many and I'll bring up a few today and leave for you to explore the rest.

So let me start with this example. Here's a list of statistics. Nothing unique about them. They are typical things that happen in one day in the United States and so a student took these facts and said what if I presented them in a different way. Not as type on a screen or type on a page, but as information that uses type and image, but also sound and movement, or time. Movement can mean movement on the screen, but it can also mean movement across time. So here's what she did.

Same information, but Krista did two things, she added actually a word, the word *today*. And today appears at the very beginning and then this faint image of American icons appear

so you know that it's today in the United States and then the facts begin. You see facts with numbers that are, at least for me, too huge to really comprehend. You go through all those facts and then after the enormity if you will, of all that, then she hits you again with today. And that second today is far weightier than that first today because all that stuff you just read happens in one day in this country, in the United States. The implication is that it's going to happen again tomorrow and tomorrow and tomorrow. Pretty strong.

The other thing she did that I thought was absolutely wonderful was after she introduces the first two facts which is how often a baby is born, and how often a person dies, she then has this beat, almost like a heartbeat off to the left of a baby is born and a person dies. And as we're read-

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ing these facts, in real time somewhere in the U.S. a baby is born and as we're reading these facts, somewhere in the United States in real time, a person dies. What hit me after seeing this a number of times is, you can't do that with paper. And that thrilled me because it said here's something unique to this medium, to this time based medium that you can't do with paper. You can try. You can have time stamps, you can do you know, all sorts of things. And I've seen wonderful attempts at that in print, but this is one of the unique characteristics of time based communication. It's to show something in real time, to control again what you see, when you want your audience to see it. What I say to my students is use your technologies, the different technologies from paper all the way to computer technology for the unique characteristics that they offer. Don't replicate one in the other. Why replicate paper on computers, when computers have nothing to do with paper? So keep what's unique to paper and books and develop that and do more wonderful things with it, but at the same time explore what's unique to computer technology to digital technology. And explore what that can do uniquely. And this I think is a wonderful example of that.

The other thing that's intriguing about this piece is the way she shapes the communication. This is a responsibility we all have as communicators is that we shape the delivery of the communication. She paired all the facts. And in some cases there were obvious pairs. How many people are born. How many people die. How many people get married. How many people get divorced. But there were others that were not very obvious pairs and one that struck me was how much money is spent on advertising on TV or in print and how many teenagers start smoking. Now if you want to present a fact that moves people to some action, then you have to shape the information in a way that it will in fact affect them, upset them, excite them and move them to some kind of action. So to realize that millions of dollars are spent in the United States promoting cigarettes and that every day 3,000 teens decide to start smoking. Whether you smoke or not,

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I'm not judging that, but basically they are learning to slowly kill themselves is what's happening. That's a pretty damning fact if you think about it. That millions of dollars are spent on that as opposed to something more worthwhile. But if you're working for a constituency that wants to promote healthy lifestyles and so on, shape the information in a way that will really affect people.

The last issue here is the sound, is the music. I've had people say to me "boy, that's pretty manipulative music isn't it." And it is. It is. She carefully chose that. But it also said to me that you can again continue to shape that information, the experience of taking that information, not just visually, but also orally. And that the combination of sound and image or movement can affect you. It would be interesting to try other sound tracks. Let's say if you had a techno beat on this you know, it would be a very different way of reading this. Hey this is a country that's moving forward. You know we fly so many planes a day. We move these many pieces of mail. This many people are born. You know it would be a very different approach. High, moving and fast and so on rather than this slow, thoughtful maybe even somber approach to the information. It's amazing what sound can do to affect the way you perceive.

So I started to realize that with time, you can sequence information. You can also show movement. It's the basis of moving pictures and movies. So I started to pursue this further and one of the projects that I start off with in this class that I teach called Time, Motion and Communication is one that has to do with rhythm. Visually represent a rhythm on the screen. I'm going to show you a couple of short examples. I actually have the students start off by visualizing a rhythm and once they have a score, a visual score then they find abstract images, elements to represent that on the screen.

That piece makes me smile, but it also reminds me that these elements may have personalities. And that intrigues me a great deal about this as well and so I fashioned a project called One Word Three Voices and I give everyone a very short word. Words like hi, bye, yes, no, why, and have them present them in very short clips, but each one with a different voice. And it's interesting how you can begin to hear what you're seeing. Here's one. The word is bye. It's very brief. Obviously very brief pieces. Can't you just feel the mood. Let me show you a piece that the words were by a grad student at Carnegie Mellon who had cancer and one of our students took the words and did this. Even though this is one voice, there were two voices in the first half. The voice of confusion and anger. But there was the voice also saying "why." And again this is a fascinating opportunity I think, to present multiple points of view if you will, when an issue might be presented. I've also often thought about performances where someone might be performing, but then the screen might also be in a sense responding to what's being said. Anyway I think there are a number of interesting avenues here. But you know in that first part where the confusion and anger was…you know she's wondering "why me? Why do I have cancer?" And that the words are appearing much too fast. But that's the way we think when we're confused. So again to always be obvious and measured in the presentation, may sometimes work against the voice we want to actually convey. And then the mood changes after the *why* disappears and she comes to the realization that she's still whole.

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Let me change the tone a bit with this piece. Also a single voice. When the students pick their content I say, make sure you start out with a good content and David Sadaris is pretty good content. But I think Tad really got it right here. I mean again timing is obviously critical here and that's what designing with time is, is all about. Is knowing how long to stretch certain things. How short to present certain things. The technique by the way that was used here, is called RSVP, which is Rapid Serial Visual Presentation. One word at a time in exactly the same location, same baseline and center. And it's a technique actually that's used to teach speed reading. But you don't have to move your eyes. And it's amazing how much you can take in, in a fairly short period of time. But again, knowing when to break from the norm. I mean one of the things that we have to understand when we're designing anything, is that there is the norm in terms of how we're presenting something, a grid, a size of type, typeface and so on. But then you break from the norm once in awhile and knowing when to break is absolutely critical. And so once in awhile he would do movement so that a word might shake or a word might diminish. Used very, very carefully and I think it just heightens the effect of the piece. He knew also where there might be laughter and that's where he paused. So as any good comedian will say, it's all in the timing. So the stuff I've shown you so far have been monologues, single voices. Let me show you one that attempts a piece that has more than one voice.

I often invite colleagues from drama to come and do crits in this class. And one of my colleagues who's a director, watched an earlier version of this piece and was talking about upper stage right and lower stage left and so on, and you know, he'd stop and say, "my God I'm talking to you designers like I'm talking to my directors." And he said, "but you are directors." These are your actors, these words. And so he said to Jack, the student who did this, bring the voices together at the end because they do come together. The old man grabs the boy's hand, so bring them together. And he talks about how you activate your stage and so on. But it is true. I mean in a way much like directing and choreography, you direct each element, each word, each punctuation mark, each image in knowing its entrance, its performance and its exit. You decide that. Does it enter as a fade? Is it a fast or a slow fade? Does it slide in? Is it a cut? What does it do as a performance? Does it just stand there? Does it shake? Does it twirl around? And then how does it exit? Those are the decisions you make as you design these pieces. The other thing too that became clearer and clearer over the years is that voice becomes really clear here. I mean I can hear the boy shyly saying "I wet my pants". And what intrigues me is that as we are seeing, we are hearing. Shakespeare's *A Mid Summer Night's Dream*, Bottom in that play talks about the eye of man hearing and the ear of man seeing. And I love that. I love the fact that without any sound we are hearing voices. That's powerful. That's really wonderful.

So let me end with a couple of examples of taking words whether they be poems, whether they be their own words and so on, and just give you a look at some of these explorations. The Swiss artist Paul Klee said "One eye sees. The other feels." I like that because it reminds me and I hope it reminds you, or it will remind you, that when we communicate, we communicate not just to the intellect, but to the heart and the spirit. And if we think about what we want to com-

municate and how we want to communicate it, and remember that we are communicating to people. Not to ourselves. Not to fellow designers, but to people out there. Some who are like us, but in many cases are not like us. That we can shape the communication in ways that will reach them emotionally, intellectually, viscerally. I think we should think more about communication that way as opposed to this is what I want to communicate. This little bit. Or I'm going to appeal just to this particular section of their beings. Anything and everything we design touches people in one way or another. It may touch them for a moment. It may touch them for a fairly long period of time. Keep that in mind because that's our job as designers, as communicators. So I hope this brief introduction into time based communication and to kinetic typography as I like to call it, intrigues you and maybe makes you think about the work you do in a slightly different way. And I thank you for your attention.

That's actually a question I've been asked a number of times and it's an area of interest and research for me and a couple of my grad students. We are actually tackling the question, okay what happens when you're dealing with longer texts. It could be a whole chapter. Maybe it's a whole book. And so I actually have a student, a grad student this year, working on that particular question on her thesis. We have to think about the whole now. I mean these are moments. These are brief moments and much like any performance there will be moments when there will be movement or no movement. There will be loud and soft moments. Pieces of music. Plays have acts and scenes. Some are short. Some are long. Some are loud. Some are soft. And I think we need to think about longer pieces in that way. But it does intrigue me greatly because I think reading, the whole act of reading is being affected by information on a screen. And some of the screens are sitting on our desktops. Some of the screens we hold in our hands. What are the implications? Is reading a novel on screen different from reading it in a book? Yes, yes it is. But I'd like to make it more emotionally engaging than something that's efficiently conveying text on a screen. So maybe that answers your question a bit. But I'm happy to say more later. Thank you.

Questions & Answers

Q: You mention the idea of time, but I think that while it's good and rational, what I noticed is that I feel like a spectator watching a movie. So like the time is now both negative, I'm really not active. But when I'm reading a book it's got what's happening in a time frame. I'm trying to infer the action between me and my time and the book and turning the page is more active. So I'm not so sure where the idea of time is really different according to the medium you're using. It's a different idea. It's a different action. It's just a question of what we have.

DB: Sure. Sure. Let me try to give you two related answers. One is, one has to do with the time in reading. Sorry, I mean the time in designing a piece like this. So, the difference between designing static typography versus say kinetic typography, you're using time in a very different way. The act of reading and engaging, in a sense interacting with the book versus just sitting and

watching, I think is perfectly right. I have a couple of examples which I didn't happen to show where in fact you interact with the moving text. And that's an area that's ripe for more exploration. But I thought I would keep it fairly compact today and just simply say what if we're talking about just conveying information to a particular audience. But that's the other part that I think intrigues me about the longer pieces. Because now you will have to interact with it. You see, the other question there is are you going to be limited to reading it in that linear sequence, or could you in fact go to chapter three before you've even read chapter one. You know, can you go to the middle of the book before you read the beginning of the book. So there is that element of interaction. And then the last issue is speed. I've had some people say it's going too fast for me. I've also heard it's going too slowly for me, can I speed it up? And in some instances, we've talked about yes, give them a chance to simply, you know with a cursor, just simply go faster or go slower. But at the same time I'm also a bit nervous about that because in some instances these are performance if you will, pieces. And much like an artwork you're not going to go to the playwright and say that second act really needs to speed up. Or you wouldn't yell out to an actor on a stage and say faster buddy. Say that speech faster. And you wouldn't say to a projectionist, stop that movie I want to replay this, which you can do at home certainly. But so that's another issue, the issue of control. The author and reader relationship I think that is something that is so…I mean it's being discussed right now and needs to be discussed even further. But who controls what? And I think that to some degree the issue of the user controlling everything in their environment, I'm not sure I buy it 100%. Because I think in some instances I would love to say to the person, sit down for a minute I want to tell you something. Or I want to show you something and just watch. And we do that in movies. We do that with story tellers and so on.