

# DTM Podcast #4: A Short History of Design Methods

## Show Notes

Mieke talks to Peter about his knowledge of the history of design methods. She then discusses the interview with Annemiek van Boeijen, one of the editors for the *Delft Design Guide*, available in the IDE bookshop, with a second edition coming soon.

Peter recently published a paper called: [You make it and you try it out: Seeds of design discipline futures](#) which presents the ideas he talks about in the podcast, describing the development of design methods from the early 1970's to the present day. His inspiration is the classic *Design methods: Seeds of human futures* by John Chris Jones. [The introduction to the 1980 edition of Jones' book](#) is especially interesting as it reflects on how his original methods were received, and illustrates how he embraced chance-based methods of design.

Peter also mentions another well-known work in design methods called [Dilemmas in a general theory of planning](#) by Rittel and Webber in which they give 10 key characteristics that define design problems as 'wicked'. This is a term that has recently become popular again as ideas about complexity in design have resurfaced. Peter mentions the conjecture – analysis model of designing which is described, along with other models of designing, in [Models of the design process: Integrating across the disciplines](#) by Norbert Roozenburg and Nigel Cross.

Nigel Cross is one of the leading figures in current day design methods and a former Professor at Delft (he was also a major figure in the development of design thinking). You can read the lecture he gave when he left the IDE faculty: [The method in their madness: Understanding how designers think](#) where he makes the straightjacket / life jacket distinction for design methods referred to by Peter.

In the discussion following the interview Mieke mentions the Delft service design firm [Muzes](#) as experts in using context mapping.

## Podcast Transcript

### Introduction

**Mieke van der Bijl:** Hello everyone, welcome to another podcast about design theory and methodology. Today we're going to talk about something that is at the core of design theory and methodology, which is design methods. And we will ask the question, do we need to design methods at all? If you've listened to the other podcasts, you will be familiar with our format by now, which is that we start a podcast with interviewing an expert. And today, I'm interviewing a very special expert, Professor Peter Lloyd. Welcome, Peter.

**Peter Lloyd:** Thank you very much for having me!

**Mieke van der Bijl:** So today is a little bit different because Peter is the expert today, which means that I will interview Peter first and then I will discuss this interview with someone else. And that person is Annemiek van Boeijen. Annemiek is one of the authors of the Delft Design Guide, which is a book full of design methods.

So Peter, you are a professor of integrated design methodology here at TU Delft and you are an expert in design methods. So just out of curiosity, where does your interest in design methods come from?

**Peter Lloyd:** That's a good question. My PhD was in psychology, studying the processes of design thinking, literally the cognitions of design thinking and how designers design. And at a certain point I realized I was in the middle of a discipline that was much richer than I thought it was. I was studying the psychology of designing, but then I stumbled on design methods, and design methods being about how designers *should* design. I was looking at how designers *do* design and design methods are about prescribing a process or how designers should design. I started in the midpoint of a discipline and then sort of worked backwards and forwards and

realized how intertwined those two things are: how designers do designing and how they think they do designing and how we educate designers to design.

**Mieke van der Bijl:** You're saying there's a difference between how designers do design and how designers should be designing or how we educate designers. Let's get straight into it: do we need to design methods at all?

**Peter Lloyd:** They're very useful in some ways. It's in educational situations that I think probably where design methods are most useful because you can really be disciplined about following certain phases and you can build that into an educational program. So, you know, you can assess things at various points. And actually they get to the heart of what design methods are about, which is externalizing information in the process. The original idea for design methods was to get away from intuitive kind of design processes where people just made all sorts of judgments, and no one really knew how they were making those judgments or why they were making those judgments. What a design method does is force you to actually externalize information, gather information and then make it social some way - to discuss it. And in education that's what we do as teachers, we assess work.

So a design method is a really good way of instructing people into the phases of design and the different things that you can do in design. I think we do need them in design education. I think the case is less clear for design professionals in practice. You know, if you pick up a book on design methods, if you go to a bookshop or something, which I quite often do and I page through the books and I think: "this is an interesting method, that's an interesting method". I don't know how many people actually sit down with a book and work through from page one to page ten, going through a method. I tend to think of methods as types of knowledge that people have come up with. If you have a sustainable design method, for example, it's sort of a way of getting your idea of what sustainable design should be across to someone who doesn't know anything about it, in a more experiential way. I tend to see them less as scientific rational processes and more a representation of a certain kind of knowledge.

**Mieke van der Bijl:** So in a way, that's almost like a design method as a way of explaining how designers do design.

**Peter Lloyd:** They're really very good at forcing you to do something that you wouldn't normally do. And I think that's another aspect of them. We all have our limitations, we all have our ways of doing things, and a method is essentially doing something that someone else tells you to do. Following a process that they told you to do based on their knowledge. They might be an expert, they might not be an expert, it's the idea that you're being taken to somewhere that you wouldn't have naturally gone to if you weren't using the method. It gives you a more complete understanding of a problem situation or, you know, different types of solution that you might generate and how to look at them.

**Mieke van der Bijl:** One of your expertises is the history of design methods. Let's talk a little bit about that. Where do design methods come from and what have been the most important developments in design methods?

**Peter Lloyd:** I think like all histories, it's how far you want to go back! You could probably go back to the ancient Greeks and Greek architecture. I think really something like the Bauhaus was where people began to look in terms of methods. It wasn't really a movement about methods. It was about something else. But I think people began to look a bit more systematically at what design was really about. The starting point for me is a famous conference called the 'Conference on Design Methods' that was held in 1962 and that had a number of people from America, from Europe and the UK coming together. It was a post-war conference. During the second world war, lots of scientific methods had been developed for analyzing complex situations: operational research, how to shift military gear from one place to another. Logistics. There were these scientific methods. And this conference brought together a bunch of people that said the world is getting more complicated. We need methods to understand how complicated the world is getting. We want to move away from these intuitive ways of designing, this craft-based way of designing. The field of ergonomics was already moving that way in terms of a more scientific basis of user experience. This was that kind of idea applied to methods.

For about 10 years there was quite a lot of development of different kinds of methods in architecture, in engineering and industrial design, lots of different disciplines. There

was a famous book that came out in 1970 by a guy called John Chris Jones, it has the lovely title 'Design Methods: Seeds of Human Futures'. That was really the first collection of design methods, like a very early Delft Design Guide. If you pick it up in the library, it's a collection of tools, methods, approaches of how to break design problems down. So that was a key point in the history of design methods. What happened after that is quite interesting, too, because people began to look at these methods and say: "hey, this is a really good way of designing. We can really make it a scientific and rational process". That forced people to sort of think there was a right way and a wrong way of designing. This wasn't the intention of these methods. The intention was to externalize knowledge. The intention was to make the information on which you're basing your decisions explicit and discussable. And there was a big reaction to that. John Chris Jones was a bit horrified by the way that his design methods were taken in very rational, scientific ways. He actually went back on his methods and said this is not the way to design at all. He started to embrace chance and basically said, well, you know, you can use a method or you can use chance. If you have a decision to make, you can just leave it to chance. And what that teaches you is that when chance makes a decision for you, you know in your heart whether that's the right or wrong thing to do. You have this kind of dialogue with chance processes. He really went the other way and said there's all this kind of prescription and order in the design process, or you can just leave it all to chance. And chance is another way that takes you to places that you wouldn't normally go to. And that's what he started exploring. He had this nice quote, I've got it here, which is about his original design methods. He says: "rationality, originally seen as the means to open intuition to aspects of life outside the designers experience became, almost overnight, a toolkit of rigid methods that oblige designers and planners to act like machines, deaf to every human cry and incapable of laughter." I think that kind of sums up the process where science comes in and everyone thinks "it's scientific". What's left out is all the things that makes design interesting and enjoyable.

So there was a kind of reaction to the original design methods. One of the key reactions was a paper by two people called Horsed Rittel and Melvin Weber in 1973. They conceptualized this difference between design and science. They said science is really aimed at solving 'tame' problems, problems that we can break down - we can do some science, we can put it all back together again, and we kind of know what we're

talking about. They said design is not like that. Design is about 'wicked' problems. Wicked problems have a number of aspects to them that they listed, there's nine, ten or eleven - they're worth looking at because they're all interesting. Things like you can't think about a problem without thinking about a solution. There's no right or wrong answer, there's only a kind of better or worse answer, there's not an optimal answer to design problems. They also came with this idea that, in the solving process, the knowledge for solving a design problem isn't just in the head of the designer. There's a much more equal distribution of knowledge in design processes. They really started off this idea of participatory methods in design. Where you draw on the knowledge of other people and actually the design process is a kind of birthing process and a method is a kind of midwife for that process, where you're trying to bring something about or facilitate something as a designer. You're not the person that's really coming up with all the ideas, you're drawing ideas from lots of other people and helping this product that you're working on to come to life somehow.

So that was the second phase, I would say. The third phase is really back to intuition. Really looking back at how designers do actually work. That was when I started doing my studies. What is it that designers actually do that is distinctive? One of the key papers that I came across was the idea that designers work in this way that's called conjecture - analysis.

**Mieke van der Bijl:** That sounds very abstract!

**Peter Lloyd:** Yeah. I suppose some of the design methods were based around the idea of analysis - synthesis. You spend a long time analyzing a problem and then at some point you come up with a solution. And this description of design really turned it round the other way and said, no, what designers do is they come up with conjectures, proposals or propositions and then really work out what the consequences of those things are. That's intrinsic to our way of thinking, to think in terms of what can we do? and then what will that mean? Rather than, let's do a big analysis and then work out what the solution is. It was the opposite way around. And I think that was quite a powerful way of saying that methods sometimes work with people, but sometimes they work against people when the actual ways of thinking are different somehow. It really hangs around this idea of description and prescription. A description is how designers

do design. Prescription is how designers should design. A method is really telling you you should design in this way, a description is really much more, let's just see what the diversity of people are doing when they follow a design process.

Coming up to the present day, I think there's been a much sort of more social expansion in design methods. What we now see in design is many more voices coming into the process, and a less rigorous, prescriptive process. It's a bit more you kind of make it up as you go along.

**Mieke van der Bijl:** You mean that it's more like bits and pieces, you can use this method or that method...?

**Peter Lloyd:** Yes

**Mieke van der Bijl:** You can pick and choose which method you want.

**Peter Lloyd:** You can design your own design method now, because there are so many methods around and so many methods that you can use. You can even go back to John Chris Jones' book and sort of construct your own process from that. That is much more flexible. Also in education we've seen that, if you look back to Delft 15 years ago, the book that everyone had to learn was Norbert Roozenburg and Johan Eekels book Product Design: Fundamentals and Methods. That was part of the curriculum. You really had to go through the book as a student.

**Mieke van der Bijl:** I remember that from when I was a student!

**Peter Lloyd:** A lot of people remember that and the fact that it was in an educational context really made people remember things, even though they kind of fought against the ideas: 'why do I have to design like this? analyzing the problem and then coming up with three solutions and choosing one'. So I think even that sort of developed. I worked with Paul Heckert and Matthijs van Dijk in developing the VIP method for their VIP book, and that was an interesting process to go through because that suddenly opens up a different way of designing too. Those two approaches, among the many

that are on offer at Delft, really kind of represent two different ways of going about designing.

**Mieke van der Bijl:** If I'm a student and I'm new to design and I want to become a good designer. I want to learn more about design methods. Where should I start?

**Peter Lloyd:** That's a good question! There are obviously a lot of books about design, the Delft Design Guide is one, and I mentioned John Chris Jones' book. I pull that off the shelf quite often and look through that. Design methods are things that don't really go out of date somehow. Now you can get lots of websites that list design methods. If you do a Google search for design methods, it brings up lots of starting points for identifying methods. I think just trying some of those methods out, seeing which ones sort of intuitively appeal to you, and then trying to work on them.

**Mieke van der Bijl:** I'm thinking about my own practice. What I've mostly done is, you know, I do read a lot because I'm also an academic, and I guess I've applied things in my practice that I thought, this sounds interesting, let's give it a try. But it's only when you apply it lots of times and really can embed it in your own design process that it becomes meaningful and you can do something with it.

**Peter Lloyd:** My colleague Nigel Cross, who is another good reference by the way, he's written a lot about design methods. He has a very famous book called 'Engineering Design Methods'. He has this phrase that design methods are life jackets. They're not straightjackets. They're not designed to restrict you and constrict you into a certain way of thinking, they're there to sort of help you get through a design process and think wider than your own thoughts. I like that idea. There is a tendency to cherry pick design methods. When you see books full of design methods, it gives the impression that you can just pick them up and put them down. And I think, as you've suggested, it's much more about finding out which ones will benefit you. You have to kind of seriously engage with them, I think, and actually be frustrated by them and then work out what what they can do for you. Whereas I think if you spend, you know, a couple of hours reading something and trying it out and thinking, well, this doesn't work, I don't think you've really given the method a chance to work for you.



**Mieke van der Bijl:** I like the metaphor of the straightjacket as well. When I was doing my PhD in user-centered design, I often heard from design practitioners who were saying: "stop developing design methods, we don't use design methods!". And I think it's because of this older notion of design methods as a straightjacket that doesn't give you that flexibility.

**Peter Lloyd:** I think the way that methods are generally represented, just basically boxes and arrows and you sort of see all kinds of schemes, sometimes you have circles and squares. They give this impression of something that's overly scientific somehow, it doesn't fit with how you experience the world, these strange explanations and block diagrams, they're not intuitively things that people really want to use.

**Mieke van der Bijl:** It's interesting because I know a lot of those books as well, there are catalogues full of methods and toolboxes and the websites I know as well. But it's interesting that we're just looking at methods in terms of books and in terms of websites like in the way they've been written down.

**Peter Lloyd:** Yeah, that's a good point.

**Mieke van der Bijl:** Wouldn't there be other ways to convey methods? Like the DTM students, they're now working on video...

**Peter Lloyd:** That's a great point but it's not something that I've looked at much. But video is a great medium to show essentially a time-based process or a time-based method or maybe things like animation I think is a good way to illustrate how something unfolds over time. When you see it in a book, you tend to see an overview of everything and think that you can take it in all at once. Whereas something that is revealed in time through video... or through podcasts, that's another medium maybe where design methods could be developed! I think there's some potential there, but I haven't I haven't looked at that.

**Mieke van der Bijl:** That will be exciting to explore then in this course. Well thank you very much Peter, that was very insightful to learn a little bit more about the history of

design methods and talk about if we do or do not need design methods. So thank you very much.

**Peter Lloyd:** Thank you very much, Mieke.

## **Discussion of Interview**

**Mieke van der Bijl:** Ok. So that was the interview I did with Peter. Today I'm here with Annemiek van Boeijen, who is an assistant professor here at TU Delft and Annemiek is also one of the authors of the Delft Design Guide that most of the listeners will probably know. It is a book full of design methods which were developed here at TU Delft. Welcome Annemiek!

**Annemiek van Boeijen:** Thank you for inviting me!

**Mieke van der Bijl:** So you listened to the interview with Peter. What did you think?

**Annemiek van Boeijen:** I liked it. I think he raised some important points, the question of what is the relevance of design methods for designers. And I liked also that he raised this quote from Jones, his reflection on methods and that he finally concluded, yeah, leave it to chance, that was kind of intriguing also. OK, now what are we doing with this Delft Design Guide? All full of these methods and tools...

**Mieke van der Bijl:** That we don't really need it!

**Annemiek van Boeijen:** We don't really need it, but I think we need it somehow. And I think not only for education.

**Mieke van der Bijl:** Yeah, I had that same view, actually.

**Annemiek van Boeijen:** I think for educators it's a tool to help them to educate, it's their lifeline maybe in all these different projects that they need to coach. But actually in education I think there is also a pitfall that there is still too much focus on methods and processes. It's finally about results and the effect that you want to have with your design.

**Mieke van der Bijl:** So how do you think that coaches should use design methods in their work?

**Annemiek van Boeijen:** Carefully, I think, and I agree with Peter that there is a very personal component in design and what design is - there are many ways to Rome, to a final result and I think coaches need to be sensitive for the individual differences and balance also between what works for a novice designer and what doesn't work. That's because these methods also frame a way of thinking, it's a window to a certain way to go. They are actually also very normative. They tell already how you should look in a certain way. That was also interesting to hear from Peter. That he said you have this 'should' and 'do'. Are methods designed to do something or are they prescriptions of what we should do? There I think coaches need to be careful because some methods are developed because the researchers, they saw what in practice what people do and what works and what doesn't work. But at the same time in education it's easy to say, OK, so you should do it like that. And then I think you don't send the right message also to your learner.

**Mieke van der Bijl:** I'm just wondering, like, if you're a student and you want to learn design, how do you then find something that aligns with the kind of designer that you want to be, it's actually not so easy. We ask students that in the assignment for this DTM course, they have to develop what we call a practice manual for their future design practice. So really think about what they want their future design practice to be like.

There was this one thing that that really struck me when I was listening back to the interview where Peter at a certain stage says that design methods they're not straightjackets they are life jackets. And that really frames a design method as something for a novice designer when they're stuck, they can hold on to it and make

sure that they can swim. But I was thinking that's not always true, because indeed, you know that for young designers, that's often very useful. But there are many very experienced designers that use design methods all the time, and they don't use them like life jackets. For example, thinking of Muzus, one of the service design agencies here who are really expert in context mapping. I don't think they would see that as a life jacket. They're just really experts in using methods within their practice. I was wondering in the Delft Design Guide, is there a difference between methods that are more for novice designers and others more generally applicable?

**Annemiek van Boeijen:** That's a good question. They are some very general methods in the Delft Design Guide like observations, interviews and in many disciplines they do this. So it's here too in the Delft Design Guide, because many people learned how you do an effective observation, an effective interview. So why not learn from others? And I think they're very generic in a way. Maybe some life jacket methods could be some creativity methods, that you use when you're stuck. You feel like, yeah, synectics is not really easy, it's very obvious people like to brainstorm, but if you want to go deeper or you want to, you're really stuck or you think, yeah. Here we feel there is something else, but we want to explore this. And then maybe it's kind of a lifejacket in that sense. Or decision methods. When you are with a lot of stakeholders and you feel like, yeah, here we have to convince also stakeholders to make it very clear I cannot follow just my intuition.

**Mieke van der Bijl:** I was also thinking of the double diamond, which for me is typically more a life jacket for novice designers, that's really a good model to explain to people who have never done design before that design is very much about exploring the problem space just as much as it is about the creative space, but if you compare that model to how expert designers design they don't design that way. In another podcast we talk about how with expert designers the problem and the solution co-evolve, so they don't wait with their solutions so to say, until they've done that first diamond of the double diamond, but if you're new to design then it is impossible, because it's such a non-linear process. I think that method is a very useful method to learn how to become a designer. But in that sense, it sits in a bit of a different category than context mapping, for example, which is a method that, you know, doesn't teach you how to

design just a really useful way to explore the problem space and to go very deep into what people need and what they dream of.

**Annemiek van Boeijen:** Yeah and also generative

**Mieke van der Bijl:** Generative, yes

**Annemiek van Boeijen:** Yeah, actually, in the Delft Design Guide, in the beginning, we explain why we have this collection of all these methods? Why are they here? We raise three reasons. One is really to support people in design, so it's helping to realize your design goal. The second is to organize your process. And the third one is to justify an account for the work to project stakeholders. We actually distinguish three reasons.

**Mieke van der Bijl:** Yes.

**Annemiek van Boeijen:** It's also a common language. You can talk about why you're going to do something, and of course you want to be paid for it - if you do context mapping you need to explain to your stakeholders like, this is needed because... bla bla bla. And then they need to pay you in practice.

**Mieke van der Bijl:** That's what Peter also said when he was talking about externalizing the information in the design process.

**Annemiek van Boeijen:** Yes, in all these methods there is really some, erm, that's also interesting that Peter raises - knowledge, there is a lot of knowledge in it that you actually put on the table in cooperation with others.

**Mieke van der Bijl:** So are you saying it's a way to gain knowledge but also make that explicit in a way that you can share it and everyone kind of understands what's going on?

**Annemiek van Boeijen:** Yeah, that's it's not a black box so much.

**Mieke van der Bijl:** Maybe that's why we have more methods in product design compared to other design disciplines because it's mostly a collaborative process?

**Annemiek van Boeijen:** So many different disciplines to come to a good outcome.

**Mieke van der Bijl:** Yes. So thank you very much Annemiek, that was very interesting and I'm looking forward to the new Delft Design Guide!