

ON STEEL

Lagrange

GETTING STARTED “In 1968, I was lucky enough to get a job at SOM in Chicago. They were just finishing the Hancock, which is an incredible steel structure. Beginning my second week in Chicago, I worked with Bruce Graham and Fazlur Khan, and I really started to understand steel through their teaching. They were incredible people with visions of buildings and structures.”

Lucien Lagrange. Principal. Lucien Lagrange Architects. Born in France, he moved to Montreal in 1959. He interned at Skidmore, Owings & Merrill, tasted Chicago, and couldn't stay away. Now one of the most creative classic designers Chicago has ever seen, he is busy leaving his imprint on the City with Big Shoulders, designing with steel.



DESIGN “You have to understand structure. You have to feel in your body how the structure behaves. You have to think one way about concrete, and then another about steel. There are elements of a structure which are similar; but with tall buildings, you have to understand how – and why – they stand up. You almost have to feel the structure yourself. Once you do that, you'll find that steel behaves very differently than concrete. Steel allows you more flexibility than concrete.”

WORK “You have to get emotional, otherwise a project becomes just a job. You have to have passion for your work.”

VALUE “Efficiency lends value, and steel is highly efficient. Steel offers longer spans than concrete and steel sections have narrower profiles than their concrete equivalents. Therefore, steel lends itself to utilizing the ceiling space to run mechanicals through members, which typically results in higher ceilings. The span capabilities allow us to create setbacks in the building more easily, and these are used for balconies and terraces, which add value to the building.”

COMMITMENT “During the design phase, we changed from a concrete structure to a steel structure. After this decision was made, my client wanted me to resign. I was moving too slow. I said, ‘You cannot fire me. You don't understand the complexity of steel. Later on, if you want to fire me, you can. But I have to finish what I started.’ He didn't fire me. Steel is different. It puts a different layer of complexity on the project that you do not have with concrete. With steel, it's more of a challenge, and you must make a commitment in order to succeed. I understand steel, but how do you really explain it? I was convinced in the end that my client would get a better building because of my belief in steel and my principles.”

CREATIVITY “If you want to be creative, use steel. Steel requires a bit more work from the designer, because you have to put together a ceiling, exterior wall... more pieces come together. When concrete is up, you're almost done. The opportunities for building transparency presented by steel structures are exceptional. This transparency lends an ephemeral quality to the buildings.”

FLEXIBILITY “There's a lot you can create with steel because it's steel. Steel is more straightforward. You can mold concrete, for example. But steel comes in pre-designed pieces, out of the mill. At Erie on the Park, a gentlemen bought two units on top of each other and wanted to connect them. We put a stairway next to the exterior wall. That would have been impossible in concrete. When you design a condo building structured in concrete, you have to deal with interior columns in the units. Because we used steel for Erie on the Park, the advantage was we didn't have any interior columns. We had full design freedom, with clear, open space from the core to the exterior wall.”

TEAMWORK “A creative structural engineer is an integral member of the team when designing with steel. At 175 W. Jackson, we wanted to do something more creative than simply span the space with a large member as we inserted a skylight into an atrium. Our vision was to have the glass appear to float freely above a poetic, light, minimal structure. This could only be done in steel, and our structural engineer helped us realize our vision.”

DETAILS “Designing with steel requires that we pay more attention to details. The integration of the structure with the enclosure, the placement and integration of the glazing, the mechanical coordination – this all requires thoughtful and judicious detailing to execute the building.”

CLIENTS “You have to challenge your clients. That's what designing – especially in steel – allows you to do. Convince the client to do it. They will get excited about getting a better building. They'll make more money. Our clients make money through our designs.”

STEEL “When you start with steel, it's very different. In my mind, when I look at steel, it creates a different emotion. It's exciting because it relates to tall structures, light material. When you think of concrete, you think about shape, heaviness. Intuitively, one usually doesn't relate high-rises with concrete. Steel makes you feel you can build as high as you want because it's light and strong. You can express the structure and it becomes part of your statement. There's so much emotion attached to doing a steel building. It's like a mechanical set...you build up in pieces, and it's exhilarating to follow the forces of the building to the ground. Major buildings – if not the major building of this century – can only be done in steel.”



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