# Design 1.0, 2.0, 3.0, 4.0

*The Rise of Visual SenseMaking*

**Peter Jones PhD**
Founder & Managing Principal
Redesign Research

Interviews

**GK VanPatter**
Co-Founder, NextDesign Leadership Institute
Co-Founder, Humantific

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**Peter Jones:** GK, as you know the interaction design community is comprised of user experience and interaction designers, human-centered researchers, academic researchers, and other design professionals. However, I have never seen anything like your theory of change in design practice described in these pages. Let us assume most readers may not have encountered Design 3.0 – may I ask you to start with an overview of your perspective of the historical changes happening around the design professions?

**GK VanPatter:** We have many friends in the interaction design community and I am delighted to do this. In reference to an overview of historical changes in design practice: Let me suggest an overview of an overview for this compressed format. Let me start by saying that what we do at NextD is not create theories but rather provide synthesis of what we see occurring all around us. The dots are there. We just connect them.

When Elizabeth Pastor and I launched NextD as an experiment in 2002 we did not know exactly what it was we were looking at in the marketplace and in academia but we had general concerns about the state of design leadership, that it was falling behind and was badly out of sync with the real world that we were familiar with at that time. We knew from our practice that "Design" was, for numerous reasons, changing rapidly and significantly but we did not see much evidence of this in graduate design education. Quite frankly much of American design education did not seem to understand the massive continuous change occurring outside of design. We were not the owners of this problem but we thought it might be useful to lend a hand since we both come from design backgrounds.

Since the term "design" is so loaded we initially considered proceeding with this rethinking exercise under a different terminology banner. For ten years Humantific has gone to market as an innovation enabling company, not a design company so for us going back, or sideways so to speak, to rethink design was somewhat of a counter intuitive exercise. For a number of reasons we felt that pitching in to help would be useful to a community that is near and dear to us and one that we will always be part of.

In 2002 it appeared that design education leaders and the leaders of the professional design associations were missing in action regarding the rethinking of design, so we jumped in. It is important to understand that NextD was created as a sensemaking and changemaking experiment, not a design promotion initiative. Upon launch we described the traditional model of design leadership as a burning platform. Not everyone appreciated that view.

From the outset we focused on how we might utilize sensemaking to convey in specific terms what was changing and why change was needed. To do this we undertook sensemaking conversations with many thoughtful people from inside and outside of design. With a ReRethinking Design orientation NextD Journal began creating authentic views into the conditions of design and also illuminated new paths for designers.

Along the way in that journey we learned a tremendous amount about the design community, interconnected communities and the various forces in play in the marketplace, what was changing, what was not. Being a seasoned professional yourself I think you must know that not all of what was encountered was pleasant. To be frank, the competitive marketplace that now includes design education, design practice and professional design associations can be brutal. In NextD Journal conversations we saw some thought leaders questioning whether there was a design community at all. Encountering this community context reminded us that this kind of changemaking work is not for the faint of heart. ☺

After several years of sharing in-depth thought leadership conversations NextD created several sensemaking frameworks, including Design 1.0, 2.0, 3.0, which was launched at the national AIGA conference in 2005. We recognized that it is impossible to have a meaningful conversation about the changing nature of design today without some kind of sensemaking framework. With many well-meaning government leaders around the world trying to figure out how to make use of their design communities in the face of globalization we wanted to provide a few simple dialogue tools.

The NextD framework of D1, D2, D3 is in essence a complexity scale. It is a post-discipline view that is process, not content focused. As a field of knowledge design is an amorphous time warp that exists across several time zones or paradigms simultaneously. Some are old rather static paradigms while others are transforming and or just emerging. Unlike in traditional science the various paradigms of design do not necessarily replace each other as they emerge. As practice and study zones the paradigms within design exist in parallel. The various operational states of design exist simultaneously. There are often competing and conflicting interests between the zones which tends to generate a lot of heat in the marketplace.

We figured out early on that the best way to explain the degree of change occurring inside and outside of design was to focus on how the scale of challenges facing us in the real world were changing.

In our conference and workshop talks we attempt to place the change in everyday work context: We point out that if one was trained to tackle poster sized framed challenges it is likely that new skills and tools will be required to tackle highly complex fuzzy challenges like organizational transformation or world peace.

We point out that globalization ie: the off-shoring, shrinking and commoditization of once thriving North American design markets is driving a strategic space race. The reality is that design educated designers now have to compete for design and or innovation leadership roles. To say this another way, the question of who frames the challenges in the strategic space upstream from briefs has become a hugely competitive aspect of the market. It is a relatively simple message.

The truth is when we started presenting the D1, D2, D3 framework at conferences in 2005 it was controversial as the two most high profile graduate schools in this country were busy selling product design as the future of design. In addition, the then high-flying new business press was closely aligned with the product-centric D2 view busily encouraging designers to be gleeful about chasing the next iPod. In presenting the existence of an emerging Design 3.0 transformation design community in 2005 we were already pointing out that many of the challenges facing organizations, facing our communities cannot be solved by creating more products, services, or related experiences however human-centered they might be. Product creation is often a solution to a problem that 21$^{st}$ century humans do not have.

Although our perspective has made NextD controversial in some local design community circles it also generated high interest among global readers not smitten with the American product-centric perspective. When it comes to design the wheels of change are often moving faster outside the United States. NextD has always been focused in the global design community.

Today the synchronization of tools and skills to problem scale is a quest underway in most disciplines around the world. No graduate school and few practices can escape that reckoning.

**Peter Jones:** You and I have spoken at some length about the different orientations to the collaborative design skill we call sensemaking, a critical emerging skill and fairly recent perspective in the design field, which has been dominated by the model of individual designer model of branding and differencing. How could experience designers start to incorporate sensemaking into the context of large product/service design projects?

**GK VanPatter:** These are difficult questions to properly address in this compressed format. Of all the issues in the mix around the changing nature of design today, the rise and transformation of sensemaking is, from our perspective, among the most important elements of the story.

At Humantific we distinguish between making the strange familiar and making the familiar strange. As a scholar you might recognize this two-part terminology as it can be found in William JJ Gordon's original 1950's-60's era Synectics work. Anyone who has studied the history of the applied creativity movement will know that Gordon was among the 20$^{th}$ century pioneers of this knowledge domain.

He was interested in developing new creative methods and the development of deliberate creative capacity in humans. In the context of your question it is important to recognize that Gordon was working on and modeling such issues long before the later generation sensemaking pioneers arrived in the 1970s, 80s and 90s. Early on we saw in Gordon's work a methodological orientation seed that remains central to our approach to sensemaking today.

At Humantific we call making the strange familiar, sensemaking and making the familiar strange, strangemaking. Like Gordon we recognize both dimensions as an interconnected continuous cycle linked to innovation. We have built our somewhat oddball, hybrid Humantific practice on the exploration and examination of the interconnections between sensemaking and strangemaking, which is in organizational and societal contexts also called changemaking. For more than ten years Elizabeth and I have been working at the intersection between the two so at this point we understand well how they are connected.

In 1998 I wrote my first paper on differences and similarities between organizational sensemaking, the understanding business and innovation enabling while working for Richard Saul Wurman. We were working on a large innovation ecology project in intervention mode so we had to figure out how to explain what we were proposing and doing to organizational leaders who had been reading Karl Weick.

In that era there was significant emphasis on the human capacity to process what Wurman described as "a tsunami of data crashing on our shores." At that time very smart people from information science, organizational psychology, cognitive science, knowledge management and many other fields were working on various aspects of information processing in humans and in organizations without always having views into each others work. Part of my job at that time was to synthesize and explain how the various streams might be interconnected.

Coming from very different backgrounds, Dervin, Weick, and Wurman were focused in one way or another in the direction of human information processing. Most of those streams were underway in the context of academic study and research. In contrast, Wurman and the understanding business folks were among the first to make sensemaking into a form of practice. Still today these areas of study and work remain largely blind to each other, unless you are deliberately looking across these streams. From our perspective they inform each other.

Since those early years much has changed in the world and certainly in practice. We have built steadily on those early foundations. To compress a lot of learning and complexity into a few short sentences here: it took us many years to figure out that what organizations and humans in general are trying to do in the 21$^{st}$ century is not just process mountains of data but make sense of complex fuzzy situations of all kinds, often before any data exists.

Today information processing is only one dimension of the kinds of sensemaking that is already operationalized in next generation design oriented practices.

It also took us a long time to figure out (and be able to explain) the correlation between the rise of complexity facing planet earth and the parallel interest in more robust forms of sensemaking. In retrospect it is quite obvious. The good news is that the proportion of sensemaking to changemaking shifts as challenges grow in complexity. In the context of highly complex fuzzy messes, there if most often a need to do significant sensemaking before changemaking begins. If we are working on a tiny problem this is not likely the case. In its various forms, sensemaking now plays a key role on the fuzzy front end of most significant innovation and change initiatives, in organizations and in society. This shift has significant implications for future design education.

In our Complexity Navigation Program business executives learn a five dimensional model of sensemaking that includes; how to make sense of the opportunity/problem space, the humans in the space, the information in the space, the problem owners and the project team. As you point out in your question: the activity of co-creation is at the center of a lot of sensemaking today. Often we are creating cognitive scaffolds that accelerate and enable collective sensemaking. To do this requires a much different kind of approach and a different toolbox than those in use in traditional design oriented practices.

I don't think it is any secret that our design education institutions have for decades been teaching what amounts to a huge emphasis on strangemaking. The branding business is all about strangemaking as one toothbrush, bottle of water, web site is made to be different from another as a form of value. Strangemaking is about differencing. For a long time there has been a public perception that differencing is the value add that design brings to the party. Today the design industries contain zillions of people focused on differencing services. It is a huge business that sustains many companies.

We always felt a little odd at design conferences as we were designers in the sensemaking business. Much to our surprise, as complexity continues to rise, the outside has become the inside. Today sensemaking, inclusive of design research, strategic co-creation and visual sensemaking is at the center of the revolution within design thinking, innovation, transformation, whatever you choose to call it. It is the change inside the change.

Regarding the other part of your question about what UX practitioners can do: In these economic times, with a lot of web related work already off-shore, for some the question is not how to do the same thing better but instead how to help their companies better address difficult challenges and become more adaptable to change. We have worked with several experience design focused groups to help them rethink their mission and their value in the context of what their organizations now face.

They are essentially working on how might they become more strategically useful to their companies. If you put your adaptability hat on the good news is that the sensing and sensemaking aspects of UX can be updated and repurposed. If you look closely at the present leading firms in the shrinking and commoditizing UX space, this is essentially what they are trying to do. Many are working hard on getting themselves into the strategic space. Some seem to have no clue what that really means in terms of skills and tools but there is no question that this is where they are headed. For those who choose to do the same thing better or differently, new forms of sensemaking add significant value to the front end of any innovation effort including those focused on user experience design.

**Peter Jones:** As I know your work I'm aware that you have been extending the model to include Design 4.0, which may be a nascent weak signal on the horizon for most practitioners. How might we become aware of the need for Design 4.0 thinking in our design and organizational contexts? Simply put, what does this mean to most of us?

**GK VanPatter:** Last week at the EXPOSED conference held in the Arizona State University School of Design we presented *Design 1.0, 2.0, 3.0, 4.0 / Understanding Futures that Have Already Arrived*. It was the first time we have presented Design 4.0 / Social Transformation Design.

I do like your descriptive term "nascent weak signal on the horizon". I think that is a generally true depiction however we are seeing a lot more action in the D4 activity space than what might have been imagined only a year ago. Anyone on Facebook will know that there are already a dozen social innovation related initiatives being launched every month on that platform. With invitations to join various groups overflowing, soon there will be social innovation initiative fatigue no doubt.

What we are likely seeing is the first post 911, post Inconvenient Truth, post World Changing cycle of social innovation initiatives move through the social network system complete with a lot of energy, enthusiasms and probably a certain amount of naiveté regarding many of these highly complex social challenges facing occupants of planet earth. The social networking platforms are making it easy to launch and get started. Apart from the excessive exuberance around social innovation what is actually going on seems a little more messy and complicated as life tends to be. At NextD we try to look at what the activity occurring under the banner of social innovation actually is from a methods perspective. Although no perfect lens exists the NextD complexity scale helps us in this regard.

So far much of what is going on seems to be what we call Cross-Overs.

In the Design 4.0 activity space we see multitudes of branded and unbranded approaches that can be grouped into five basic categories.

- The Algorithm Group
  Network based up or down voting & data patterns analysis.

- The Science of Dialogue Design Group
  Technology enabled transformation focused dialogue.

- The Transformation by Design Group
  Hybrid toolbox applied to social change.

- The Problem Solving Group
  Creative problem solving applied to social change.

- The Cross-Over Group
  Design 1.0 & Design 2.0 methods applied to social change.

The groups vary in terms of size and focus. From what we see, the Algorithm Group is working on various network platforms focused primarily in the direction of "decision-making". How might they harness the power of the democratic collective is what this group seems to be interested in presently. The present web works best for up or down judging, a giant judges table. Presently in Algorithm Group literature there is much less focus on where the ideas are going to come from. Wouldn't it be interesting to see the change patterns around how the public feels about Obama today next year and four years from now? These are issues of interest to this group or group of groups as there are many different streams involved. The tricky part is that while global society has never had such technologies we already know that there is a lot more to transformation than judging. How do we get to social transformation from collective judging? The tremendous amount of unstudied terrain here will no doubt keep graduate students and practitioners busy for years to come.

The Science of Dialogue Design Group, Transformation by Design Group and The Problem Solving Group are more action, intervention, or design enabling focused and seek in several different ways to engage multiple constituents upstream from briefs without any preconceived notions of what the problems and solutions might be. They seek to enable collective and individual ideation, judging, decision-making and change related action. This is quite different from just focusing on judgment. Without getting into describing the various toolboxes, some are digital, some are analogue and some are combined. The emphasis among these groups tends to be on process rather than content. There is a lot of energy around this group today as it is being transformed with new hybrid tools and practices.

As far as we know, no one has yet gathered any scientific numbers on these activities but we are guessing that the Cross-Over Group is probably the largest growing rapidly as many young generation designers actively seek meaningful work and engage with their existing skills and toolsets.

There seems to be alot of young generation designers not wanting to engage in chasing the next iPod in Chicago or Hong Kong. Instead many want to somehow engage with their mindset and toolset in more socially meaningful work in Africa and other countries in need. Inevitably embedded in Cross-Over social innovation initiatives are the methods from D1 and or D2 where high degrees of cocreation, framing and sensemaking have historically not been front and center. In many Cross-Overs designers are working in a social context but what they are really doing is still D1 or D2 work.

In Cross-Overs one can see a lot of assumptions being made that exporting D1 and D2 is what we need to do to help in Africa, etc. With the best of intentions there is often the engrained predeposition that products and services are the solutions needed. Although this might often be the case, in some situations and in some countries it might not be. We already know from complex multiple constituents D3 work that preframing assumptions up front is a problematic recipe.

There are many ways to undertake Cross-Overs. Last year Humantific's UnderstandingLab was involved in the Measure of America, the first human development report focused on a developed country. This was essentially a social sensemaking initiative at the scale of a country, the USA. We were engaged to make the research understandable and engaging as part of a broader social changemaking initiative that is still underway. Here we built what amounted to sensemaking acceleration tools that government leaders and others now use to clearly spell out the need for social change in this country. In that kind of project we focus on fact-finding illumination and problem reframing rather than on driving specific solutions. We see numerous constructive ways to undertake Cross-Overs.

Generally in D3 and D4 there is more need for open challenge framing, more need for deep local human-centered sensemaking.

The design community seems to be in the midst of a Cross-Over wave. In all the enthusiasm few seem to be asking if this approach is really working but we have no doubt that such questions will arise as the various initiatives unfold. It is still very early in that cycle. The lessons and realizations will no doubt, in time be emergent!

It does seem unlikely that simply exporting D1 and D2 to developing countries will in itself solve world hunger, world peace and the multitude of other wicked problems facing our collective selves.

Presently there are a lot less design oriented folks operating in fuzzy front end of social transformation design where challenges are cocreated and framed far upstream from briefs. I know that you have been involved in the "Dialogue Design" arena for some years so you probably see this yourself.

D3 and D4 work tends to involve multiple constituents and quite different challenge types. Upstream from where D1 and D2 jump off from, these challenges are more fuzzy, more complex and involve many constituents so a different toolbox is needed.

Most designers know a lot more about the D1 and D2 activity spaces so for many the D3 and D4 spaces are much more experimental. What does it mean to take human-centered tools into organizational and social transformation situations? No one really knows the complete answer to these ongoing questions. These are questions that are being worked on everyday in practice so that is what makes this terrain interesting to many.

To a significant degree D3 and D4 still represent relatively undiscovered countries for many with design backgrounds but that too is rapidly changing as globalization takes hold and drives change in the design community.

Ten years from now I think many more will be engaged in the D3 and D4 activity spaces with more knowledge and better tools. Certainly many smart people are hard at work on this around the world.

**Peter Jones:** Considering the models you've disclosed, can you further illuminate how designers inspired by the possibilities of transformation design and sustainable design might adopt these distinctions and put them to work in real practice situations?

**GK VanPatter:** The NextD message is quite simple: The changes underway outside of design are due to the very real forces of globalization that exist in the marketplace. It is not rocket science to point out that as the market changes many design oriented firms are proactively adapting to change. Some design markets are shrinking while others are emerging. What is going on around Design 3.0 and 4.0 is not someone's cool idea. It is change in response to change. Those in the various design communities can draw their own conclusions regarding how or if they see that change and how or if they want to change. Change is occurring whether everyone likes it or not.

From the NextD perspective design is moving from :

Tactical to Strategic & Tactical
Defined Briefs as starting points to Fuzzy Situations as starting points
Tiny Sensemaking to Huge Sensemaking
Trends Tracking to Complexity Navigation
Aesthetic focused to Human-Centered
Vertical Content Expertise to Adaptable Process Expertise
Intertribal Communication to Cross-Disciplinary Communication
Creating to Co-Creating & Creating
Thinking & Doing to Thinking, Doing & Enabling
Deliberate Exclusion to Deliberate Inclusion
Cool Object Creating to Innovative Culture Building
Design as Subservience to Design as Leadership

END.

Watch for the new NextD site coming soon.

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**About Peter Jones Ph.D.**
Peter Jones is Managing Principal of Redesign Research, a specialized consulting practice focused on human-centered research related to information products and services. Peter holds a Ph.D. in Design and Innovation Management from the Union Institute and publishes research in organizational innovation and information behavior. He is a visiting scholar at The University of Toronto and a Fellow of the Center for Strategic Innovation at OCAD University, Toronto. His research focuses on intellectual collaboration, information ecology design, and the social design of technology and practices in culture and organizations.

He often collaborates with other researchers on problems that bridge science and practice, adapting design research and methods to the hybrid, complex problems found in healthcare, business design, legal practice, and online publishing. Peter has designed market-leading products in these fields such as sciencedirect.com, ProceduresConsult.com, and CaseMap. Peter conducts ongoing innovation research along several lines, including information practices, values inscription in organizations & infrastructures, collaborative knowledge creation, organizational learning, and collective wisdom creation through participatory technologies. He speaks frequently at conferences in the US and Europe on the subjects of participatory design, and the emerging frontiers of human-centered research.

**About GK VanPatter**
GK VanPatter is CoFounder of Humantific a new breed of SenseMaking-based Transformation Consultancy based in New York. An internationally recognized innovation advisor and next design visionary he has been working in the realm of cross-disciplinary design leadership for 20+ years. GK was an early advocate of applying design thinking to the realms of strategy co-creation, organizational transformation and business innovation. Prior to forming Humantific he was Innovation VP at Scient, a Scient Fellow and CoFounder of Scient's Innovation Acceleration Labs. He holds a Masters of Science Degree in Design from Pratt Institute in New York. His personal passion is the emerging realm of Strategic SenseMaking as fuel for organizational transformation.

Concerned about the future of design leadership he cofounded NextDesign Leadership Institute with Elizabeth Pastor in 2002. NextD creates lenses to understand design in the 21st century. Its NextD Journal / ReReThinking Design, has subscribers in more than forty countries. NextD conducts ongoing cross-disciplinary research with graduate schools in Germany, India, Denmark, Switzerland, Australia, United States and many other countries. GK speaks often on innovation, transformation and design futures at conferences around the world.