It isn’t hard to find porcelain, gold or marble in Manhattan’s Frick Collection—in fact, given how prominently they figured in the collecting tastes of its founder, steel magnate Henry Clay Frick (1849-1919), it would be hard to avoid them. But it is rare to encounter these luxurious materials in the forms they take in “Elective Affinities: Edmund de Waal at The Frick Collection.”

Opening May 30, the exhibition presents nine installations by Mr. de Waal, an artist and the author of the award-winning 2010 memoir “The Hare with Amber Eyes.” Created in response to specific spaces in the Frick and works in the collection, the installations are intended to add “another conversation, another dimension” to the experience of the museum, said exhibition organizer Charlotte Vignon, curator of decorative arts at the Frick. The exhibition, she hopes, will serve as “a new lens for looking at the spaces that we all love so much.”

In most cases, Mr. de Waal’s installations will be hard to miss. Groupings of porcelain cylinders, gilded sheets, shards and other forms arranged in precise relation to each other—often in angular vitrines that can reach almost 3 feet high—stand in austere contrast to the voluptuous lines and figurative imagery of the art and objects around them. “That movement—from rich figuration and symbolic imagery, into my thinking about the relationship of volume to light,” said Mr. de
Waal, “is me responding in an abstract way” to the Frick and its treasures. “They’re deeply emotional works, the things I’ve made,” he said. “They just don’t happen to have imagery.”

Like other works in the museum, the installations in “Elective Affinities” have no wall labels or dramatic lighting. Visitors will receive a brochure about the show, which includes a map, optional audio stops and not much else. “It’s a little hunt,” said Ms. Vignon. “The effect of surprise was a fundamental element of display in 16th- and 17th-century Europe, and I think it’s not bad for our public today to get this effect again.” While searching for Mr. de Waal’s installations, she said, visitors might come across an item in the Frick’s collection, “a Chinese porcelain pot or a clock they didn’t notice before. And just look at things differently.”

Mr. de Waal’s installations respond to some of the most famous works in the museum, which he first visited as a teenager. Among them is Ingres’s “Comtesse d’Haussonville” (1845), an ethereal portrait that hangs in the North Hall. Mr. de Waal’s work, “That Pause of Space,” sits directly below it on an ornate 18th-century table—“one of the greatest pieces of gilded sculpture in the world,” he said. “To put something on that table, underneath the Ingres, obviously I wanted to think about gold. I wanted to think about aura, and how light changes.” The work is composed of two groupings of white porcelain vessels with sheets of gilded porcelain standing among them, presented in a floating, gold-framed vitrine almost two feet high. With it in place, said Ms. Vignon, “there is this play of line and colors that makes the three pieces”—portrait, table and installation—“suddenly much more connected.”

By contrast, “Sub Silentio,” the installation in the Living Hall, takes the entire space—and the museum’s founder himself—as its impetus. Dominated by portraits of powerful men and, when the building was Frick’s residence, used exclusively by the collector and his male guests, “the Living Hall is in some sense the epicenter of the Frick,” said Mr. de Waal. It was a place where he felt Frick’s presence keenly, in both his passion for art and his ruthlessness in business—he was one of the founders of U.S. Steel. With that in mind, most of the works in “Elective Affinities” include an assertively industrial element. “All these installations, they’re full of
beautiful, lambent gold and porcelain and marble,” said Mr. de Waal. “But they also, dammit, have steel.”

In “Sub Silentio,” Mr. de Waal leans pieces of black steel against fragile black porcelain, encasing the compositions in a set of black vitrines. Sited on the imposing desk at the center of the room, they temporarily replace the dark Renaissance bronzes that are usually seen there. Against the room’s dark paneling, amid its ebony furniture, lacquerware and other objects, the installation pieces—despite their size—can almost disappear. “At the same time,” said Ms. Vignon, “they make you much more aware of the other elements in the room.”

Perhaps the subtlest work in “Elective Affinities”—and its slyest joke—is the installation in the Library. “I’m convinced that Frick never read a book, and that the Library is a kind of ersatz English library,” said Mr. de Waal. To create space for his work there, he removed the “The Book of Wealth,” a monumental, ten-volume work written by historian Hubert Howe Bancroft and published in 1896, replacing it with an installation he dubbed “An Alchemy”—an allusion to that substitution, perhaps, or to Frick’s transforming steel into his personal fortune. A compact composition of black-glazed porcelain cylinders, black and gold porcelain shards and stacked steel blocks, it is contained in three black vitrines. “I’m convinced that no one is actually going to find it, that it is going to be hidden there for all the months of the exhibition,” said Mr. de Waal. “That’s my personal hope.”

“Elective Affinities” is slated to run through November 17. “It’s a really long exhibition for us,” said Ms. Vignon. “That will give people time to come and go, and to think and reflect about these galleries, more than just seeing a piece by a contemporary artist in the space.” Ultimately, she said, “Elective Affinities” is “about the Frick. It’s about our spaces, it is about our collection. We have been lucky to partner with a generous and extremely sensitive artist, who has lent us his eyes.”