Selection, Constraints, and Creativity Case Studies:
Max Beckmann and Philip Guston

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ABSTRACT: *This article presents a problem-solving model of creativity based on constraint selection. In the model, constraints come in pairs that (a) preclude reliable solutions and (b) promote search for novel ones. The most important constraint specifies a novel goal. Other constraints—source (elements for recombination), task (how materials are used), and subject (motif, theme)—are then strategically selected to realize the goal constraint. We use Fauvism to briefly introduce the model before analyzing the constraints selected by Max Beckmann and Philip Guston in the two mature phases of each artist's career. The analyses are then used to support our contention that constraint selection is central to creativity.*

Selectionist models are found in both the creativity (Boden, 1991; Campbell, 1960; Perkins, 1994) and learning (Holland, Holyoak, Nisbett, & Thagard, 1987; Palmer & Donahoe, 1992) literatures. According to the creativity models, selection criteria include novelty, usefulness or appropriateness, and influence or domain-change (Amabile, 1996; Gardner, 1993; Csikszentmihalyi, 1996; Simonton, 1994). According to the learning models, selection increases the frequency of responses that precede it, thus decreasing the variability on which creativity depends (Stokes, 2001a) As a result, success—whether in shows, sales, or imitators—can leave an individual stuck in a successful solution.

This is readily apparent in the paucity of painters who remained creative (and not merely proficient or prolific) over the course of their careers. Fauvism, which radically presented "reality" in high-keyed, unnatural colors (think of Madame Matisse with a green line down the center of her face), provides a clear example. Of its originators—Matisse, Derain, and Vlaminck—only Matisse continued to change his work in novel ways. The same holds true of the Impressionism movement, only Monet repeatedly reinvented his style.

The constraint selection model used to analyze continuities (that make a Matisse of any period a Matisse) and changes (that make a late Matisse distinct from an early one) in creative careers is derived from the problem-solving literature (Stokes, 2001a, 2001b, in press). Constraints both define domains and facilitate problem solving in them. We use Fauvism to briefly illustrate these two points. We then focus on continuity and change in the careers of Max Beckmann and Philip Guston. We close by using these analyses to support our argument that selecting constraints is central to creativity.

Constraints Define Domains

A domain, like painting, is a well-developed area of skill/knowledge with agreed-on performance criteria (Abuhamdeh & Csikszentmihalyi, 2004). These performance criteria can be specified in terms of goal, source, subject, and task constraints.

Goal constraints are overall criteria. Accepted by a domain, they become stylistic conventions, answers to questions like "is this a Fauve painting?" All other constraints are purposely picked to help realize the goal. These include *source constraints*, which supply stylistic elements for culling and recombination, *subject*

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constraints, which specify content or motif, and *task constraints*, which govern materials and their application (Stokes, in press).

For example, circa 1905, the Fauves' goal constraint was something like "paint the impact of what you see"—in other words, an emotional rather than a purely optical response to reality. Source constraints included the expressive primary color palettes of the Nabis, Gaughin, and Van Gogh (Stokes, in press). Several task constraints are considered in the following section. There were no subject constraints.

Constraints Facilitate Problem Solving

Constraints facilitate problem solving by directing and limiting search for solutions (Reitman, 1965). Thus, they come in pairs. In creative problem solving, one constraint *precludes* (or limits search among) low-variability, tried-and-true responses. The other simultaneously *promotes* (or directs search among) high-variability, novel responses. The specific pairs are *strategically selected* to realize a novel goal, which, as we shall repeatedly stress, is the creator's primary constraint. Experimental evidence suggests why such a strategy works. By limiting conventional thinking (Finke, Ward, & Smith, 1992) and reliable responding, such constraints sustain the variability (Stokes & Harrison, 2003) lost to prior selections–successes.

The search for solutions takes place in a problem space, defined as how a solver views a problem (Newell & Simon, 1972). It has three parts, an initial state, a goal state, and a series of operators (condition-action rules of the form "if the condition is *X*, then do *Y*") that provide a solution path from the initial to the goal state (Newell & Simon, 1972). The goal state includes a criterion for knowing if the goal has been reached. As a new style develops, its goal criterion will be specified, albeit gradually. For illustration purposes, Figure 1 presents a simplified problem space for Fauvism. The initial state is accepted painting styles circa 1905, one of which is Impressionism.

Figure 2 replaces the operators from Figure 1 with the paired constraints that generated them, and specifying the criteria for Impressionist ("paint how you see," or more specifically, "how light breaks up") and Fauvist ("paint the impact of what you see") styles (Stokes, 2001a, in press).

Figure 1. *Simplified problem space for Fauvism.*

Figure 2. *Paired constraints for Fauvism.*

The paired task constraints were strategically chosen to realize the new goal. Impressionism's local, closely valued hues and overall compositions were precluded. In their places, sparsely painted, saturated color streaks and their compositional consequence—a brilliantly colored, albeit ambiguous, oil sketch—were promoted.

The later development of the first-among-Fauves, Matisse, has already been analyzed using the constraint model (Stokes, in press). Here, we apply it to two painters, also accomplished colorists, with goals quite distinct from Matisse, but distinctly related to each other. The first, Max Beckmann, precluded the Fauve style for being overly hedonistic and decorative, searching further back in art's history for source constraints, "first choruses" on which to improvise (Rivers, 1987). The second, Philip Guston, included Beckmann's work among his source constraints.

Constraints and the Career of Max Beckmann

Beckmann's two major stylistic phases are closely related, the second maintaining and extending, indeed exaggerating, task constraints selected in the first. The first extended roughly from 1917 to 1932; the second, from 1932, when he adopted the triptych format, to his death. Figure 3 summarizes his goal, subject, and task constraints.

1917: Selecting Constraints for a Redefined Realism

Beckmann's experiences off and on the battlefield during World War I were the catalysts for his first set of novel self-selected constraints. To visually express his response to this shattering of reality required retaining, but reconceptualizing, painterly realism. Given his artistic training and current painterly production, this specifically precluded German Impressionism (think of Corinth) and European Romanticism (think of Delacroix), as well as more recent stylistic innovations too removed stylistically and emotionally from Beckmann's goals. Cubism was too complicated and cerebral, and—as mentioned earlier—Fauvism was too overly decorative and hedonistic.

Goal constraint. This was clearly articulated by the artist: "Most important to me is volume, trapped in height and width; volume on the plane, depth without losing the awareness of the plane; the architecture of the picture" (Beckmann, 1918/1997, p. 184). Simpler ways of saying this are "abstract presentation of realistic motifs" or, more graphically, "bas-relief on canvas."

Source constraints. Beckmann's goal precluded both the late 19th century's illusions of depth (think of Corot or Courbet) and the early 20th's flat decorative surfaces (think of Matisse or late Monet). In their places, it promoted the compressed (on the plane), cluttered (trapped) volumes characteristic of Late Gothic altarpieces—particularly, we believe, the carved wooden ones, as well as the interlocking organization of space developed by Cezanne.

GOAL	SUBJECT	TASK
1. **Redefine realism** (1917-1930)	**Preclude** everyday self →**promote** theatrical, role-playing self	**Preclude** space between objects → Structure: **promote** claustrophobic space cluttered with fully modeled 3-dimensional objects
2. **Redemption through art** (1930-1950)	**Preclude** the realistic → **promote** the mythic (limited set of subjects, objects, and settings) **Preclude** the overt → **promote** the enigmatic	**Preclude** naturalism →Composition: **promote** triptych form →Structure: **promote** compressed space →Graphic: **promote** outlined exaggerated figures, saturated hues

Figure 3. *Beckmann's constraints.*

Task and subject constraints. From these sources, Beckmann derived his major *task constraint* in this period—fully modeled objects in shallow spaces. To make this constraint concrete, we use a (relatively) simple example, *Lido* (1924), a painting of five people at the shore, three in the water, two walking on the beach.

Rather than rolling toward us or receding into the horizon, Beckmann's waves, like Cezanne's tables, tip slightly forward in stacked rows. Like carved Northern Gothic altarpieces, there is no space between the rows. As a result, the (fully three-dimensional) arms of one bather (whose legs are five waves out from shore) are on the same plane as the walking women. The setting has become a "set," a stage of sorts appropriate to Beckmann's *subject constraint*, promoting the enigmatic, theatrical, role-playing self. The walking women are both "costumed"—one wears a long cape and a cap that covers her eyes; a long towel is dramatically draped to reveal only the eyes of the other.

1932: Selecting Constraints for a Secular Mythology

By 1932, the year he began his first triptych, Beckmann, along with other "degenerate" artists, was already under attack by the National Socialists in Germany. By 1937, he and his wife were in exile, first in Amsterdam and, finally, in the United States. With the state culpable and the church incapable of countering the increasing brutality and impermanence of the time, the task of the artist changed. The task became sacred, the creation of an alternative, aesthetic universe that would fill the emptiness, the *horror vacuii*, of the all too real one (Belting, 1989).

Goal constraint. Beckmann's second goal—redemption through art—was articulated, and in many ways, by the artist. "Self-reliance," he said, "is the new idea that the artist and, with him, humanity, must grasp and shape. Autonomy in the face of eternity." God, in this new religion, is the "collective intellectual products of humanity" (Beckmann, 1927/1997, pp. 287–288). As we shall see, to help realize and center this new conception of the sacred, the artist borrowed abundantly from the forms and formats of the formerly sacred.

Source constraints. To create his mythology for the early 20th century, Beckmann borrowed from Northern Gothic as well as Early Renaissance art from Germany and the Netherlands. Newly appropriated were the triptych form of altarpieces, the saturated colors and black outlines of stained-glass windows and the exaggerated graphics of Brugel, Gruenwald, and van der Weyden. Because these provide his task constraints, we elaborate on them in the next section.

Task constraints. As we know from his first mature phase, Beckmann's pictorial architecture predated the triptychs, structuring the single panels (like *Lido*) that preceded them. Figures and objects were modeled to appear three dimensional, but because (as earlier) Beckmann painted no space between them, they pile one on another like cutouts. However, the unnaturalness, the strangeness, of the space now had another purpose. It signified the space as sacred, in much the same way that flat gilt backgrounds did in medieval religious paintings.

The triptych form also served two ends. With its obvious religious associations, it too signified the sacred. With three separate panels, it precluded easel painting's single window onto nature, its setting limited in time and place. Instead, the panels promoted multiple settings where Beckmann's characters and objects could appear and reappear in a kaleidoscope of times, places, and guises. Recall his earlier use of compressed space to create stage "sets." The panels became multiple sets, each presenting a single mythic variation.

The stained glass windows were, like the triptych form, appropriated for their religious association, as well as their seductive beauty. From across a room, their brilliance beckons, promising redemptive, uplifting beauty. Beauty lures the viewer into close-up contemplation of Beckmann's otherwise off-putting contents, the contrast makes them even more startling.

To produce these shocking, enigmatic subjects and objects, Beckmann's graphic constraints precluded naturalism and promoted distortion and exaggeration. As mentioned earlier, Northern sources proliferated, providing "constraining formats, angular compositions, hard modeling, and … 'brutal' descriptiveness" (Storr, 2003, p. 25). Likely borrowings included caricatured buffoonery from Brugel, expressive and chromatic distortions from Gruenwald, and sculpted angularities and symbolically sized figures from van der Weyden. *Symbolic* here means that the size of a person

or object reflects its importance to the story being presented. For example, the bellhop in the right panel of *Blindman's Bluff* (1944–1945) is diminutive compared to the other characters, just as the newly risen (saved and damned) in van der Weyden's *Last Judgment Altarpiece* (c. 1445–1448) are insignificant compared to the saints and the angel holding the scales.

Subject constraints. Realizing the mythic generated an extended set of subject constraints. First, individuals were replaced by a limited number of types (the king, the warrior, the woman, the young man, the bellhop). Settings (theater, bar, studio, place of ritual) and objects (fish, candle, sword, gramophone) too were restricted in number (Spieler, 1996). The limitations derive from the nature of myth—its structure is repetitive, its story told over and again with variations provided by recombining a limited number of elements (Calasso, 1994). The variations elude explicit interpretation, thus satisfying the second subject constraint, precluding the overt and promoting the enigmatic.

For example, in *Departure* (1932–1933), the fish appears in all three panels of the triptych. Its meaning is nonliteral, ambiguous, open—like myth itself—to multiple interpretations. On the left, two fish are trapped by the young man (in the role of a torturer). In the center panel, many small fish are released by the king; an enormous one is kept by the warrior. On the right, the (blinded) bellhop carries a single fish. Since Beckmann reportedly said that "fate appears as an elevator boy" (Spieler, 1996, p. 61), this fish must be a message, albeit an obscure one. A variation on this theme—the unreadable, recondite message—occurs in the right panel of *Blindman's Bluff* (1944–1945). The aforementioned diminutive bellhop holds a paper with writing on it; the young man to whom it is delivered cannot read it. He is now the one wearing a blindfold.

Like religion, the triptychs speak to the viewer on multiple levels. Their visual impact, their seductive, shocking beauty, command attention on emotional, visceral, and aesthetic levels. Their complex mythology and enigmatic value system sustain that attention on intellectual, philosophic, and moral ones. As great art, they continue to influence us, and importantly, by expanding the domain, other artists. One of those other artists was Philip Guston.

Constraints and the Career of Philip Guston

Paintings from Guston's two mature stylistic phases are starkly different, yet recognizably Guston's. The continuity came from Guston's adapting his "signature" task constraints to reversed goal and subject constraints. The first phase lasted approximately from 1948 to 1968; the second from 1968, when the first shoe and boot paintings appear, to his death. Figure 4 summarizes his goal, subject, and task constraints.

1948: Selecting Constraints to Preclude Social Consciousness

Guston's first mature goal was shaped by earlier members of the New York School. The goal was to liberate art from didactic, social commentary or consciousness. Stylistically, it precluded realism to promote a formalism that emphasized the act of painting, painting as a process, a production, not a reproduction. Each of the Abstract Expressionists developed a "signature" style based on a set of personal task constraints—Pollack's drips and splashes, Kline's black architectural armatures, Motherwell's hovering ovoid elegies, Guston's small, centered, repeated brush strokes.

Goal constraint. The goal for Guston, as for all the Abstract Expressionists, was to replace social consciousness and its accompanying realism (think of WPA murals and American regionalism) with pure painting. How does the painter know when a goal this abstract is realized? Guston described it this way: "To paint is a possessing rather than a picturing. Usually I am on a work for a long stretch, until a moment arrives when the air of the arbitrary vanishes and the paint falls into positions that feel destined" (Mayer, 1956/1997, p. 63). What feels "destined" becomes the goal criterion.

Source constraints. Though Guston's goal precluded representation, it included scaffoldings, armatures, from both realistic and abstract sources. From the realistic, Guston borrowed Cezanne's breaking a picture into separate planes, as well as the Cubist's grid, which focused on the center of the canvas. From the abstract, he appropriated Mondrian's "plus-minus" grids, in which the recognizable elements of church facades and harbors were replaced by crosshatches indicating their relative locations.

GOAL	SUBJECT	TASK
1. **Liberate art from social consciousness** (1948-1968)	**Preclude** representation → **promote** the expressive brushstroke	**Preclude** the recognizable →Structure: **promote** grid armature with contraction, centering, and reiteration of brushstrokes → Graphics: **promote** limited palette of expressive colors, differentiate brushstrokes via density and texture
2. **Promote a social conscience via art** (1968-1980)	**Preclude** non-objectivity → **promote** caricatures (Klansmen, Cyclopean heads) **Preclude** the overt → **promote** enigmatic and mythic (limited inventory of objects)	**Preclude** "good" painting → Composition: **promote** awkward, unbalanced arrangements → Structure: **promote** compressed, cluttered space → Graphics: **promote** crude outlined figures filled with lush paint

Figure 4. *Guston's constraints.*

Subject constraints. Because abstract expressionism precluded realism, it had to replace the now "missing" objects. Guston's replacements were the brush stroke, the relationships between individual brush strokes, and the emotions those relationships expressed.

Task constraints. Guston's first set of task constraints—limited palette, grid armature, buttery textures, density contrasts—are completely realized in *Zone* (1953–1954). The densest, heaviest strokes cluster in the center of the canvas, emphasizing that paint and its application are the work's subject. There are four colors—pink and cadmium red, which predominate, green and gray. Irregularly cross-hatched brush strokes, repeated and thickly layered red over pink, center the composition's grid structure. Beyond the center, the densities decline, the strokes are single colors—pinks or reds, a zig-zag of green at the bottom, a cross-hatching of grays to the left, all dissolving into still paler grays and pinks. *Zone* has the kind of seductive, shimmering surface that earned Guston the label "Abstract Impressionist."

Ten years later, *New Place* (1964) reinterpreted the same constraints darkly. Now the pinks are relegated to the edges, almost suffocated by an opaque grid of dark grays with three slightly off center black areas. The brush strokes are fatter, closer, and chaotic in their irregular, oppressive interactions. What is expressed is neither Platonic formalism nor hedonic Impressionism, but angst, raw and anxious. The angst was soon to take on realistic form.

1968: Selecting Constraints to Promote a Social Conscience

Guston's conversion from the sublime to the squalid followed what the painter described as feeling "split, schizophrenic. The war, what was happening in America, the brutalization of the world. What kind of man am I, sitting at home, reading magazines, going into a frustrated fury over everything—and then going into my studio, to adjust a red to a blue" (Mayer, 1997, p. 171). Vietnam and Watergate had changed the Zeitgeist, and not just for Guston. The startling first showing of his "seething, lumpish, nightmare cartoon im-

ages: hooded Klansmen painting pictures, riding around in jalopies, smoking stogies" (Kimmelman, 2003, p. E37) coincided with the critic Harold Rosenberg's (1970) call to liberate painting from Abstract Expressionism's ban on social consciousness.

Goal constraint. To object to society's ills, Guston's art became objective, albeit enigmatic. The artist continued to adjust his hues, but now they filled in the crudely outlined subjects (Klansmen, disembodied heads) and objects (fat gloved hands, garbage pails, shoes) that (meeting Guston's goal) shocked and even scared viewers.

Source constraints. Unlike Beckmann, who borrowed from past centuries, Guston's borrowings were both more current and more common: Abstract Expressionism and Beckmann, of course, and quite unexpectedly, the funnies (Berkson, 2003). From his Abstract Expressionist phase, Guston retained his gorgeous coloration and paint application. From Beckmann, he borrowed goal (art as a vehicle of redemption, of return to true community), task, and subject constraints (discussed later). From the funnies, he borrowed format (the theme-and-variation narrative of Herriman's *Krazy-Kat* and the brick-tossing mouse) and form (the bristley, bulbous characters of R. Crumb).

Subject constraints. Guston's subject was, de facto, what Hannah Arandt called "the banality of evil" (1963). The artist imagined that banality by asking himself questions: "What do they [the Klansmen] do afterwards? Or before? Smoke, sit around in their rooms (light bulbs, furniture, wooden floors), patrol empty streets; dumb, melancholy, guilty, fearful, remorseful, reassuring each other?" (Mayer, 1997, pp. 149–150).

Realizing the banality and the evil precluded both the nonobjectivity of Abstract Expressionism and the too-overt objectivity of Pop. In their places, it promoted an absurd, increasing dark and (a la Beckmann) mythic reality. An extended set of subject constraints ensued. Sans triptych form, Guston's settings were single and increasingly apocalyptic: bare studio or empty street, single bed or brick wall, garbage heap or floor. Guston limited his types to an even more restricted number than Beckmann: hooded Klansmen in patched robes spattered with blood or paint, both red; a sin-

gle-eyed, unshaven, male head shaped like a lima bean; a woman's head, with braids, always cut off just beneath her two long-lashed eyes; a junk-yard dog.

Like Beckmann's, his inventory of objects was restrictive and repetitive—bare light bulbs, booze, beat-up cars, gloves, studio stuff, shoes, hairy arms and legs, the soles of shoes—ordinary things made cryptic and chilling in their juxtapositions. The red-gloved hand holds a paintbrush or cigar, sometimes it simply points. The soles are particularly poignant: they stick out from the back of a car or a bed sheet, hang over a brick wall, pile up in a dump or doorway. A show of Byzantine icons at the Metropolitan Museum (2004) highlighted a related, religious use of the sole: the infant Christ leans his cheek against his mother's and extends toward us the bottom of a tiny bare foot that we know will be nailed to a cross.

Task constraints. The proclivity for "bad painting" (Hentschel, 2004) precluded balanced compositions and promoted awkwardness. One way Guston achieved this was randomly scattering his figures and objects. Another was massing them in piles that clutter the canvas. The space in which the objects accumulated was itself compressed. As in Beckmann's paintings and in comic strips, all the volume belongs to the things. There is no breathing room in a late Guston.

The proscription on "good" painting promoted exaggerated, cartoonish graphics. "All hell doesn't do much break loose as move in and set up housekeeping" (Schjeldahl, 2003, p. 103). Readily recognizable, simultaneously laughable, and lamentable, Guston's images were closely related to contemporary funnies. His lima-bean shaped, single-eyed heads are slightly less hirsute cousins of R. Crumb's caricatures. Like Beckmann's bellhop and warrior, and Herriman's *Krazy Kat* and brick-throwing mouse, his Klansmen with their jalopies, red gloves, and cigars appear and reappear in ever varied, always related vignettes.

Separating Guston's grotesques from the merely comic was the lush, buttery paint and brush stokes carried over from his Abstract Expressionist period. At the Metropolitan's Guston retrospective (2003), you could both look at *Zone* (1953–1954) and see, out of the corner of your eye, the same beautiful palette and paint in *Bad Habits* (1970). In *Bad Habits*, a clock beside a bare hanging light bulb reads 11:30. The two Klansmen and their liquor bottles alike are puffed out like pillows, mottled and modeled with pastel pinks

and blues that soften not only their edges but also their significance. The smaller bottle rests on a red garbage can; the neck of the larger bottle is the same green as the zig-zag in *Zone*. The overt badness of the subject is obscured. Guston's gorgeous paint handling worked like Beckmann's stained-glass brilliance: instead of being repelled, we are wooed into the work. Even more surprising, this is also true of the last works, in which the paint is no longer predominantly pink and red, but more ominously, black, gray, and blood red.

Guston's work triumphs as something deeply disturbing, an utterly compelling, seductive, subversive idiom. His legacy and influence are seen now in contemporary socially conscious painters (like Jenny Seville) who learned this from the late paintings: paint itself can be the painter's most powerful weapon, making us look closely at things we would otherwise avoid.

Constraint Comparisons: Beckmann and Guston

Shared Constraints

It is not surprising that Guston would have looked to Beckmann's work as inspiration late in his career. Both responded to troubled times with similar *goal constraints*. Both aimed at conversion from brutality, from war, from dark secular "religions," to something redemptive, to a social conscience or consciousness that would restore civility and civilization. Beckmann's secular mythology was a response to the tragedies of two World Wars. His brilliant hues and religious typology dramatized the terrifying, dark "religion" dominating Europe at the time. Guston's synthesis of beautiful Abstract Expressionist technique and grotesque subject matter created an emotional depth appropriate to his fury and frustration with a later war that polarized America.

They also shared *subject* and *task constraints*. Like Beckman, Guston created a cast of enigmatic characters and objects that continually reappear in his work, exaggerated, distorted, vile, or pathetic figures whose depth and versatility equal those in the triptychs. The importance of these types and objects was emphasized by the way both artists compressed space: There is none between them; all the volume in the paintings belongs to things. The space becomes sacred in Beck-

mann, apocalyptically so in Guston. The seductive beauty of Guston's paint also borrows from Beckmann, whose saturated hues and rich blacks outlined images of beastliness as well as of redemption.

These similarities are easily overlooked in the very different physical realizations of their shared concerns and constraints. The differences emerge from each one's selection of other constraints, particularly their chosen sources.

Separate Constraints

Sources, like all other constraints, limit and direct search in disparate ways. Beckmann's sources included, in close physical proximity, Northern Gothic and Early Renaissance religious art, from which he derived the triptych forms, the stained glass colors and outlines, the exaggerated graphics, the relative sizing of sacred space. A continent away from Germany and Flanders, Guston's sources included Beckmann in its art history, the Klan in its social history, and in close proximity, both comic strips and Abstract Expressionism. From the funnies came his caricatures, distorted and dislocated; from Abstract Expressionism came his sensuous paint and brush stroke.

What makes a painting recognizably a Beckmann or unequivocally a Guston is each painter's *uniquely* selected sets of constraints, early and late, shared and separate.

Concluding Questions

What About Artistic Freedom?

After all this constraint talk, someone has to be thinking "What about artistic freedom?" One answer comes straight from any introductory textbook. Free to do anything, most of us do what's worked most often in the past. This is the definition of an operant, a behavior that increases in frequency because it's been successful. Successful solutions, as we said earlier, are easy to get stuck in.

The other answer is this: Artist freedom exists only in the choosing of one's own constraints. This of course anticipates to a "yes" answer to our second question.

Is Selecting Constraints Central to Creativity?

We believe so, and hope that our analyses will convince our readers to agree. Novices have their constraints selected for them by their teachers. Experts earn that rank by mastering existing constraints in their respective domains. What is common to creators—particularly the ones we call great, the ones who remain creative over the course of their careers (like Matisse and Monet, like Beckmann and Guston)—is the ability, after attaining mastery and after experiencing success, to first, select novel goal constraints and second, to strategically select source, task, and subject constraints to help realize them.

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