

CREATIVE INTELLIGENCE

WITH JAMES INGRAM

EPISODE TWO:
CREATIVE INTELLIGENCE, ARCHITECTURE AND DESIGN
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James Ingram: Hello, and welcome to the Creative Intelligence podcast with me, James Ingram, host and CEO of Splashlight. This is a series of conversations exploring tools and technologies that fuel creativity and inspiration. We'll explore how to use technology in a creative way, and evaluate its impact on business growth, looking into detail how innovation can affect the design process from concept to completion. This podcast will look at how architects have embraced AI and data science to provide innovative solutions to design challenges. We'll also be looking at how business and artists are using tools to fuel creativity, inspiring them to create the design classics of the future.

I'm really excited to introduce this week's guest, Bill Bouchey. Bill is a Director of Interior Design at HOK's New York practise. Bill has more than 25 years of experience as a thought leader in workspace, showroom and retail environments, emphasising innovation and brand presence. His design sense is driven by a belief that interior design empowers people and transforms organisations. Recognised as one of the industry's most foremost designers, Bill serves on the editorial advisory board of Contract magazine and advisory board of Pellet app. This is a frequent editorial contributor and guest speaker for design publications and events. Bill, I'm glad you're here. Thank you for giving the time.

Bill Bouchey: James, thanks. It's nice to be ambassador of the HOK thought leadership team and be included in your conversation today.

James Ingram: That's awesome. Well, you said the right word. This is really a conversation. I'd love to kind of get a dialogue going. We think there's a lot of momentum going around AI and where this science is headed, and kind of seeing how the architectural world is embracing this, using it, and finding challenges and solutions with it. So I think to kind of get this thing going and a thought I'd like to get you started on is you've stated that AI will change how people work and that fast evolving technologies could mean pink slips for workers in routine responsibilities. These devices

including robots and these virtual assistants, how is that affecting these things? You want to explain how that might impact even the design of these buildings since the workplace itself is changing?

Bill Bouchey:

Sure. Let me just start by kind of stating that the basic philosophy or approach of a large commercial enterprise like HOK is a very experience design-based approach. It's multidisciplinary. It draws upon many practise types. It's also data based and research and discovery based, so observations, utilizations. Mining information about how our clients operate today, whether it's an airport, a lobby, a workplace interior, is very critical to what we do. But I think when you think about A plus I, it's AI is the application of data, and data is what machines learn from. While we can harness that as a tool, as an additional team member, if you have it, to help organise and synthesise the information that we are putting forth, not only in the way we do are work but in the way we design spaces for our clients, or potentially design spaces, I think you've got to think about it as a platform, that AI is a platform collecting information. So it becomes an additional team member or person in the room if you're thinking of the literal robot. But that it's helping us build research, information and knowledge. I think that the critical thing here is, AI and data science, in the last decade with all the advancements in technology really have forced architects and designers to strengthen the argument of the recommendation by employing some part of AI and its own tools. It makes project delivery better. The performance of buildings, interiors and planning, and the recommendations of comfort better. Every project is an opportunity to inform a better project conclusion and the next project of similar type, but it's all based upon how good you capture, you analyse, you bring data to bear upon a project, how well you organise it, and how you bring it forth as a point of view to be considered in the next assignment, the next commission, the next building, the next material.

James Ingram:

This is great. This is exactly what I want to try to get a conversation around. There's other creative worlds where they're not as familiar with having a robust data set, or information to have to create around. They have a really big canvas that they can create against, and the word 'data' sometimes get them all scared. But really what you're talking about is it's core to the job. It's inspiration in the sense that you need to know where you are. Is that what you're trying to say? I mean what would be your vantage point against other people who aren't used to using that kind of data? I mean how do they embrace it?

Bill Bouchey: Sure. Well, look, for us the data that's mined and the learnings, or the findings that come from it and that are shared collaboratively with our clients and our co-consultant partners, other disciplines we bring to the table, it supports the human decision creating and the human making process of what goes into a building or an interior. Number one, that's kind of important. Number two, how you incorporate that data, what it means from automation, how you bring that into the everyday thinking of a project is kind of critical. You want to stay ahead of it. I think firms like ours and others are examining how to do this, but there's another part of it James, which is it's very difficult to cast a critical eye on the way we do work and get work done for our clients, but we have to do that because this tool, we have to stay ahead of it. Our view as a large architectural global practise is that we have got to stay ahead of this so that we're not flattened by it.

James Ingram: Because of the intensity of the way the work environment is changing, because of the expectations of your clients and the employees they're going to be putting in these work spaces have gone up, having AI to do a deeper dive in what those requirements are, that's part of the advantage because your product is more on target?

Bill Bouchey: Absolutely. Think about AI as a trinity, one of a three trinity piece, and it's the largest of three elements. The AI piece of going into say an airport, a workplace interior, a hotel, a master plan park, spending time observing how that space is utilised, how frequently it's visited, what people do there, that's the kind of analogue piece. That's the front end of the AI component. What we do with that information through sensors, through the use of technology to aid the capturing that data, no AI robot is going to analyse that in the way that we think about it creatively, but we can employ robots and technology and systems like sensors to help capture that information. We still have to synthesise and analyse it, and potentially indicate what it's learnings and meanings are to a client because that becomes the early discovery and design. When you partner that data, that information, and how you organise it with the human component, the analogue component of analysing and observing, and then you bring it to a third component, a third element of findings, it establishes the guiding principles to the approach to a project. For us, you cannot ignore it. You have to employ it as part of that whole process. We're only better at what we do as a result of it. You can't ignore the findings. It's in the statistics. The data bears out what we need to know that we can't prove, but in fact it makes the argument for proof much stronger.

James Ingram: That's interesting. That's reminding me of a question I kind of wanted to unpack in here. That's let's go back maybe in time where there was less of this kind of data, but you still had to have data. How has the transition been? Is it intimidating? You finding that those that have been classical designing without that kind of data? What's been getting used to this third person in the room, as you've said? How has the architectural leaders kind of gotten that culture to accept that third person in the room?

Bill Bouchey: You know a traditional practise in the past would base a client's programme and the future potential solution on the basis of context, programme concepts and ideas. What we didn't have that big data helps us do is have benchmarking. It gives us case studies and client stories of other similar types of environments and spaces to compare and benchmark what we're doing against. Think about a time when there wasn't a strategy group, there wasn't a workplace consulting think tank within an architecture firm. There wasn't a transportation planning governing body. There wasn't an innovative team looking at guest experience in hotel and hospitality environments. We've had to augment the tradition of being an architect who's licenced in interior design, or who's accredited with a strategies team that is actually in the upfront process. They are an internal partner, but they become the thinking, the left brain side of every one of our teams in the dominant way. Everybody's thinking right brain left brain on the team, but the piece that's strategic that's helping capture information before it was called data, that's a product of the last 15 to 20 years, but there's no practise today I think that's global that isn't relying upon that for the learnings and findings that inform the approach, that give clients a quick immediate sense of comparison and benchmarking to the environment type against other places in the world. If you're designing for an experience that's about a sense of place, you are comparing it to the best and worst of others.

James Ingram: Right. You're also building something right that's not really fluid. It's going to be constructed. It's going to be sitting there. It's not that you just rearrange the chair in the room. These are fixtures and established concrete. So that kind of data gives you the confidence, is that what you mean?

Bill Bouchey: It gives you the confidence and it builds your argument. James think of it this way, the period of time in any project, whether it's a 25,000 square foot showroom, a 50,000 square foot retail store, a one million square foot airport terminal, a 400 key hospitality hotel residence, the amount of time in commercial architecture and design that the concepts and the ideas stay fluid is incredibly foreshortened by business speed and schedules. We

need to early research, the early data, the early discovery to better inform the design when we start the design process. We're not able to revise the design and regulate the design and evolve the design for a very long period of time, so the better the data, the better the input, the better the content in that shortened window of design development.

James Ingram: Interesting. Another angle I'd like to unpack a little bit in what you're saying, especially as you're emphasising different type of structures in different regions are the cultural aspects. Is AI in architectural, is it already or is planned to kind of also add that component of the kinds of culture that's going to be using the building, or the facilities, or the offices? Culture itself, nationality, work ethic, where they come from. Is AI in that field as well for you guys?

Bill Bouchey: This is an interesting question. I feel like what you're really asking me is to talk about the boundary or the border for AI and what we call EI, which is emotional intelligence.

James Ingram: That's exactly what I'm doing. I want to push this conversation a little bit.

Bill Bouchey: There's a boundary there. You're asking me how do we capture the qualitative component of culture, mood, esprit de corps, vernacular or regional influence, a way of working, the kinds of experiences that are behind a brand in an environment that's a part of the brand experience.

James Ingram: Right, cultures change right, the way people are in different cultures.

Bill Bouchey: It all comes into play and so we have to facilitate a focus on that cultural qualitative capture, but we have to capture it in both analogue and digital ways and it goes into the database as part of the esprit de corps of an organisation. It links to culture brand, cultural and corporate aspirations in terms of growth, in terms of what the experience wants to become. Every client's got aspirations today. While we have to facilitate asking the questions that help understand what the culture is and the aspirations of what it wants to evolve to, those activities have to be recorded, analysed, documented. If you think about the hard data about utilisation partnered with the qualitative data summaries...

James Ingram: Exactly.

Bill Bouchey: Of EI, you've got AI and EI coming together, the two show a fuller picture, give us a broader glance, or a broader view of the potential learnings and findings that we would make recommendations against as we go into the design process.

James Ingram: Is that world merge? Are those both considered the third person in the room, like a part A and part B? Is that what you're trying to say?

Bill Bouchey: I'm going to come back at you a little differently. I think you could say in the recent past it was the third person in the world. I think what we're seeing is that it's another first person, that AI and EI are both first persons of equal presence, equal importance.

James Ingram: Interesting.

Bill Bouchey: And that while one begets the other, or one came first, emotional intelligence is very near and dear to heart, to the attitudes and the values and the buying and spending patterns of the millennial generation and the X, Y, and Z generation. And we're talking lifestyle. We're not only talking about how they behave in the workplace. We're talking about how they travel, how they spend money, what types of destinations they go to, the kinds of environments they choose that are hospitality, where they shop. Right? All of this. What we see, incredibly, in this kind of space fusion blanket around this sense of experience design, and this multi-generation world we're moving into that is progressively getting younger, is that it's all lifestyle-based. And so lifestyle has a component in every project type that we do, whether it's a corporate office headquarters, an airport terminal, a hotel, or a medical building in the Middle East.

James Ingram: That's interesting. So this reminds me of some other advantages AI has been pointing out. Is that there's fields. Like you could imagine a designer architect who's been doing it for 30, 40 years. They have some, their experience themselves lets them kind of understand what's happening. Whereas an architect, he's five years' experience, he has a much smaller vantage point of experience. There's another industry where they're using this paint with sensors in it. GE has this paint. And they'll paint an engine. And the metallurgy is monitored. And while a 30 year veteran can look at a jet engine and say, "That's going to crack, change that part." A five-year engineer doesn't have it. But the paint, the science that AI is says that's got to change. So what they're doing is they're taking a five-year person, making them as experienced as a thirty year person. Would you see this first and

second person, this AI and EI coming into that room giving an accelerating experience for younger architects.

Bill Bouchey: Possibly, but I'm going to say that if I put this as a filter on the young architecture professional in our practises, and we are three continents, 1,700 people, multiple practise areas, I would tell you that the five-year professional is probably going into the database first to see what they can find before they are qualitatively asking the more senior 30- to 40-year-old experienced architect where that information is. I think there is a self-sufficiency...

James Ingram: That's interesting.

Bill Bouchey: ... to the young professional as well as our young knowledge worker and our young traveller in the world. To go to technology first to look for answers, background, history and information. It could be more immediate if they go to the 30- to 40-year-old person. But I think their habits and their tendencies, from what we see in the world, tells us they're going to go to data first and people second in order to find out key pieces of information. But to your point, the five-year-old architect has to understand what the history of this thing is and the lifetime of this particular project situation. So you talk about this engine and this coding on it. So they may not know the durability or the last life of its lifetime. So they need that senior person as an augment or complement.

James Ingram: Right.

Bill Bouchey: And so what we see is an equal amount of co-coaching. The young professional may be absolutely more fluent and agile from a technological standpoint. But they need to be augmented or complemented by the seasoned professional that brings a point of view and storytelling to the experience or to the moment of conclusion that they want to dial up with a client about.

James Ingram: That's great. So do you find that is, two things. Do you find it's creating the ability to attract higher end talent because of how you've embraced this kind of technology? And also are you using it as a competitive advantage to win the bids on some of these accounts to give confidence to the buyer or who's going to employ you, that they're going to get a better product?

Bill Bouchey: Sure. We increasingly have to win commissions. And one of the bases of what we have to prove, or at least be on record as checking the box, is that we are working in a technology platform that captures data and information that can be easily

shared by all parties. Client, ourselves and any other disciplined consultant that's making up or comprising a team. That's kind of one answer to that question. I think the other answer though, has to do with governance. And so governance of how data and information is captured, organised, analysed and reported back to our clients, we're seeing increasingly as being very important. Governance of the whole process.

James Ingram: Right.

Bill Bouchey: Where the information lies, and an assurance that the information, and even if we're employing AI and let's say there's a couple of AI robots that are being trained. The more information an AI robot is asked to organise and synthesise, the more intelligent it becomes and you can ask it more specific questions to look for information. Right? So this is interesting. Clients want to make sure. They want to know that there's not only a platform. But they want to know how the information and data is being captured, how often it's being updated. They want to be sure that nothing is being missed. So they're involved.

James Ingram: Yeah.

Bill Bouchey: The process of how it's organised and set up.

James Ingram: Because of the magnitude of these projects, it's worth that set up investment. So you use that as a way, this is why our firm is at better odds of creating a beautiful product for you.

Bill Bouchey: If you're a developer who's responsible for transportation environments and you're looking at a capital plan to build out 10 of those environments in 10 different places in the world, you may have different partners.

James Ingram: Right.

Bill Bouchey: Because it's maybe practical in different regions of the world. But if you capture a successful process in one of those commissions, you're going to want to repeat the learnings and the best practises from that in each of those other situations. Yet there's a specific filter to that region, vernacular, area and programme. Clients don't want to reinvent the wheel. They want to update and know. They want to find an approach that works and be able to customise and tailor it to make it bespoke for each project location.

James Ingram: That's very cool. That's very cool. So then would you see, if we were to try to put two sides of the fence here. One side is

disruptive. Another side is at an advantage. What aspects of AI and emotional intelligence, that EQ kind of bringing in here, are disruptive to the process? And have been disruptive for the good? And what are just advantages that make you just either work quicker or lower cost base or more accurate? Are there ones on both sides?

Bill Bouchey: I'm not sure. Let me try in this one. On the disruption side, right? Let me, let me come at that a little differently. So I don't know that I would think of AI as a disruptor. So if you take an example of AI as a robot, or robotic type component, that is capturing and organising data for a human group that is entering information or bringing information to it. I think the question is how do you teach an AI component to be disruptive, to think outside the box, to record data, and then think? I don't think you can teach AI to think about what's missing. I think you can ask AI to reorganise what you've got and to sort and find. So my question really is, is if AI is going to be a disruptor, it has to become more intelligent. I'm not sure it can. I think the human controller, or the human person that is interfacing with it, has to be able to hit a scramble button. And I don't know, I'm not averse to tell you that technologically we're there yet.

James Ingram: Right. And what about advantages? So over all, pretty much we're identifying together as we talk this out as I'm understanding this, it's really bringing advantages. It's not really disrupting architectural industry. It's really just bringing advantages to the industry.

Bill Bouchey: I think the biggest advantage of AI, I think any professional that's involved, even on the peripheral team that's using AI as part of their data capture, data organisation, data mining and sort to generate reports, headlines, information. Right? Best practises? For me, sharing results that can be synthesised and quickly organised and sorted, it's incredible. Because from a project process internally, it can influence better design in the immediate project delivery. You can get information more quickly and respond to how it impacts your work more quickly. But it informs the basis of the next project as well. And when you share the results of this internally amongst teams in a practise, you're making other people aware of how to do it in their own commissions and assignments. So the value is incredible. But again, you've got to stay ahead of it.

James Ingram: Right.

Bill Bouchey: You've got to be managing it. You've got to make sure that there is a point person who is overseeing it. Because you're only going to get output that's as good as what you put in it.

James Ingram: So have you guys, because it sounds just fascinating, understanding about an organisation that you have to design for. Sounds like you're getting really deep in them. You're understanding their employee base. Understand their work product, what they're trying to do. Do you guys make it an advantage for them? Or find a way to use that to get back to them to help their own business?

Bill Bouchey: Absolutely.

James Ingram: You got an example or something like that?

Bill Bouchey: Sure. I mean you know, part of this utilisation measuring, how space is used. Now let's just not limit that to workplace environments, showroom and retail environments. Let's think bigger picture. A day in the life is a huge part of that kind of anthropological study. Right?

James Ingram: Right.

Bill Bouchey: So a day in the life requires not only sensors, but human beings. So you've got AI and people working together. So if you want to really understand what your patterns of use are in an environment, you need to deploy a team and technology to measure, analyse, observe and bring all this data to bear. So an example would be looking at all the waiting areas in an airport. And putting sensors, not only in the ceiling and the seats, in order for us to gauge exactly how many times someone is sitting in a row of seats over the course of the day.

James Ingram: Okay. So the sensors are about how many people are there or they're sitting or standing. Okay.

Bill Bouchey: They help us read when someone's movement, how long they're in place, how often they get up, when that place is empty, when that place is in use. So the utilisation is going to tell us the peak times through a day. Right? And it also could correspond to the points of departure and destinations related to it. So there's a whole background analysis done of what destination goes with what gate goes with what terminal. Right? So you're talking about different layers of information. The findings might be that certain points of call or destination to should be, are highly traffic who need to be in bigger waiting areas. The result of smaller usage at that point and time might speak to smaller terminal

gates. Right? But it's only a capture for the moment in time that it's occurring, knowing that that will change as well. So you have to understand that when you capture information and the period of time, you have to take it with a grain of salt. The filter you've got to put on it is, is this true as a projection? Can we basically predict off of this? Or is this a capture in time that represents only what happens in this season of a year on a regular basis? Go to a workplace environment or go to a retail store. We're looking at how long is a person trying on clothing in a dressing room. And if you're really looking at state of the art retail, are they using retail technology? Are they looking at a flat screen? Are they touching the touch pad outside the rooms? Are they tapping a screen in the dressing room that tells someone on the floor that they're looking at two more garments that you brought in for them?

James Ingram: The size or something.

Bill Bouchey: Exactly. So all of this, and what retailers want to know is the typical duration of a visit. How much is being done in mortar and brick? And they compare that of course as you know to their online ability.

James Ingram: Right.

Bill Bouchey: In workplace environments, we're constantly going in into existing environments and choosing working with them to observe and utilise all types of spaces. How often people are at their seats, how are conference and meeting rooms used? How is open and closed collaboration used? The results of all that tell a business, an enterprise, how their people are behaving. When usage is peak, how often the place is not utilised, and how often seats are vacant. It helps a company make a decision about how much square footage per head is in the programme. Whether or not a portion of their workforce can work agile with unassigned seating or work in a mobile manner. What parts of their business are most in residence and out of residence? What times of the day and year are people outside interfacing with clients? How often are clients coming in? All of this forms space usage. It impacts the numerical space programme and the planning approach.

James Ingram: And so they can take that kind of information and from an HR or culture point of view and try to do something with it. I understand maybe they didn't realise their employees felt this way, they didn't realise that they were facing these difficulties. So there's some bi-product to that intelligence that you're coming across.

Bill Bouchey: Yeah. There is a couple of concurrent things. You mentioned the word survey in HR, it's very critical. So, if you imagine some concurrent activities in the discovery period of any project for any space type. You've got a visioning and discovery piece, which is more analogue and facilitated in person. You've got online survey, you've got an interview process that can be recorded and entered into a database. And then you've got utilisation and observation of existing physical space. Think of these as four layers of a sandwich that all come together in one series of findings or headlines that report back how a space is being used and for what reasons. And that is the basis of making recommendations on the approach to a new design.

James Ingram: Very, very interesting and actually makes me want to kind of get your opinion on something. So, this topic of this podcast is creative intelligence. And we feel that typically the phrase would have been creative research, you know you do your research so that you can go and create effectively for the client or for the consumer to end user. We are elevating the term research more into intelligence denoting technology, denoting AI, denoting all the things that are emerging. Do you think that's a fair statement? That you can elevate research into seeing something as intelligence, kind of a little more expansive in what you're using?

Bill Bouchey: I think it's more intelligence and less research. I think research is the act, I think intelligence is the finding.

James Ingram: Right.

Bill Bouchey: Right? And so we're very focused on the finding because we're going to be challenged and asked and charged with interpreting off the findings and the intelligence, not just the research.

James Ingram: Exactly.

Bill Bouchey: I feel like the research is very static in a way, and the intelligence is the kinetic piece that we have to somehow option off of and interpret and bring some level of recommendation to.

James Ingram: And it takes time. Research takes time. And the more you can use technology to accelerate or compress the research time, the focus is on the intelligence or the output. Right? And that's really what we're trying to denote with this shift from creative research or inspiration into intelligence. If you were giving advice to other creative leaders, how do you embrace data inspiration in a way that gets them to not feel threatened that it's going to hamper their creative capabilities? That the amazing idea that

they think of in the shower is going to be in the way or prevented when you're emphasising so much examining of real-time data?

Bill Bouchey: I think the recommendation is this. Number one, it's never going away. Number two, AI and partnering the interface with EI is here to stay and we're only going to be continually challenged by the business world to talk and speak to both when we make any recommendation about a design, an approach to a solution, a brand, an environment. And I think the goal, really, is the argument is stronger if you have AI and data and EI all together as part of your discovery process to make a recommendation. And so whether you partner with a consulting business that can bring that service to the table, whether you look at your business plan for the kind of provider, creator you are, and bring someone in that has the mindset of strategy to help bring that strategy and design, research being embedded within.

James Ingram: Right.

Bill Bouchey: But research is throughout the entire timeline of a project. The two are really dovetailed partners. And we, as a firm, don't think you can design without the research and the intelligence component. You have to have both. It strengthens the argument, saves time, and it's the proof.

James Ingram: Right.

Bill Bouchey: It's the proof back to a CEO. You have to ask yourselves, what keeps our clients up at night? What are they losing sleep over, around physical environments of any kind? They need proof. They need to build a business case for a capital project that is somehow linked to data and the basis of data has got to be around utilisation, observation, survey, and the EI piece.

James Ingram: That's great. So, we've been spending time talking about the end user, the people. And understanding the people, understanding them so you can do a better job and also the benefit of them using it post-creation. I want to kind of take the conversation in another little angle here, this amount of data, this amount of information, has it been affecting the pressure on the materials? On the structural, on the construction practises? Are you able to have better data to challenge those environments? Are there innovations that are being forced to come up because of this new creative intelligence that you're using in the architectural process?

Bill Bouchey: Yeah, let me try to break that down into a couple of responses. I think first off, it's interesting you used the words end user, right? Increasingly, we find in our practise and in the world, right? That the guest profile, the client profile, of which there can be multiple versions of in any one environment, is taking precedence over what we call the end user. Right? So that's number one. And so when you elevate it to the level of a profile, we're actually linking that to the basis of experienced based design. Which really, I think, is what we're trying to emphasise and support. It speaks to lifestyle and how lifestyle embeds itself in every type of space we inhabit throughout the world. So, that's kind of like my first just kind of comment to position where I'm coming from. I think the second thing is, is that tracking the success stories around materiality is a little bit more difficult to do. But we certainly know from the duration and the longevity of environments how things are lasting, how they maintain and wear. We certainly are less involved in maintaining how they are performing, but we certainly know that manufacturers increasingly are building databases around materiality and things that they manufacture and fabricate that we specify, that we select, that we put forward that are highly performance based. And we kind of seek out partnering with manufacturers who have got proven materials. It doesn't mean we're not willing to take the risk on something new.

James Ingram: Right.

Bill Bouchey: We want to assess it, we want to maybe apply it in a slightly different way.

James Ingram: So now, you tied right into it. So the second one about the materials, has there been a push, since you've got better information, to get them to develop new materials or new structural capabilities to solve a challenge? You look at some of the things that, Frank Lloyd Wright's famous building up toward Milwaukee, the way he suspended the ceiling, everyone said you couldn't even accomplish that. But he challenged the way the materials had to get done in order to do that. Or Frank Gehry, obviously the things he's doing. Do you see this kind of information pushing the material manufacturers, construction materials to innovate as well?

Bill Bouchey: It can, if you're using AI with 3D technology. So, if you're working off a rivet or a CAD platformer using dRofus as a platform for capturing data on a project. So, I'm thinking specifically now about a group of architects and designers and structural engineers that might be doing what you're asking. Creating a bridge, looking at a span, designing a staircase, looking

at the structural framework for a building that has to perform and support a certain amount of weight, carry a certain amount of weight. Right?

James Ingram: Right.

Bill Bouchey: So, if you're asking your partner in AI to give you the performance specifications that are based upon the programme that's input, you can also ask it what material, materiality is appropriate.

James Ingram: Is that right?

Bill Bouchey: And you can also say, "What materials do we know of that perform at this level of performance in order for it to be allowed by this structural member?" So, I think again that there's a way to kind of harness it as a tool, as a team member, to ask it to give you. The next question becomes, "What materiality can be clad or support that?" Right? And that becomes the second question.

James Ingram: That's really interesting, I wasn't even aware that the AI can also help inspect the kinds of material used in the project.

Bill Bouchey: If it's, depending upon what it's mining as its database.

James Ingram: Correct, yeah.

Bill Bouchey: If you're asking it, "What are the materials that can meet these requirements?" it might have an answer for you.

James Ingram: That's interesting. That's fascinating. One more point in want to bring in, I want to jump back to something. You were talking about interpreting the data. Has there been any move to get behavioural science more heavily involved now that you get this kind of data? Are architectural firms employing them?

Bill Bouchey: Yes, we obviously, it's a key component of any workplace, transportation, retail, or brand strategy team, right? You have to. You have to have somebody who is got a background in anthropology. Human behaviour, human condition, right? And how behavioural patterns occur in the human being cause we're designing for human beings. They're a key component on that team and very often someone who has a background educationally in this area. Also, is perfect is a workplace strategist. So you look for the kinds of schools that bring out professionals that are focused on strategy and environmental science and they are very much our partner. They are the

backgrounds of some of the kind of strategy professionals that we have in our practise groups.

James Ingram: That's fantastic. So, just going to wrap up. Is there anything, is there a thought or something you want to leave the listeners with that this is kind of bringing to mind to drive home this creative intelligence, that AI and where it is helping the architectural industry?

Bill Bouchey: I don't see the technology boom of the last decade slowing down. In fact, it's only going to evolve more quickly with more iterations and from the standpoint of our firm practise, the message that we have internally that I would give out to this audience or to people interested in this dialogue is that do not let yourselves, do not let yourselves be beaten by technology. But we have to get ahead of it so that we're not beaten down by it. And we have to stay ahead of it so that we can strengthen the argument or recommendation for great design and a great sense of place. And that data and AI, in combination with EI, it's your partner.

James Ingram: That's great, Bill. Bill, thank you very much for the time.

Bill Bouchey: Thanks for having me.

James Ingram: Appreciate it very much. To find out more about the podcast, please visit our website at creativeintelligence.fm and follow us on Twitter at the CQ podcast.