

art, science, and fear

benjamin c. pierce

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Welcome, everybody, thank you for coming. And many thanks to the organizers for the invitation to speak. This is an honor for me *and* it's been a very interesting challenge. I hope you'll enjoy it.

I'd like to begin by exercising the invited speaker's prerogative and changing my title....

~~art, science, and fear~~

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creativity: sensitivity and surprise

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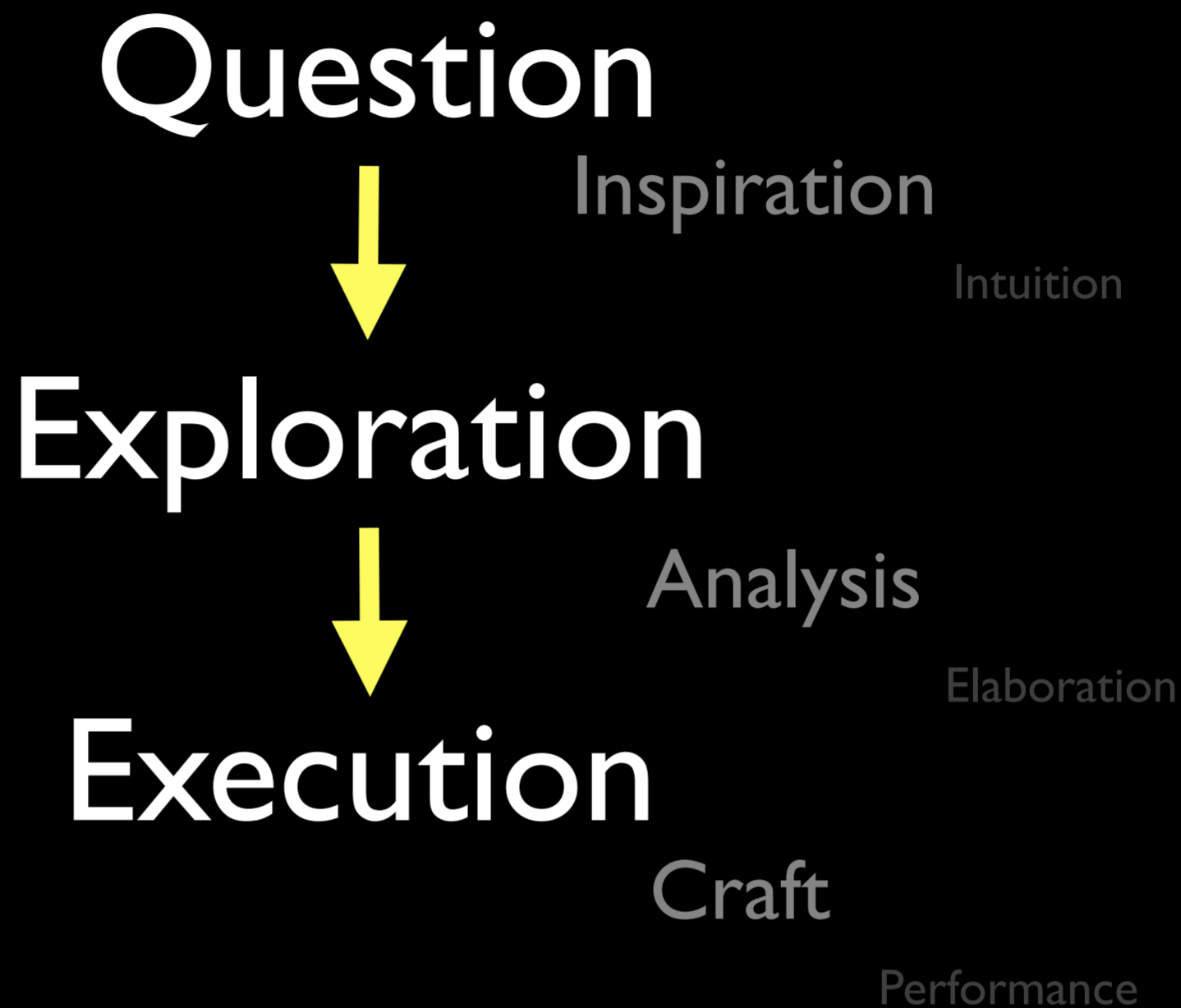
The new one may look completely different, but the talk is not actually so very different -- the fundamental issue I want to get at has been creativity from the beginning, and this one better reflects how the talk has developed.

I'll come back to sensitivity and surprise. Let's begin with creativity.

creativity

Creativity is fundamental to computer science -- both the research side and the practice of building systems. We're in the business of creating new things -- new ideas, new artifacts, new processes, new ways of putting things together. We recognize and value creativity in others and in ourselves, and we might even sometimes wish we were better at it.

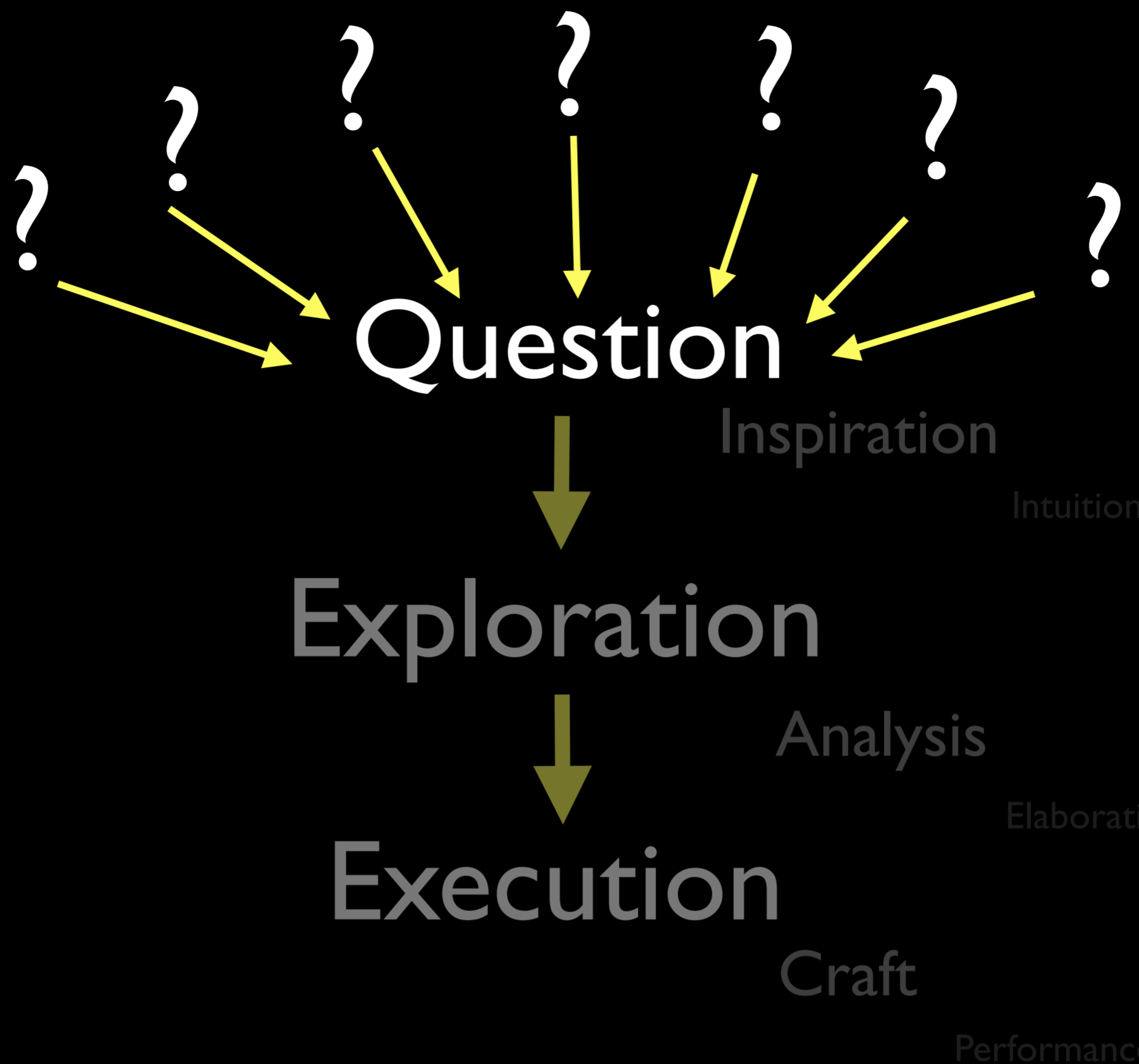
Is that possible? Is creativity something that can be increased, or learned?



“Creativity” is one of those words -- like “love”... or “proof”... -- that the harder you think about it the less you understand what it means.

One way to look at it is as a process with three sort-of-distinct aspects. It starts with a question, an intuition, a vague idea; then there's a "figuring out" or elaboration phase where more analytic skills come into play; and finally an execution phase where the elaborated idea becomes something concrete.

We're all familiar with this process -- we do it all the time in our work as scientists and software engineers. And I think most of us would agree that the hardest and most interesting part of the process is right at the beginning -- finding the initial inspiration, intuition, idea, or question. Once you know the question, getting to the answer is just work.



“Creativity” is one of those words -- like “love”... or “proof”... -- that the harder you think about it the less you understand what it means.

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Sean Kernan

So where do questions come from? How does the creative process start? Can we learn to start it more effectively?

I believe the answer to that question is yes, and I have some concrete ideas. But rather than discussing them head on, I'm going to come at the whole topic obliquely, by talking about the origins of the creative process in a quite different area.

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Creativity and the Photographer I

Jul 11 - Jul 17 Sean Kernan

Spend a week rediscovering creativity.

When our first creative photograph breaks through in our early work, it surprises us by completely transcending its subject and becoming something else entirely. The picture happens because we are really and fully awake ... and we have no real idea how we got there. That's the mystery, and it is the reason we go on more deeply into photography.

Most photographers hope that such a flash of awareness will show up at the right time. But, you don't have to wait for it to happen. There are ways to go looking for it, and you can learn them.

Over 25 years of teaching and studying, Sean has gathered a series of simple exercises that let us explore and deepen our creative state. Think of them as working on what happens where the real creative work is done, before the click. Applying the results of these exercises to daily photographic assignments and then talking about them gives us the chance to find out, not what people think of our pictures, but how they actually affect people.

And as we expand our seeing and awareness, our pictures begin to change, a process that continues long after the class is over. This class does not require extensive photographic accomplishment, (although you should command your camera and the necessary software, and not the other way around). You just need to set aside ideas, limitations and strengths, and take some new approaches. Awakeness and awareness in a strongly supportive group will be the week's work, and we will look for it with our cameras and our minds. We'll work deep, wake up, and have fun and we'll prize audacious failures over small, safe successes. Participants should arrive ready to jump in!



Sean Kernan

<http://www.seankernan.com/>

Sean Kernan, one of my favorite teachers of anything, leads a workshop called Creativity and the Photographer in which he spends a whole week doing pretty much everything except photography — theater games, writing, meditation, group dynamics exercises, chinese calligraphy, and probably other stuff that I'm forgetting.

Here's what he says about it...



Sean Kernan

“My image of creativity is that of a big room, with many doors—the photography door, the music door, the poetry door—as well as a number of doors that have no labels on them.



Sean Kernan

If one commits to the photography door, over time one can find that it gets clogged with a lot of things (approaches that worked once but don't any more, things half-understood, things we've seen someone else do). But if we simply step off to another door with no expectations in mind, that door yields quite easily, and we find ourselves in a fully creative state.



Sean Kernan

The idea is not to do these alternate approaches well but to use them to get back into the creative space, that big room, where we can enjoy presence and spaciousness, do a little work, and unclog the photography door from the inside.”



Sean Kernan

I think another of those doors might be labeled “computer science,” and since that’s the door that you’re all used to using, what I’d like to do for this hour is to turn Kernan on his head and use *photography* as a means to get at the computer science creativity door from the other side.



Sean Kernan
Among Trees, 2003

My plan for the talk is to look at a lot of photographs -- some of them mine, some by other people -- and to use the words of their makers to try to get at where they came from.



Sean Kernan
Among Trees, 2003

I'm going to leave the connection to computer science mostly implicit. I hope at many points it will be obvious, and perhaps the unexpected connections will be even more interesting.

seeing the thing



Edward Weston
Dunes, Oceano ("White Dunes," 47SO), 1936

One thing that's completely obvious about photography -- not true, mind you, but obvious -- is that its starting point is the physical world.



Edward Weston
Dunes, Oceano (45SO), 1936

Edward Weston, one of the giants of photography of the 1920s to 40s, is a perfect example.



Edward Weston
Zabriskie Point, Death Valley, 1938



Edward Weston
Chambered Nautilus – Halved, 1927

Weston was utterly passionate about the world around him -- the way things look. His gift as a photographer was the ability to transmute that excitement -- that engagement -- into permanent images.



Edward Weston
Pepper and Bone, 1929



Edward Weston
Pepper No. 30, 1930

That passion could turn something as simple as a pepper into a timeless icon.

seeing beyond the thing

But seeing what's there is not all there is to it. As Minor White used to say, "One should not only photograph things for what they are but for what else they are."



Minor White
Cypress Grove Trail,
Point Lobos, California, 1951

White was an American photographer in the middle of the last century. He co-founded the first photography department, at the California School of Fine Arts, along with Ansel Adams, Dorothea Lange, and Imogen Cunningham, and later taught at MIT.



Minor White
Movement Studies Number 56, 1949

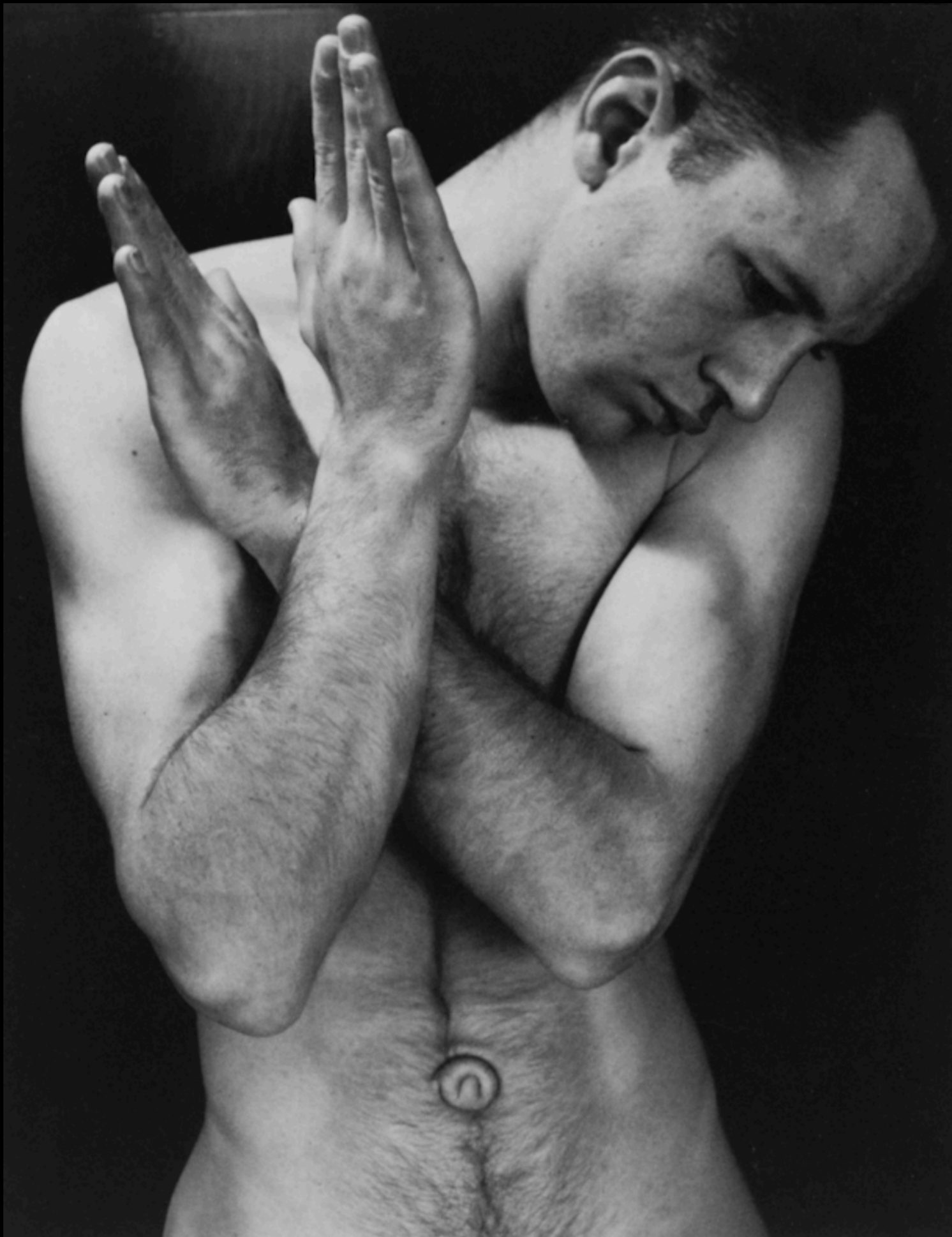
Here's what he says:

“... At first given to me, later I learned to make chance moments occur by looking at anything until I see what else it is.



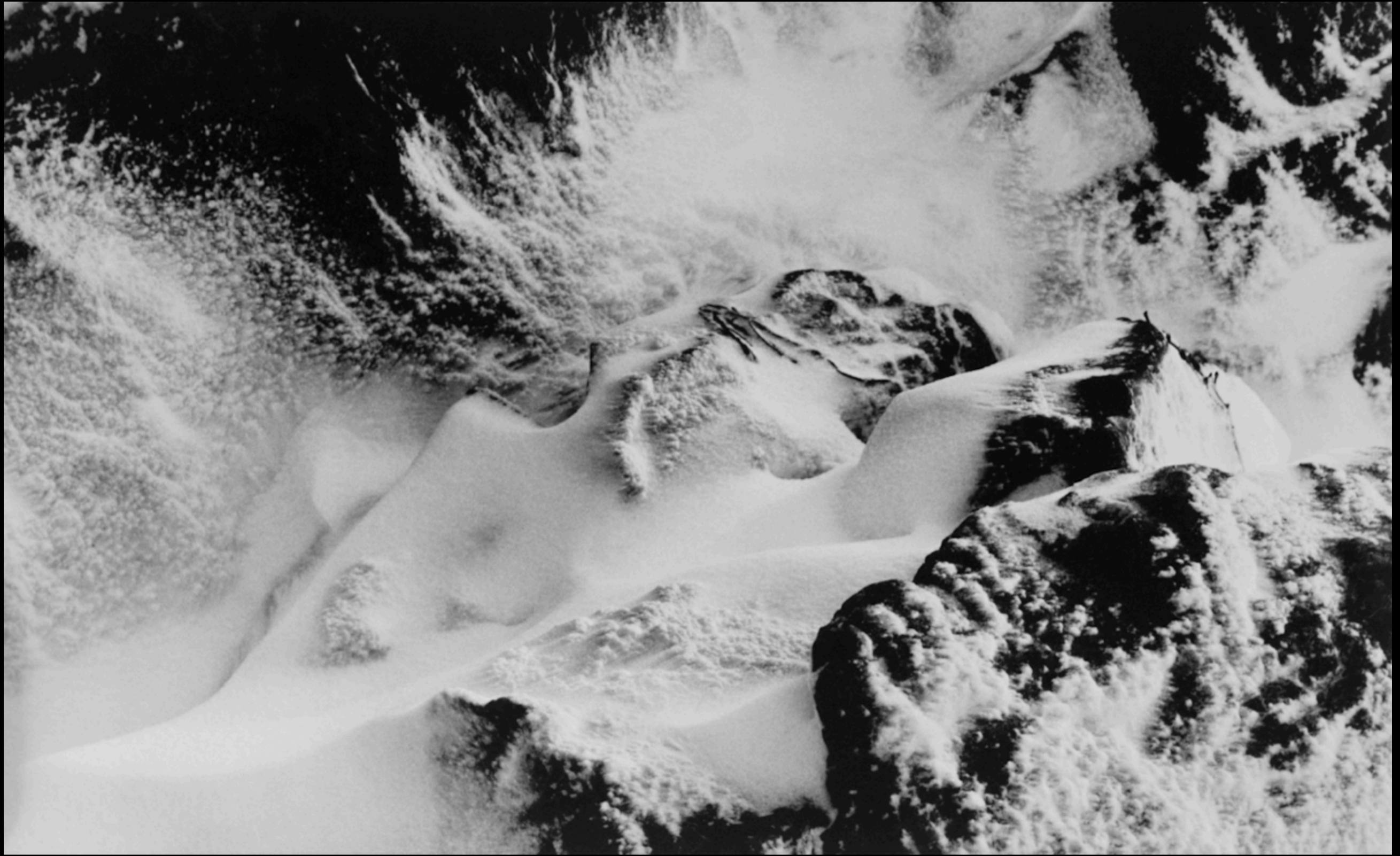
Minor White
Windowsill daydreaming, 1958

Such looking leads below surfaces, so far below, indeed, that once I claimed



Minor White
Tom Murphy, 1948

‘creative photography hangs on the faith that outsides reveal insides.’



Minor White
Rye Beach, New Hampshire, 1966

Then I meant that photographed surfaces must reveal the essences of objects, places, persons and situations.



Minor White
Stony Brook State Park, New York, 1960

Since then I know the opposite to be true:



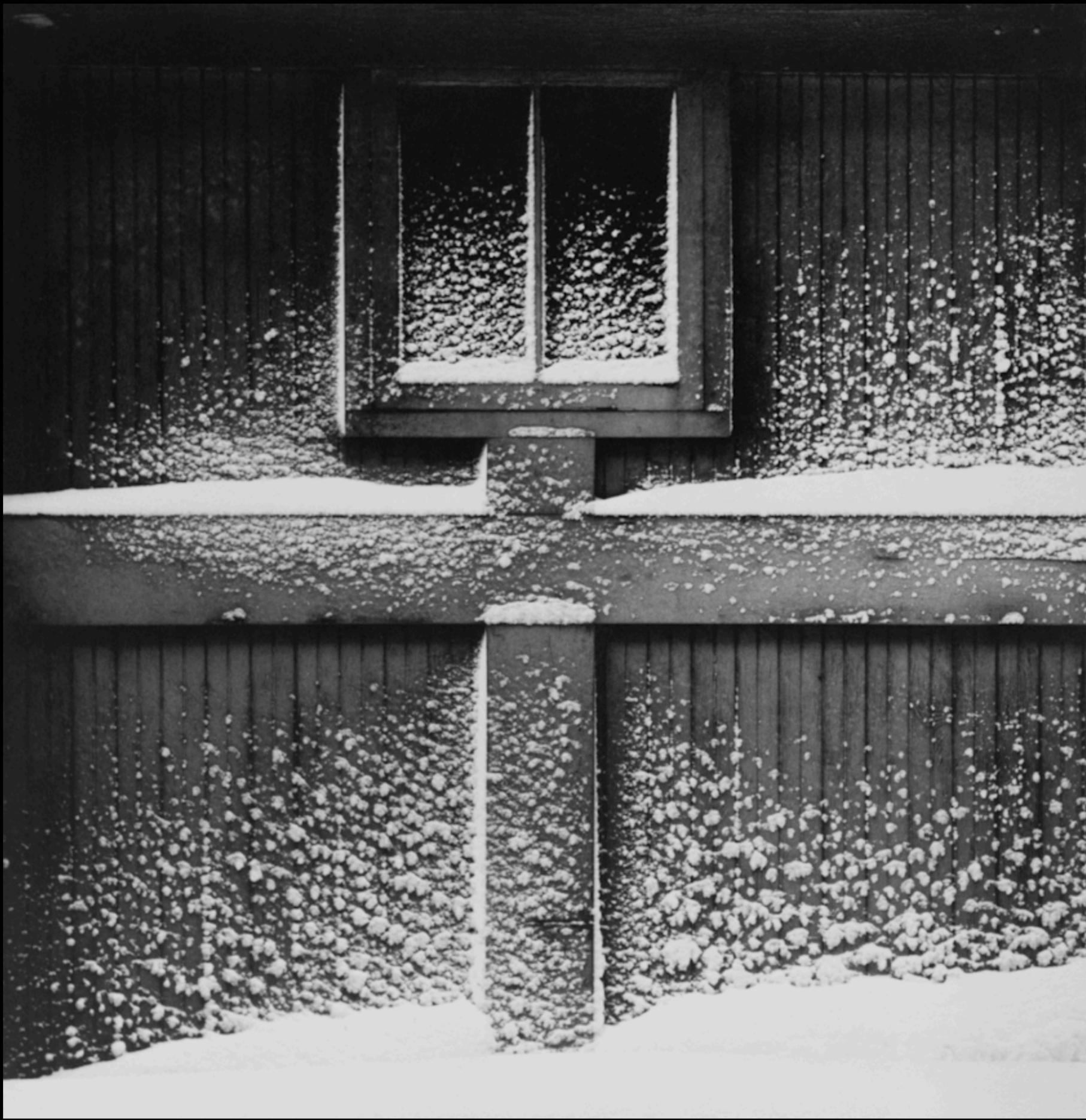
Minor White
Gallery Gully, Capitol Reef, Utah, 1963

photographs of rocks, water, hands, peeling paint, or weathered fences consent to mirror my own inner occasions.



Minor White
Dumb face, 1959

Hence, in photographing things for what else they are, I can go either towards myself or away from myself.



Minor White
Haags Alley, Rochester, 1960

Ultimately, there is little difference, as Master Eckhardt, the German mystic, said: 'The eye with which I see God is the same eye with which God sees me.'



Minor White
Ritual Branch, 1958



Minor White
Santa Fe, New Mexico, 1966

This moment, this period of seeing the picture and exposure, has an element of blank for me. It seems similar to the Zen archer ...



Minor White
Beginnings, 1962

who does not know when the arrow is released because he does not release, it takes over.
This is the kind of blankness I mean.”

interlude: sensitivity

Here I'd like to pause for a minute and talk about something that was implicit in Weston's work and very explicit in White's work and the way he talks about it: the source of ideas for both of them is *external* to the artist, or at least to the artist's conscious, analytical mind. There's a sense of the ideas coming *at* the artist, and that the artist's job is to take them in, to perceive -- or better yet to receive. This is a very common theme -- in fact, I think it's a very fundamental aspect of creativity.

What's happening when people do this? Clearly, there's a particular kind of sensitivity involved, a kind of noticing. This quality of sensitivity is a little bit difficult to talk about -- it's actually easier just to show it. So I'd like to invite you right now to do a little exercise with me...

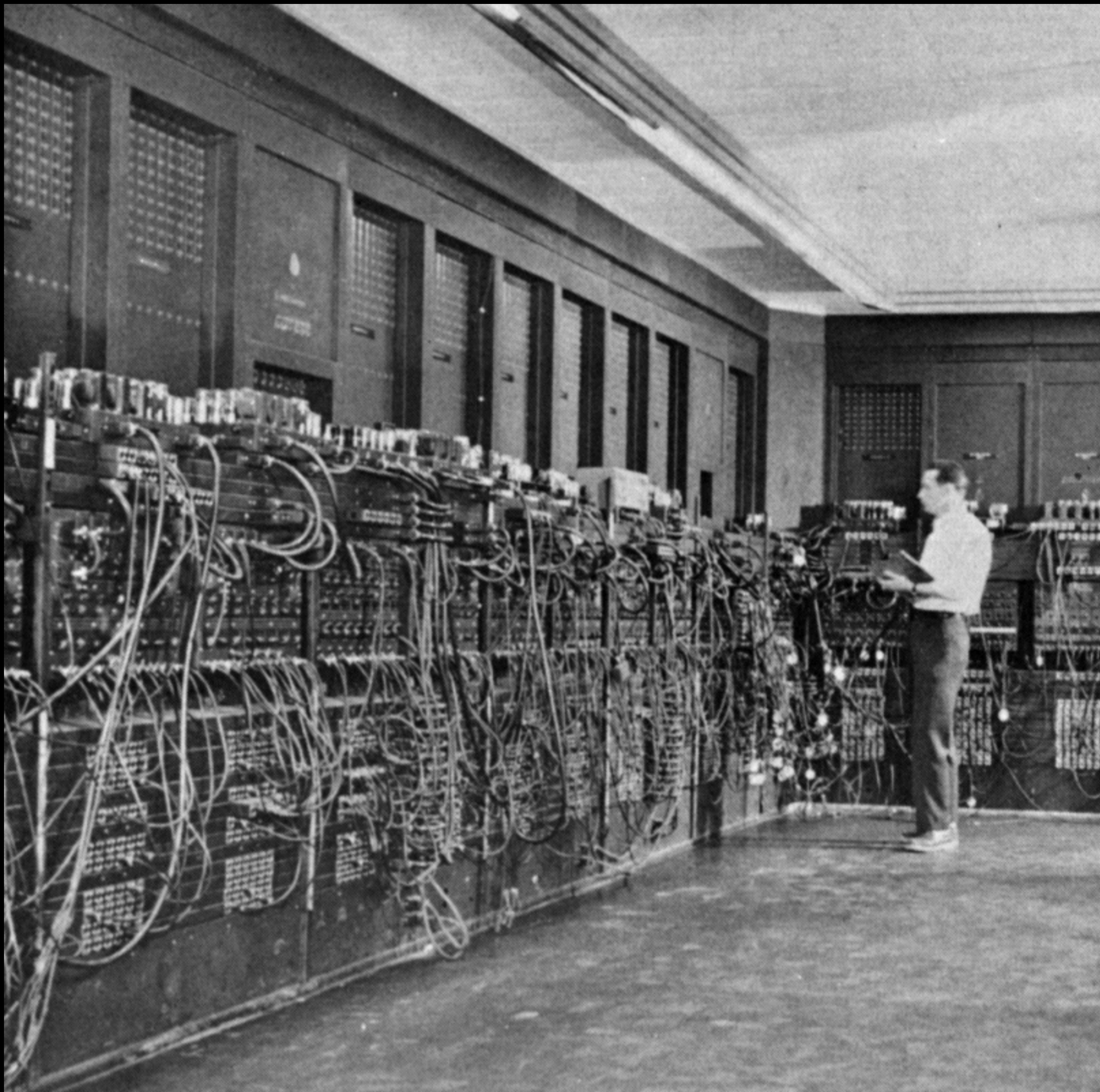
[Do a little exercise about peripheral vision...]

That exercise for me is a physical metaphor for the kind of sensitivity -- the kind of noticing that leads to artistic discovery.

decontextualization (the ghost in the machine)

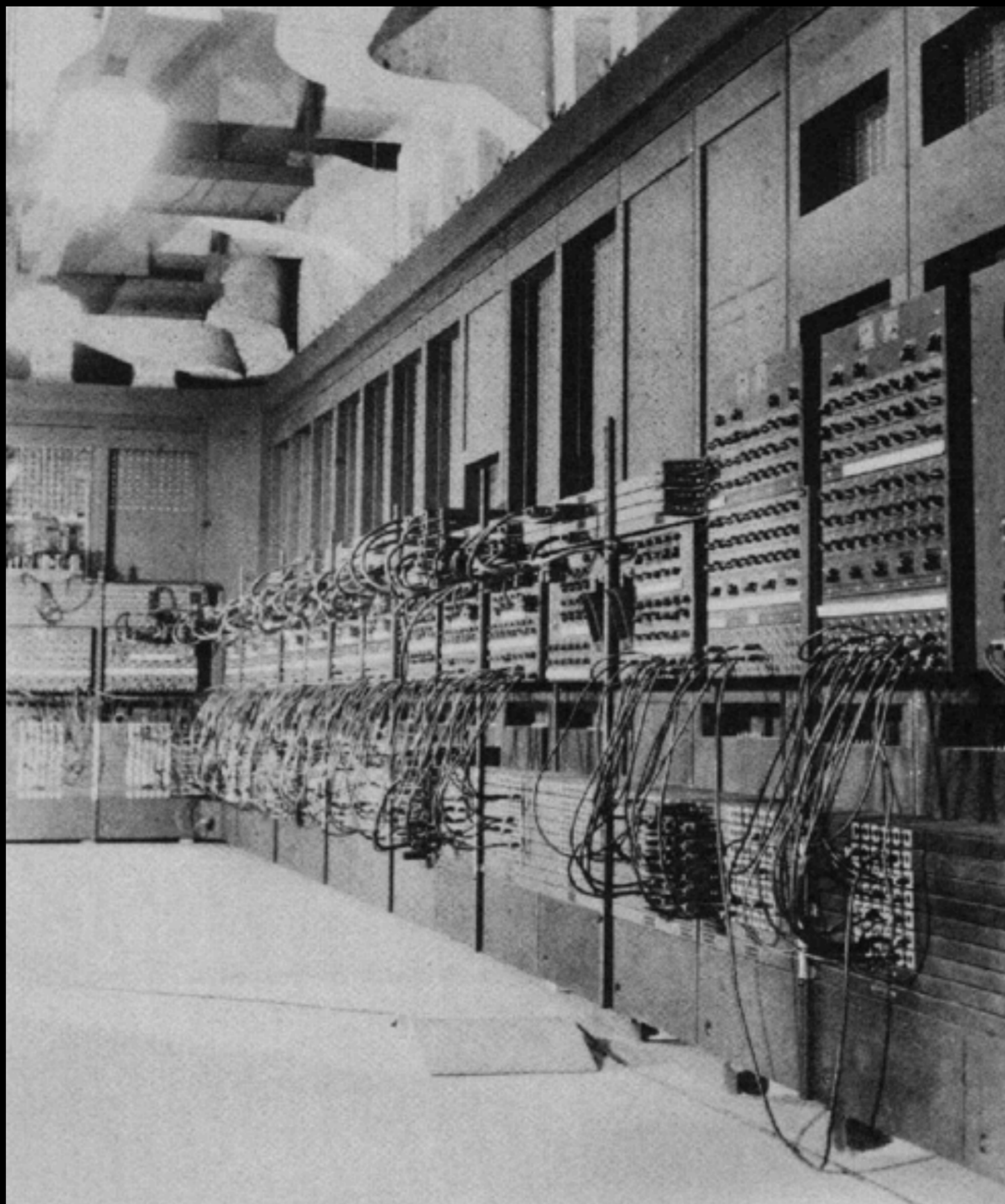
One effect of this kind of sensitivity to what's in front of you is precisely to open up possibilities of what else it could be besides what it is.

As an example of this, let me tell you a little bit about my own photographic exploration of the ENIAC.



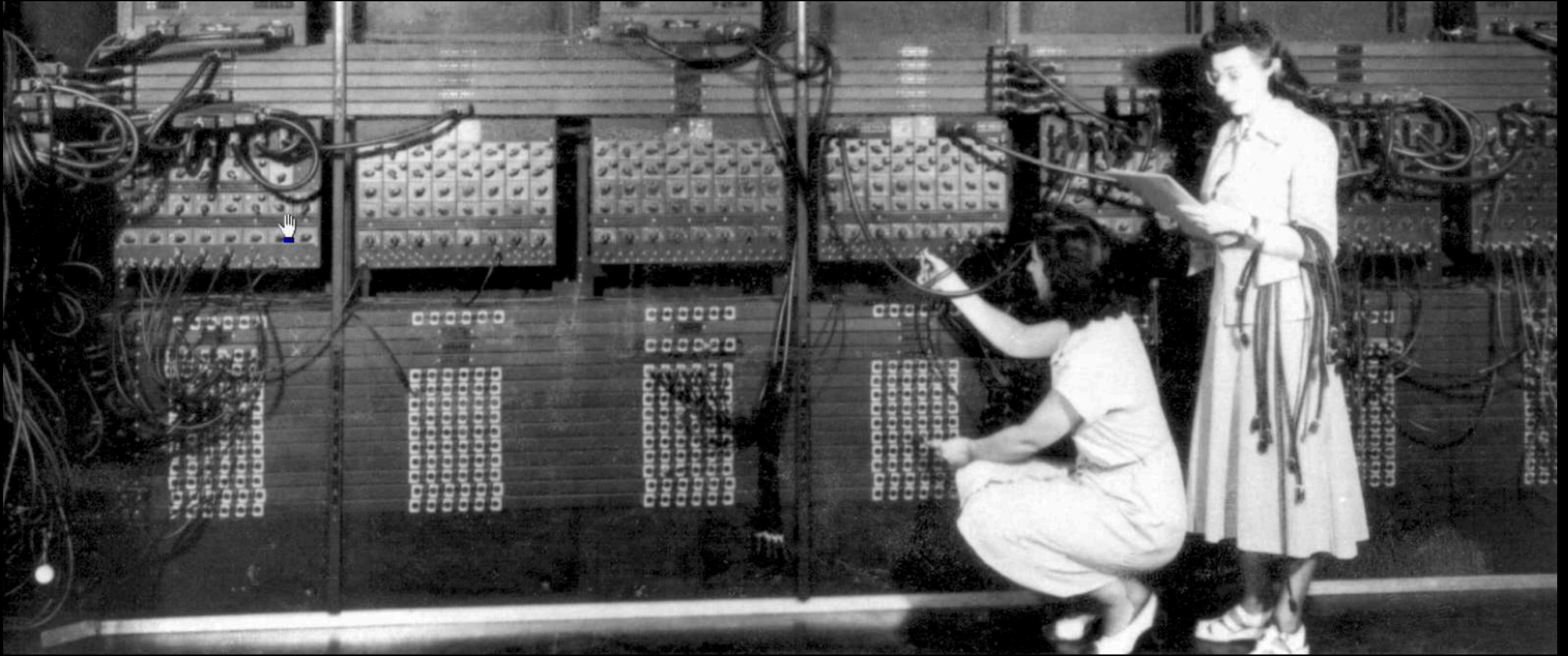
ENIAC, circa 1947

One of the pleasures of teaching at Penn is a very particular connection that we have to the early history of computing.



ENIAC, circa 1947

In the basement of my building are the remains of one of the very first computers ever built, called the ENIAC.



ENIAC, circa 1947

All this cool old stuff was a photographic opportunity that was clearly impossible to resist. I managed to wangle a key to the room where the bits were kept, and for a few months I spent MANY happy weekends exploring with my camera.



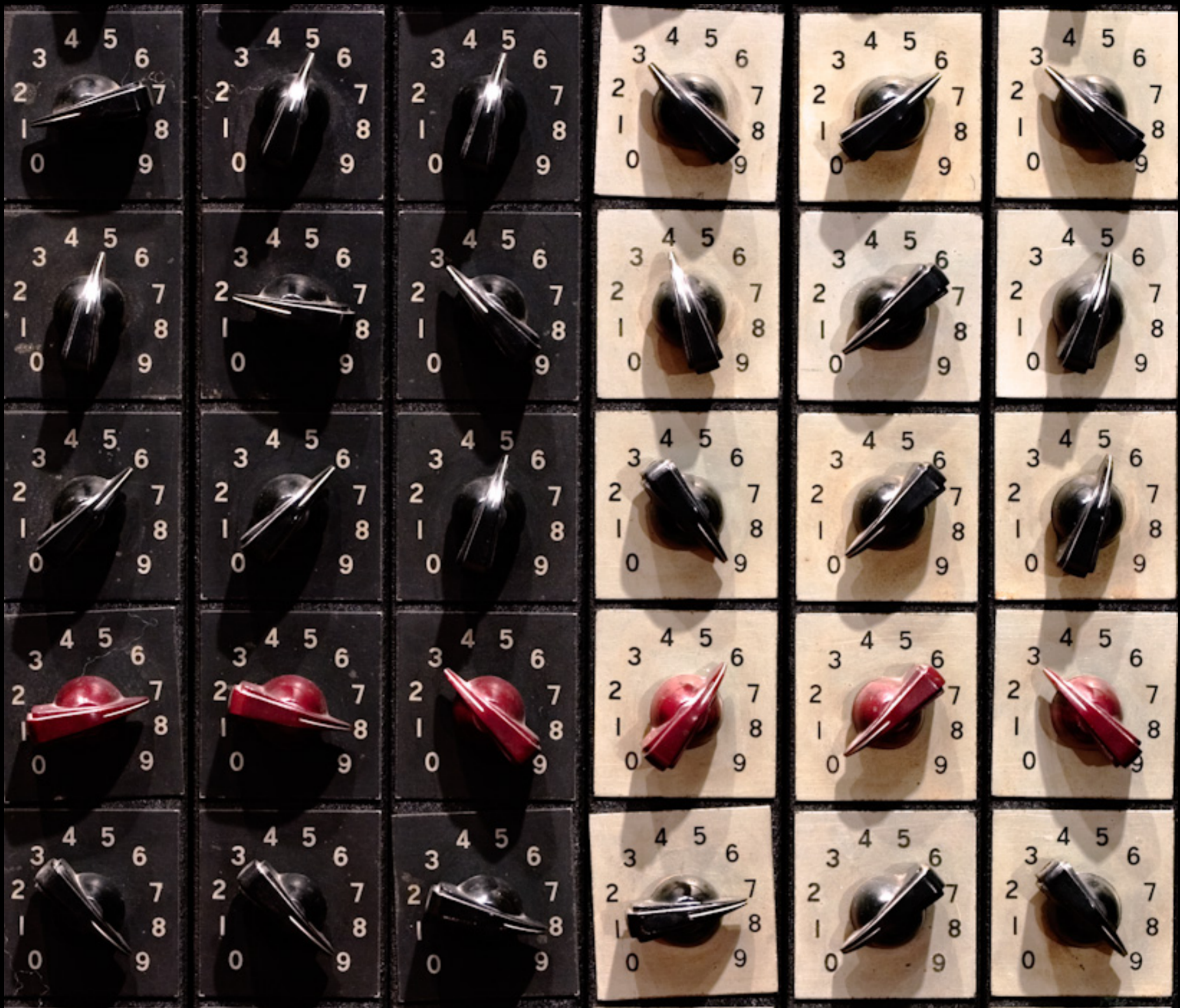
Benjamin C. Pierce
ENIAC II, 2004

At first, I was very focused on the exterior qualities of the machine...

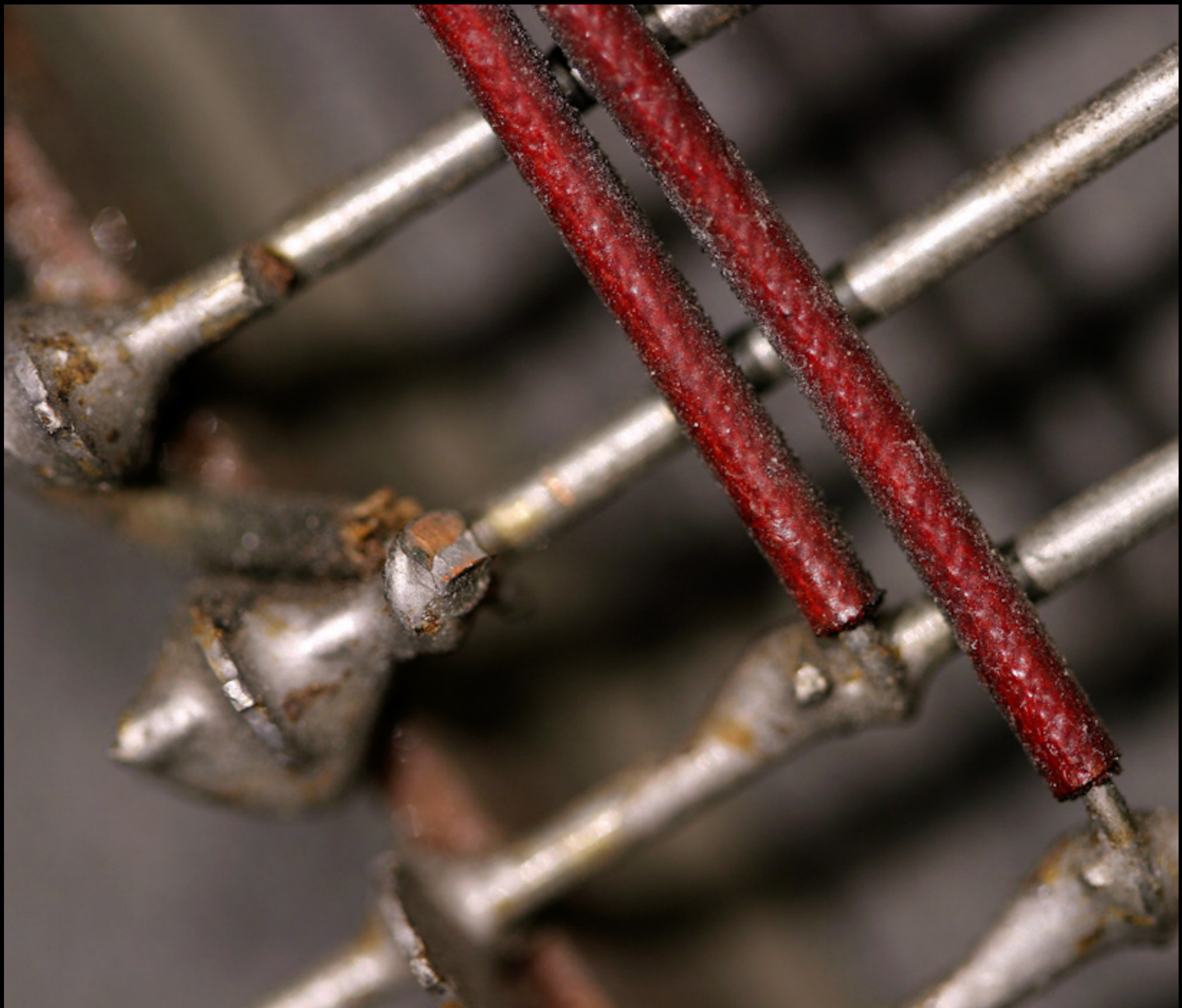


Benjamin C. Pierce
ENIAC III, 2004

how massive it was, how physical. There was a lot of geometry there that was compositionally fun to play with.



But I wasn't very satisfied with the results --

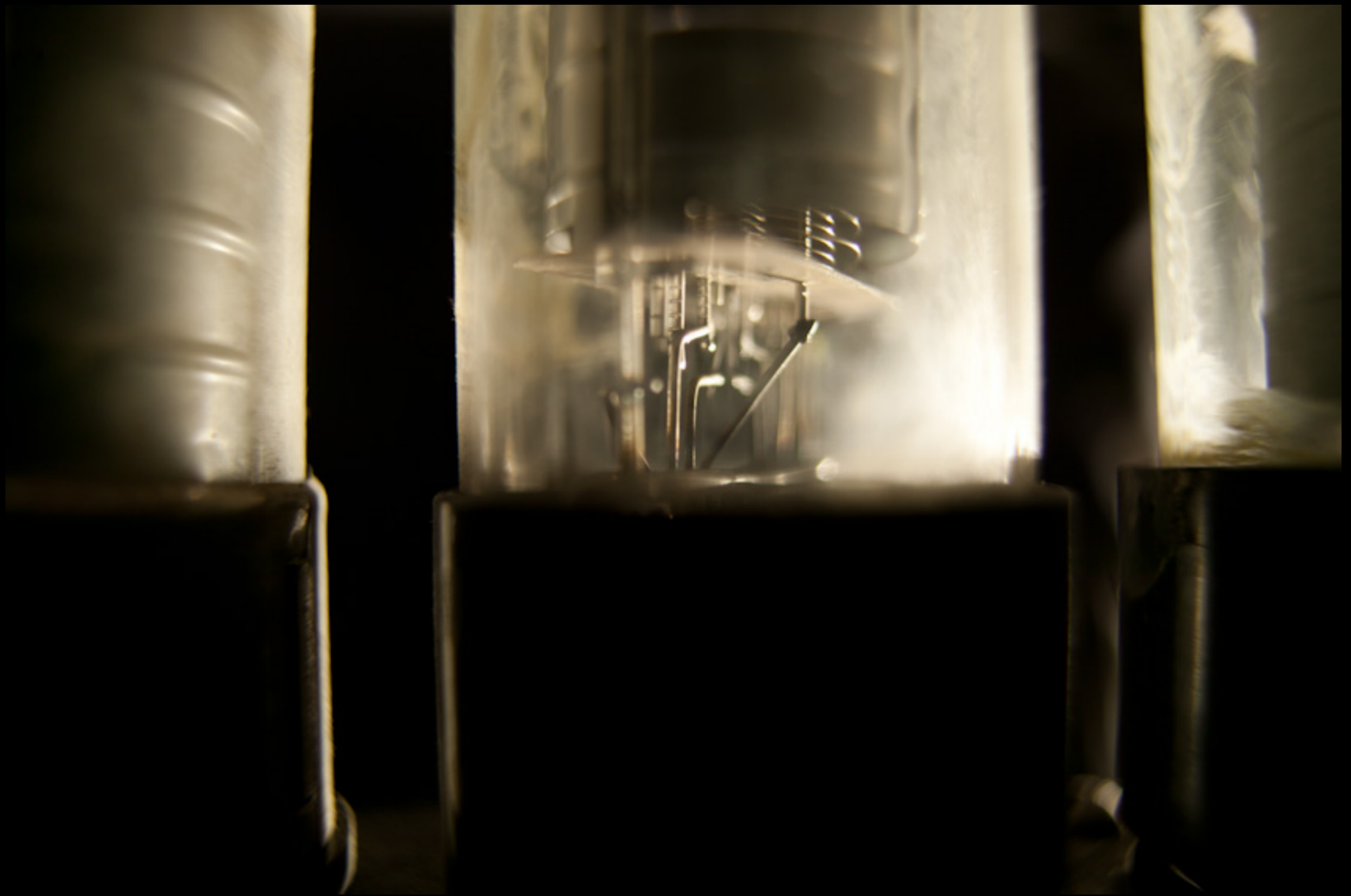


Benjamin C. Pierce
ENIAC I, 2004

the images always came out a little boring.

Then I discovered...









... THE TUBES!



The vacuum tubes of the ENIAC are whole worlds all unto themselves, and I spent weeks exploring them. And the images were a lot more interesting. But still, in my heart of hearts, I had a sneaking feeling that they all belonged in somebody's annual report.

The step that was hard -- that actually required a push from somebody else for me to see it -- was noticing that I already had the pictures I wanted to take: they were hiding inside the ones I'd already taken!

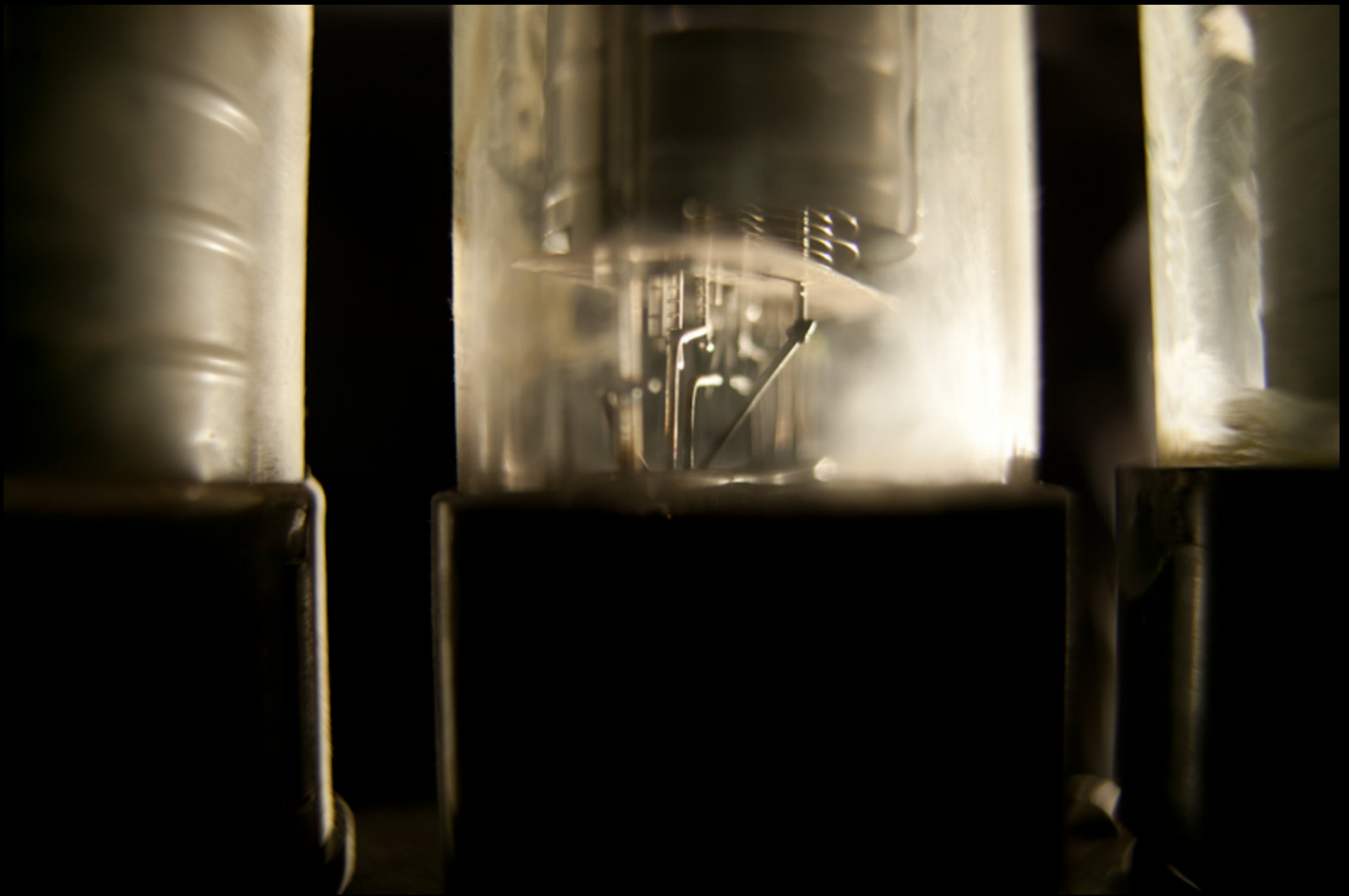


I didn't want this...

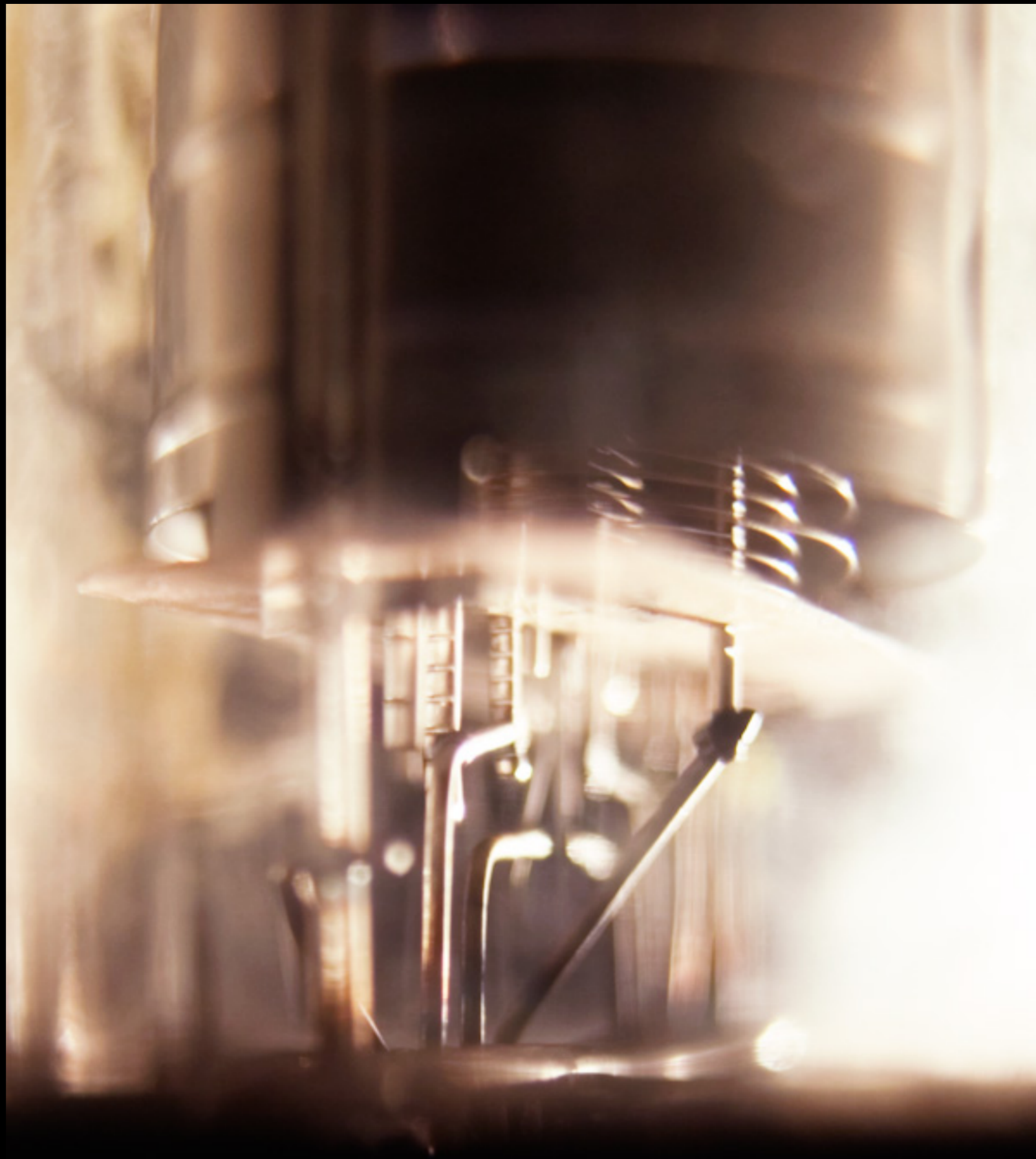


Benjamin C. Pierce
Secrets of ENIAC II, 2004

... but this.

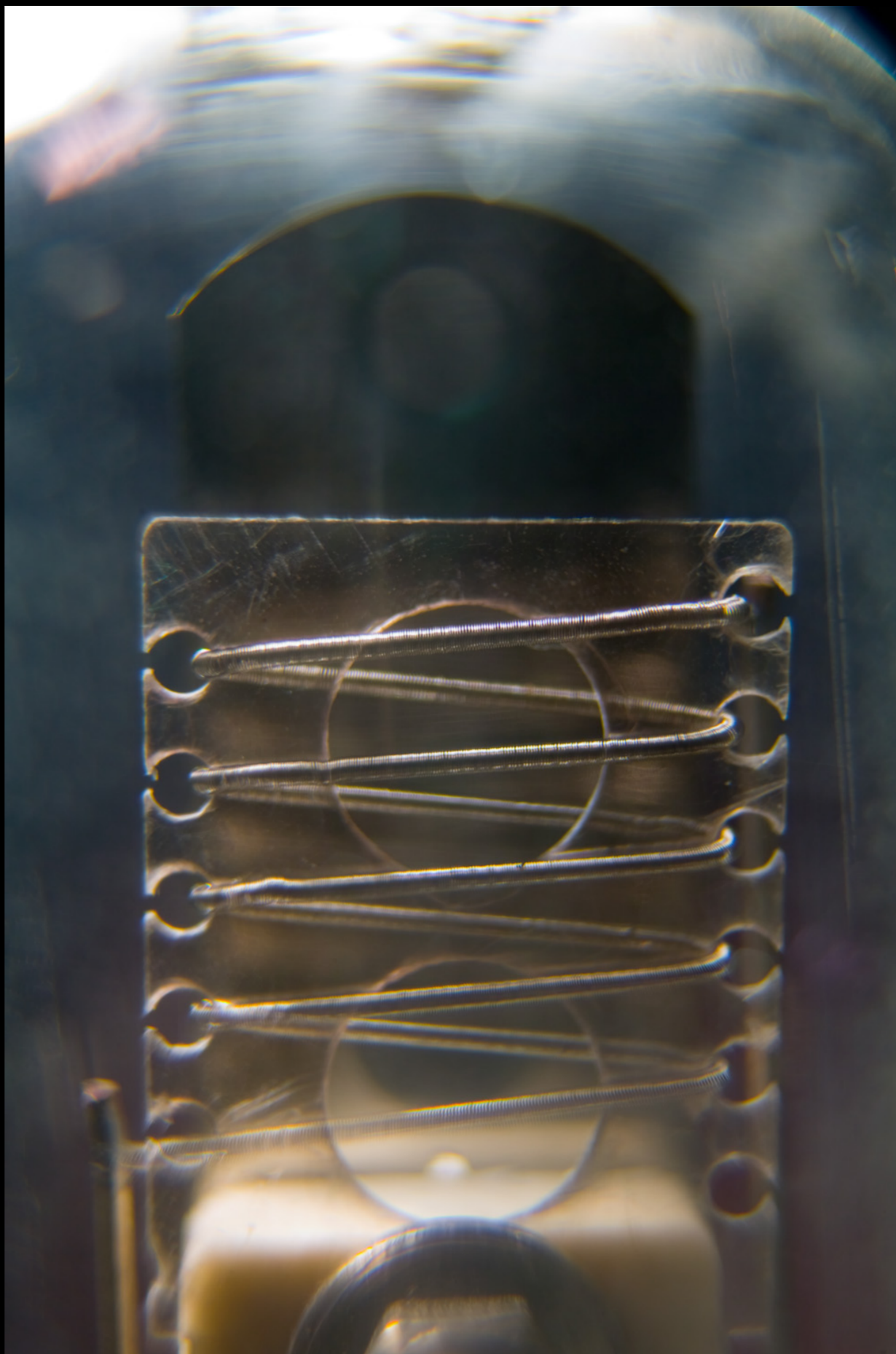


Not this...



Benjamin C. Pierce
Secrets of ENIAC VIII, 2004

... but this.



Not this...



Benjamin C. Pierce
Secrets of ENIAC VI, 2004

... but this.



Benjamin C. Pierce
Secrets of ENIAC IV, 2004

And at that point, for me, the images started to fill with magic.



Benjamin C. Pierce
Secrets of ENIAC VII, 2004

Going in closer decontextualized them -- it removed what they were and allowed what else they were to emerge.



Benjamin C. Pierce
Secrets of ENIAC IX, 2004

These images are also significant to me on a personal level because they commemorate my family's connections to Penn in the mid-20th century, and with the group that developed the ENIAC in particular. ...



Benjamin C. Pierce
Secrets of ENIAC III, 2004

Both of my mother's parents and two great uncles did their graduate work at Penn: my grandfather in the Economics department (where he later taught), my grandmother in History, ...



Benjamin C. Pierce
Secrets of ENIAC X, 2004

my great uncle in Economics, and another great uncle, Dick Merwin, in the Moore School of Electrical Engineering, ...



Benjamin C. Pierce
Secrets of ENIAC I, 2004

which later spawned the department of Computer and Information Science, where I now teach.

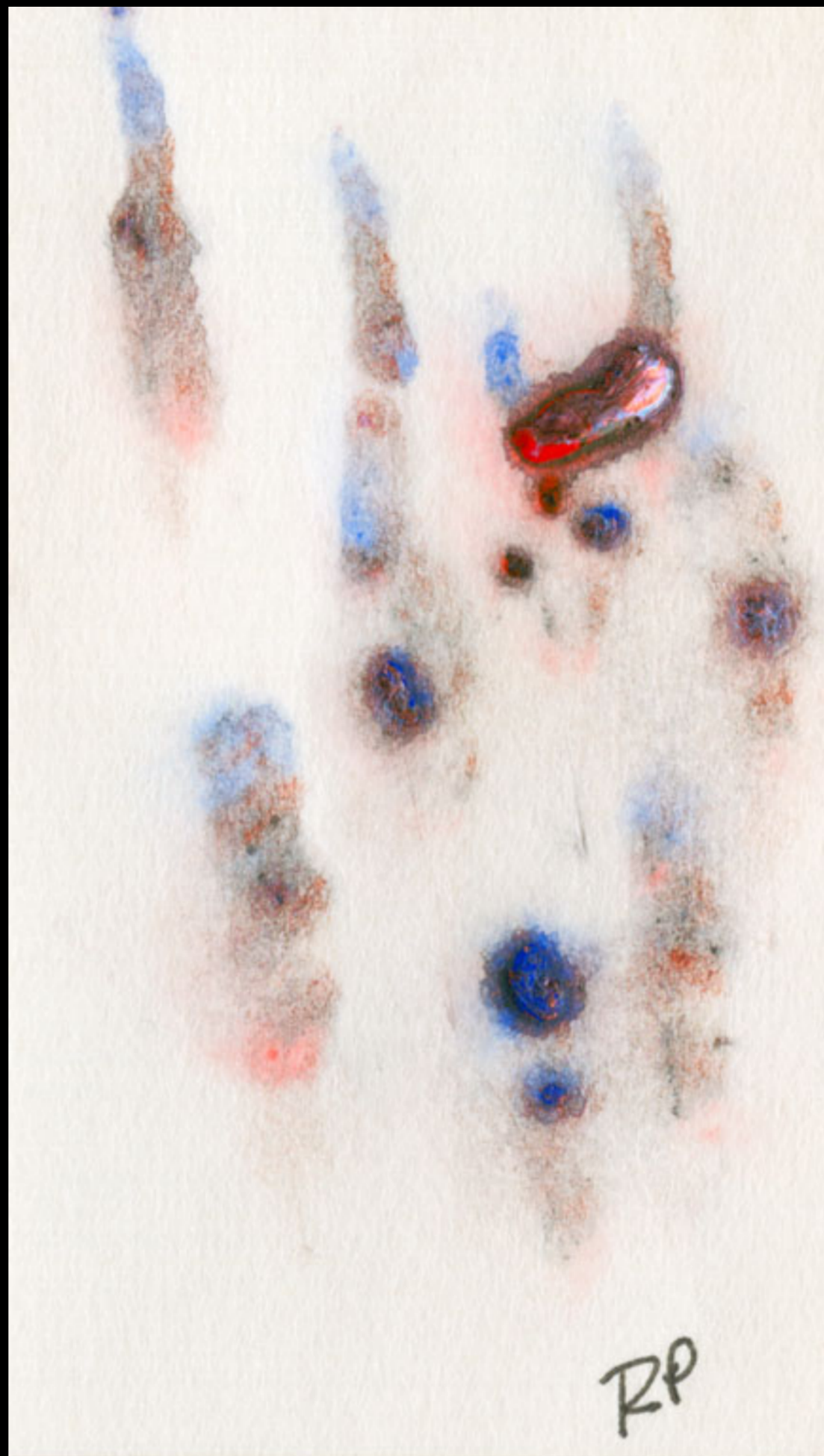


Benjamin C. Pierce
Secrets of ENAICV, 2004

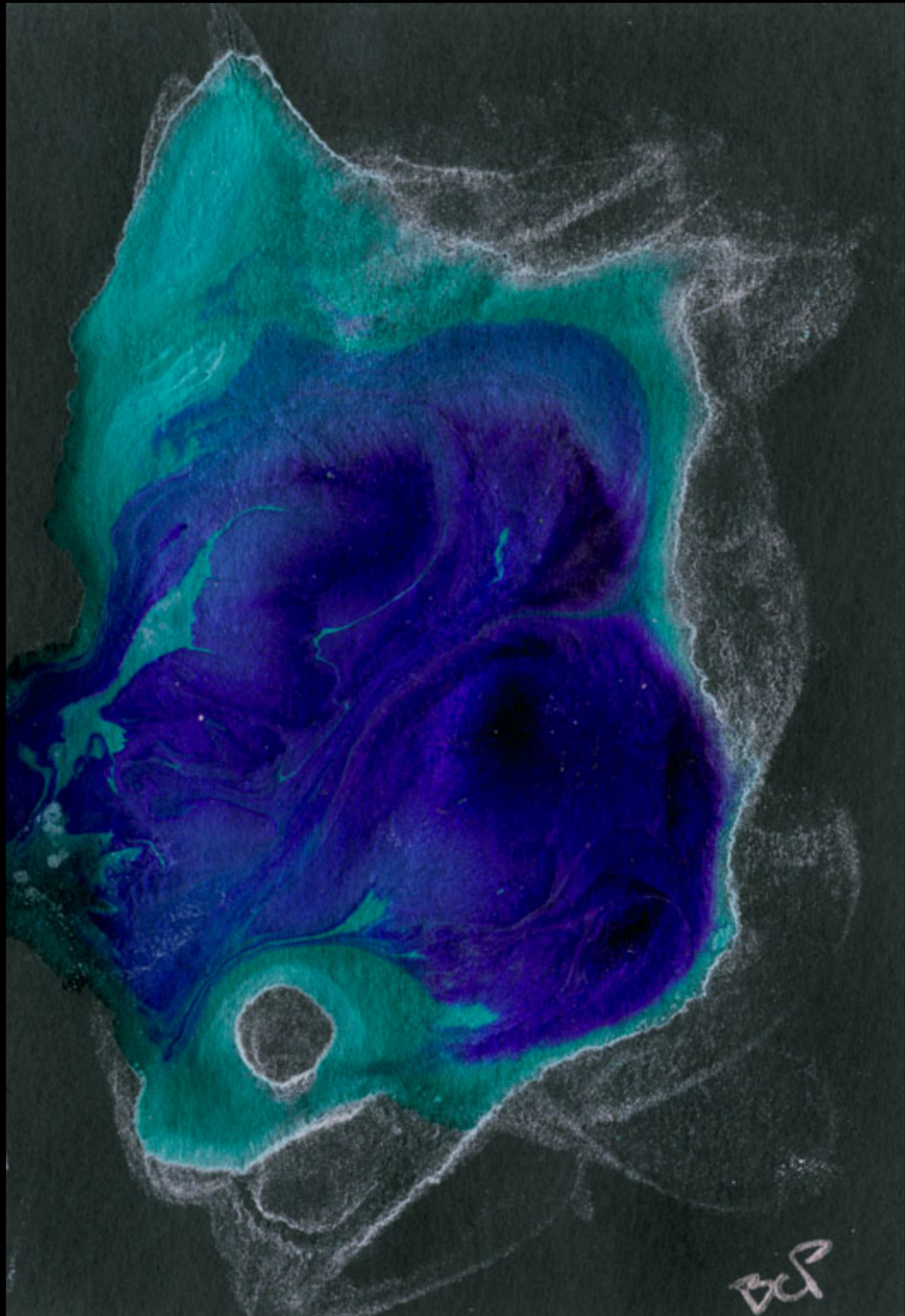
the invisible (voyages of discovery)

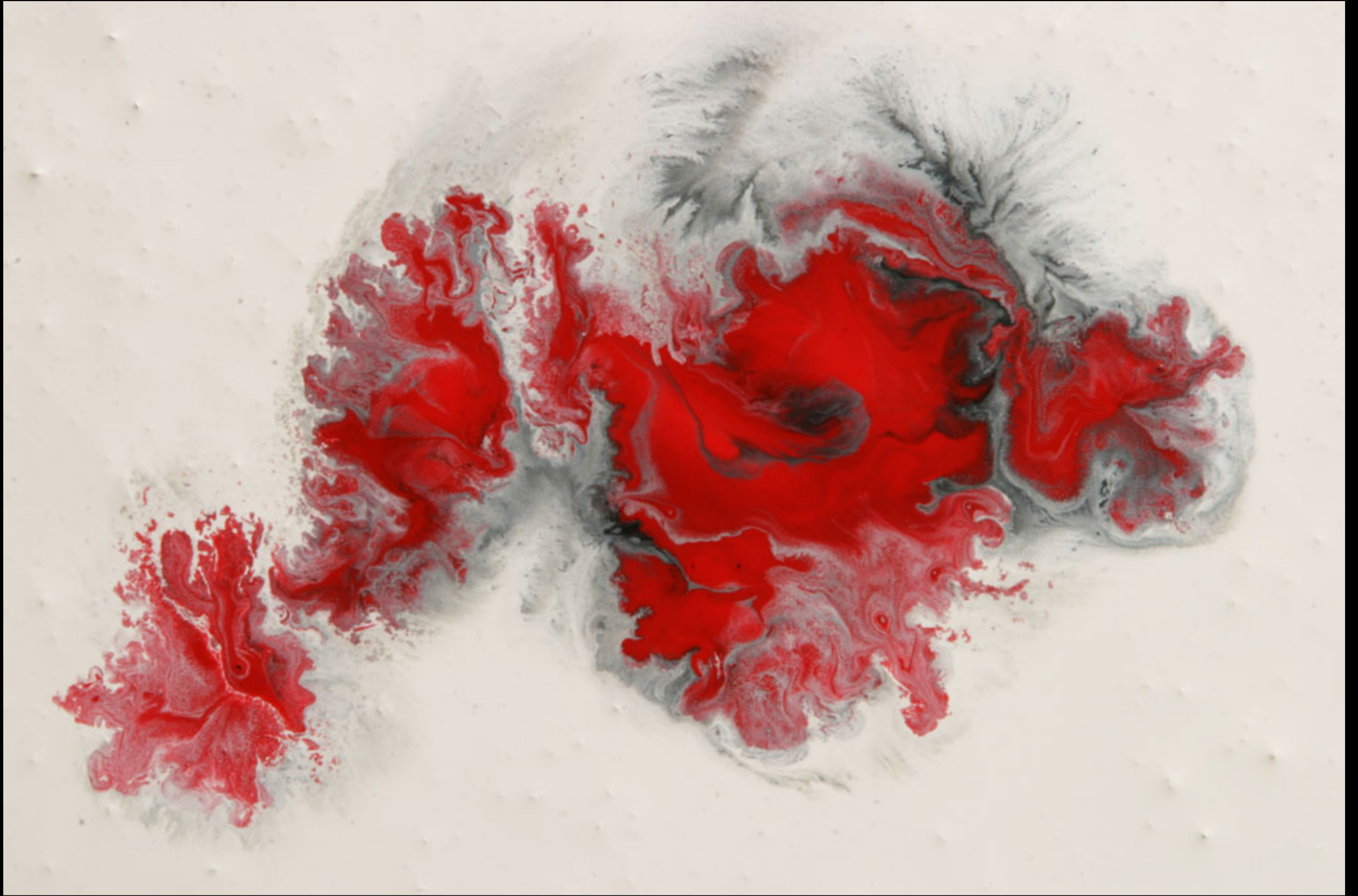
The story of the ENIAC images was a story about progressively noticing that I needed to get closer.

If you take this process to the limit, you find yourself so close to things that *everything* becomes strange.



For as long as I can remember, my father has been making small paintings involving the interaction of paints or inks with water. You take index cards, soak them in soapy water, smear paint on them in a special way, and then leave them overnight and see what happens as they dry.



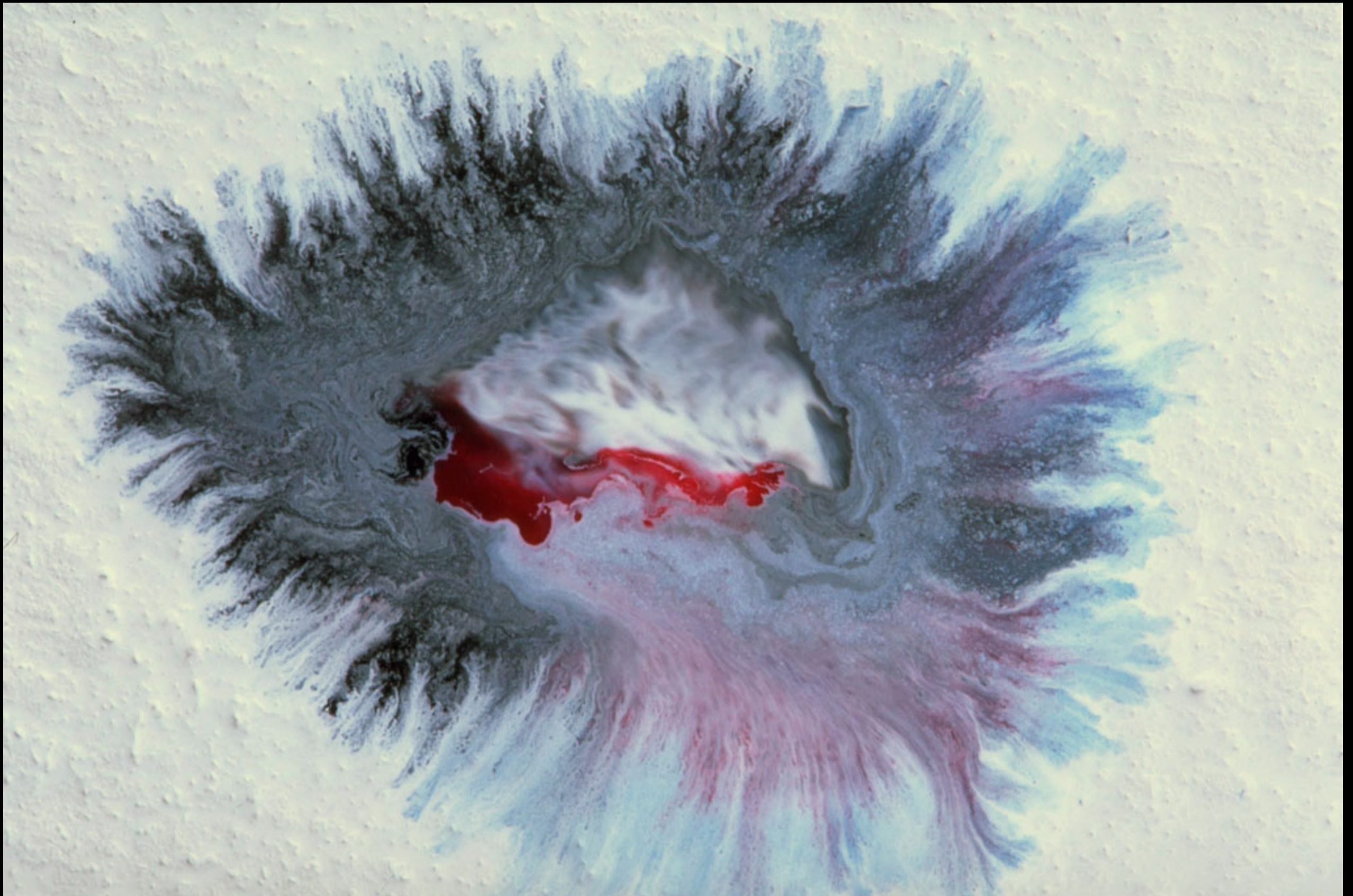


Naturally, I wondered whether it would be interesting to get a camera involved in this process.

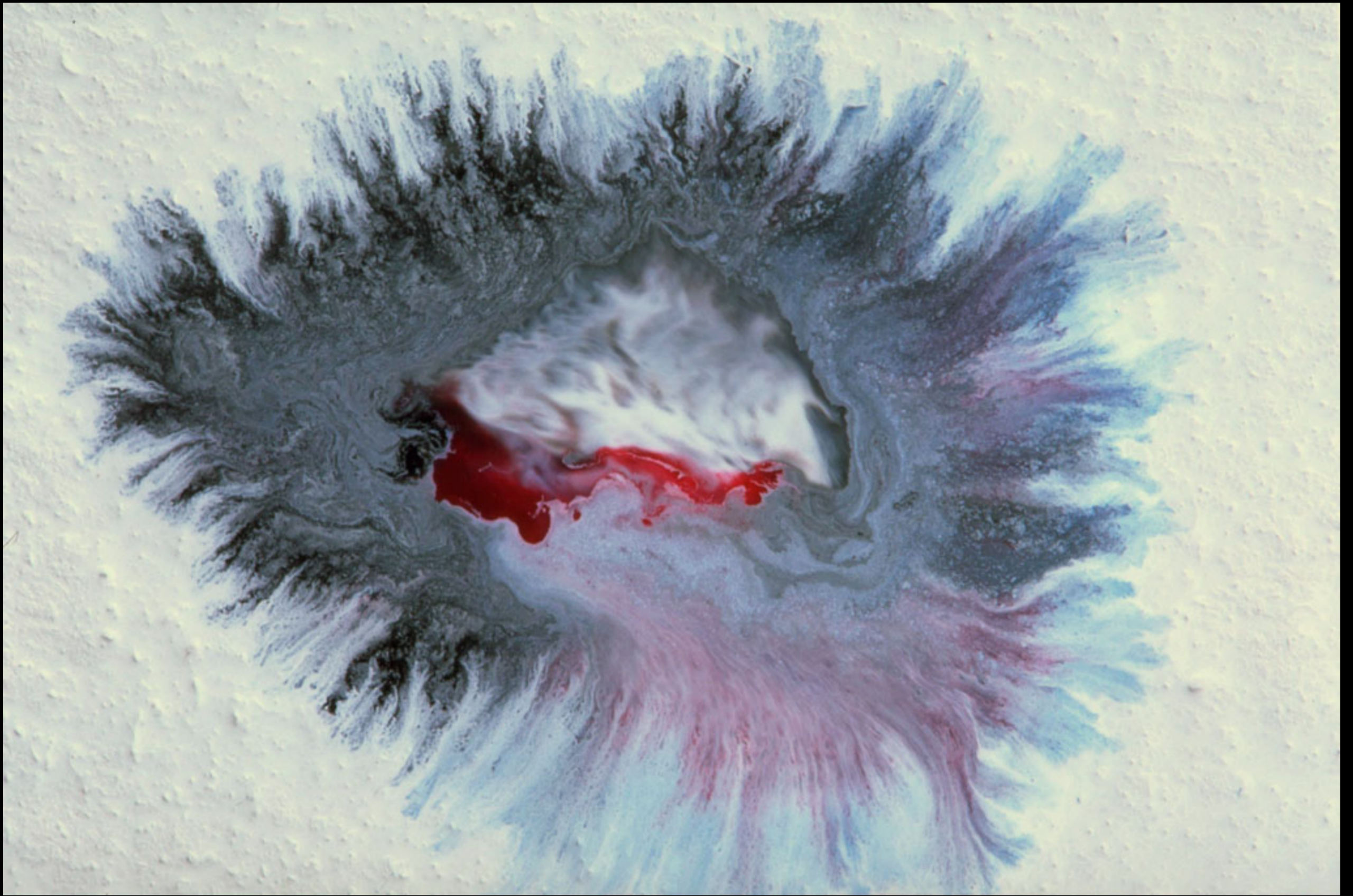
At first, the results were not especially satisfying:

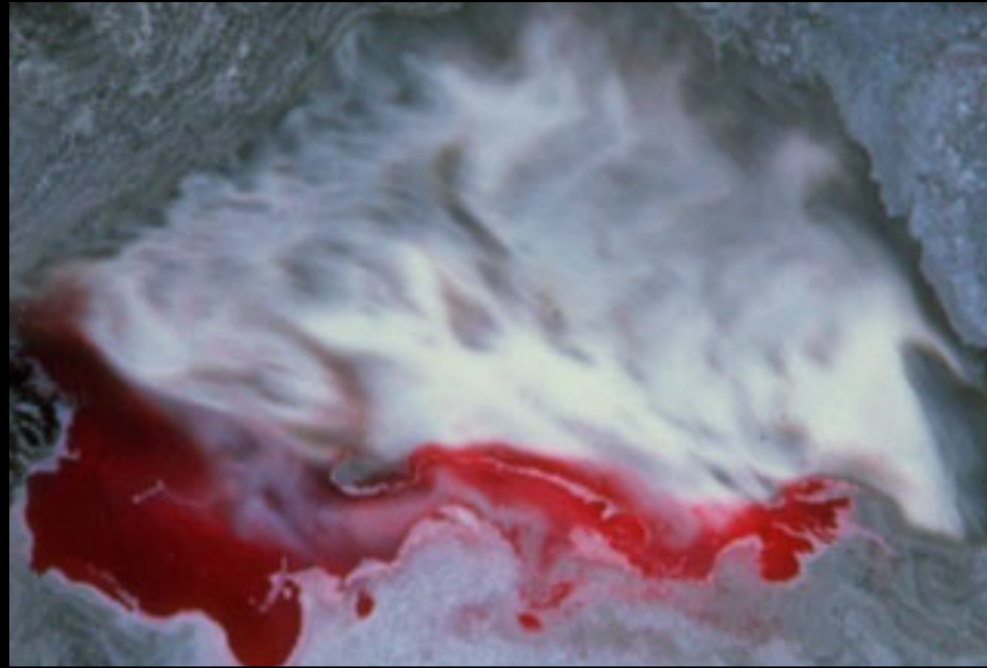


the photographs were basically just copies of the paintings.



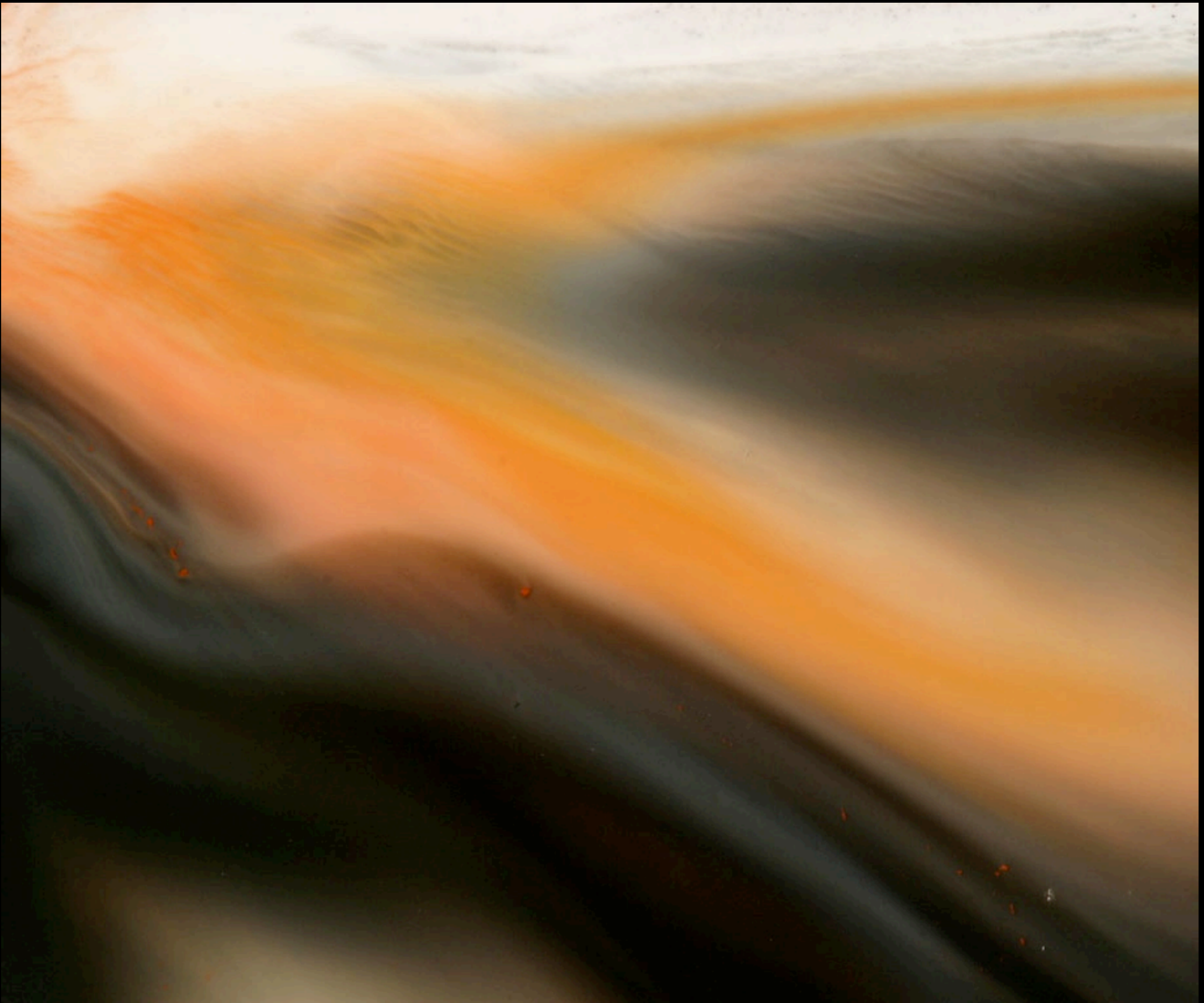
But as I did it over and over and my eyes became more sensitive to what I was seeing, I began to realize how much was going on on a smaller scale....







And as I began focusing closer -- using higher magnifications -- the pools of wet paint began to shift from *things* to *places*.



Benjamin C. Pierce
Voyages of Discovery, 2003-2008



Benjamin C. Pierce
Voyages of Discovery, 2003-2008



Benjamin C. Pierce
Voyages of Discovery, 2003-2008



Benjamin C. Pierce
Voyages of Discovery, 2003-2008



Benjamin C. Pierce
Voyages of Discovery, 2003-2008

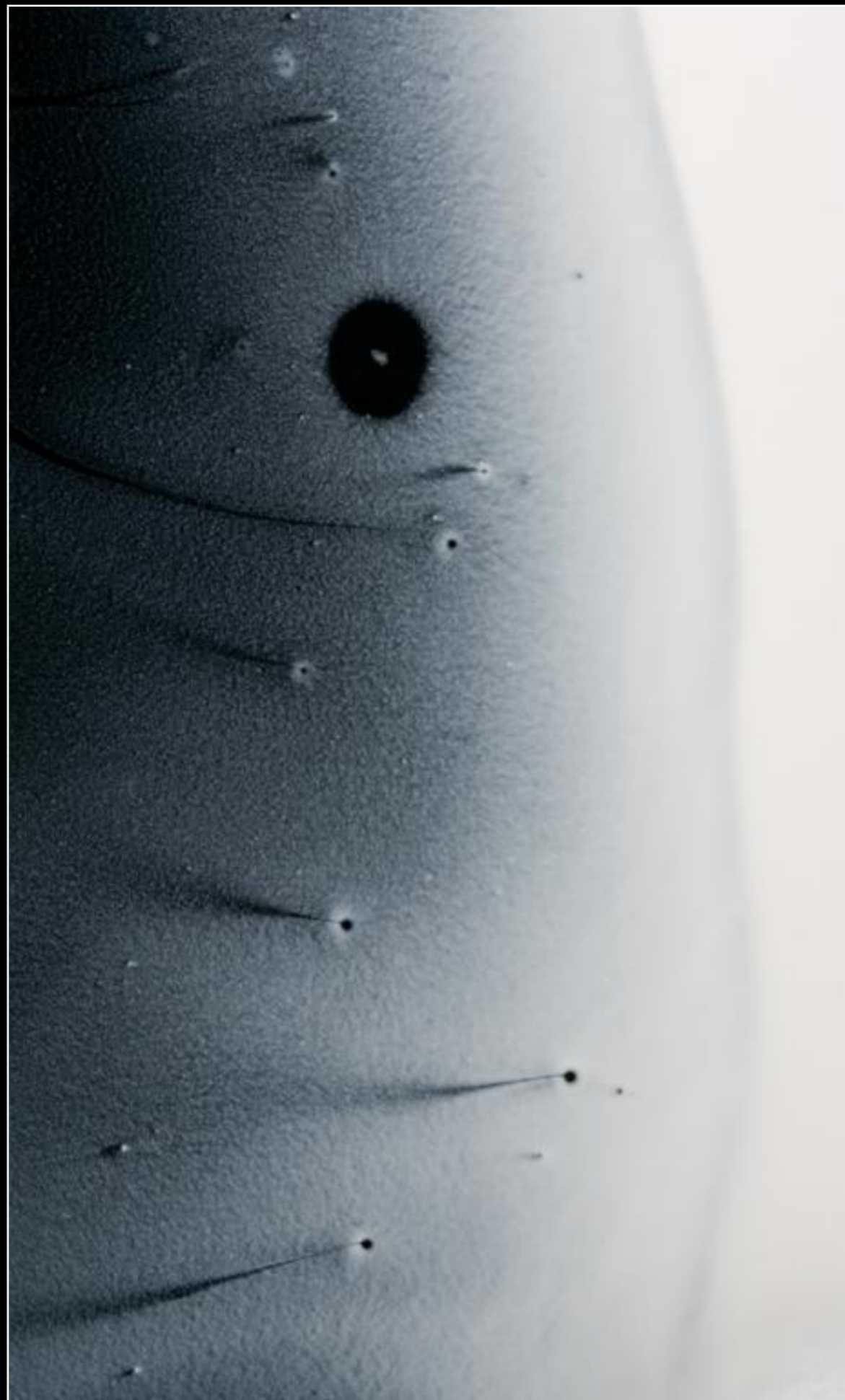


Benjamin C. Pierce
Voyages of Discovery, 2003-2008



Benjamin C. Pierce
Voyages of Discovery, 2003-2008

... Or again, sometimes things, but not things that looked like paint any more...



Benjamin C. Pierce
Voyages of Discovery, 2003-2008



Benjamin C. Pierce
Voyages of Discovery, 2003-2008



Benjamin C. Pierce
Voyages of Discovery, 2003-2008

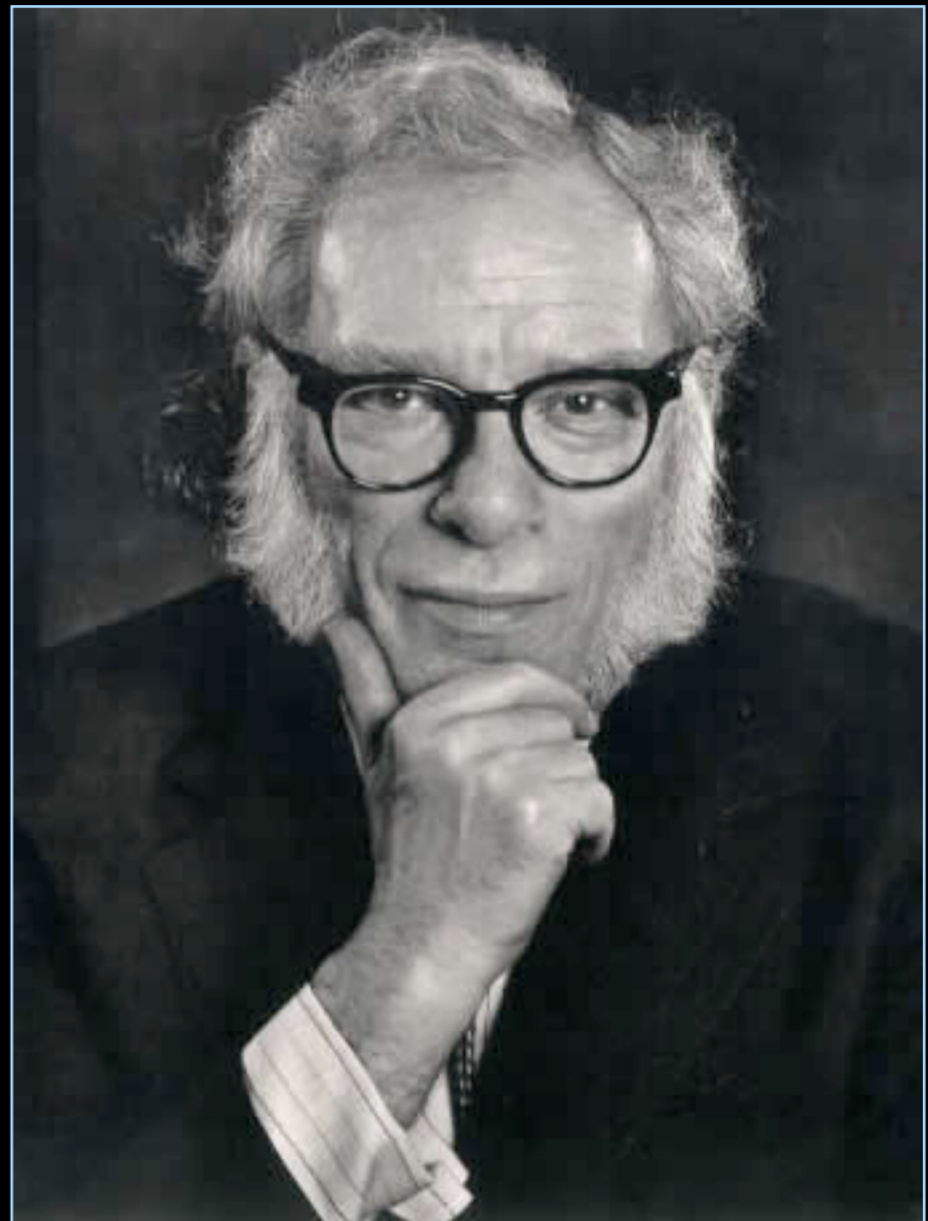
interlude: surprise

Now I'd like to bring in the second theme: surprise.

The ability to be surprised by what's in front of you -- to see beyond your habits and preconceptions and notice that something is there that you did not expect -- lies somewhere close to the essence of creativity...

The most exciting phrase to hear in science, the one that heralds new discoveries, is not 'Eureka!' but 'That's funny...'

— Isaac Asimov
^
attributed to



This is certainly true in science generally, as Asimov famously said (or at any rate, if he didn't say it he should have).



Sean Kernan
Kampala Boxing Club

In photography, Sean Kernan has a more poetic way of saying it...

“I often long to get away from the photographer that I’ve become. Finding photography years ago was like coming across a white horse in a clearing in the forest, climbing onto its back, and having it run away with me to places far beyond my imagining.”



Sean Kernan
Kampala Boxing Club

And I spent the next years training the horse, making it do whatever I wanted. Then I realized that if I wanted the gift it had first given me, I'd have to teach it to run away again."



Sean Kernan
Kampala Boxing Club



Sean Kernan
Kampala Boxing Club

So this is the question: How do we learn to surprise ourselves?



Sean Kernan
Kampala Boxing Club

Let's look at some other ways that photographers have done it...

landscape of dreams

At the beginning of the talk, we saw some examples of photographers that have a gift for being surprised by what's around them.

Other artists use an opposite strategy to get to surprising places. Rather than looking to the outside world, they turn deeply inward, to their own inner landscapes.



Susan Burnstine
Into the Light

Susan Burnstine is a California photographer who uses dreams as her primary source material.



Susan Burnstine
Grasp

“As a child, I suffered vivid nightmares that stayed with me for days. Often, I would walk around not sure if I was dreaming or awake, as the lines between the two remained blurred.”



Susan Burnstine
Crossing the Bridge



Susan Burnstine
The Road Most Traveled

Existing within the shadows of the unconscious made life a curious synthesis of magic and reality. Portals to the unknown emerged, offering me pathways that seemed to bridge the gap between real and unreal, life and death.



Susan Burnstine
Bridge to Nowhere



Susan Burnstine
And Ever



Susan Burnstine
In Passage

Though the intensity of my dreams did not lessen as an adult, my response transformed. Initially, I was lost within the haze of my dreams. But now, it is through my dreams that I truly see.”



Susan Burnstine
Circuitous

“... I wanted to find a way to portray my dream-like visions entirely in-camera, rather than with post-processing manipulations.



Susan Burnstine
At the edge of darkness



Susan Burnstine
Threshold

To achieve this, I created twenty-one hand-made film cameras and lenses that are frequently unpredictable and technically challenging. The cameras are primarily made out of plastic, vintage camera parts and random household objects and the single element lenses are molded out of plastic and rubber.



Susan Burnstine
Yearn

Learning to overcome their extensive limitations has required me to rely on instinct and intuition – the same tools that are key when attempting to interpret dreams.”



the freedom of constraint

Another way of courting the element of surprise is to introduce a constraint or a rule -- even something arbitrary -- that forces you to change your way of working.

A few years ago I got very interested in the work of Bill Jacobson.



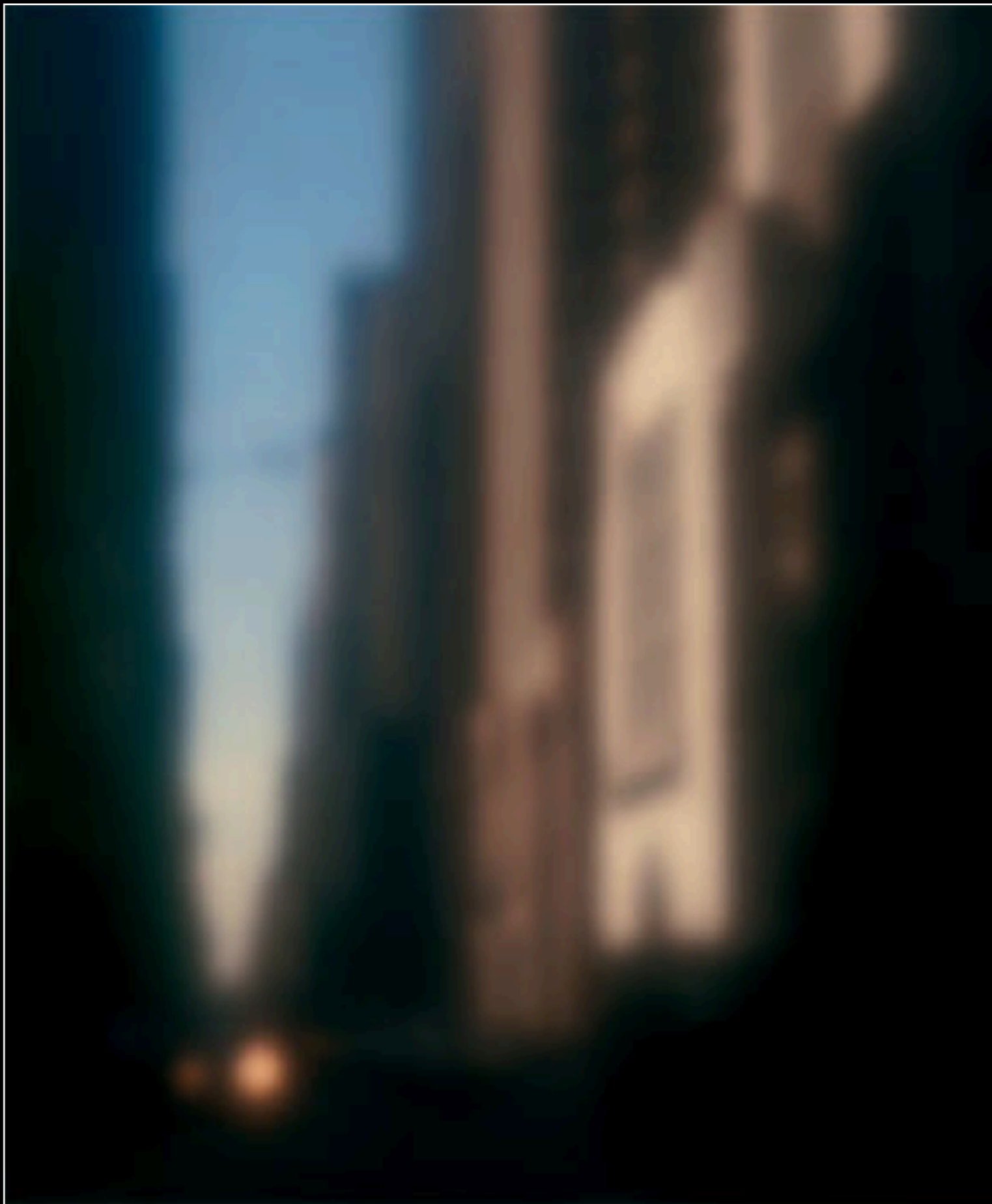
Bill Jacobson
New Year's Day #4580, 2002

He produced a gorgeous body of work based on the very simple device of extremely soft focus.



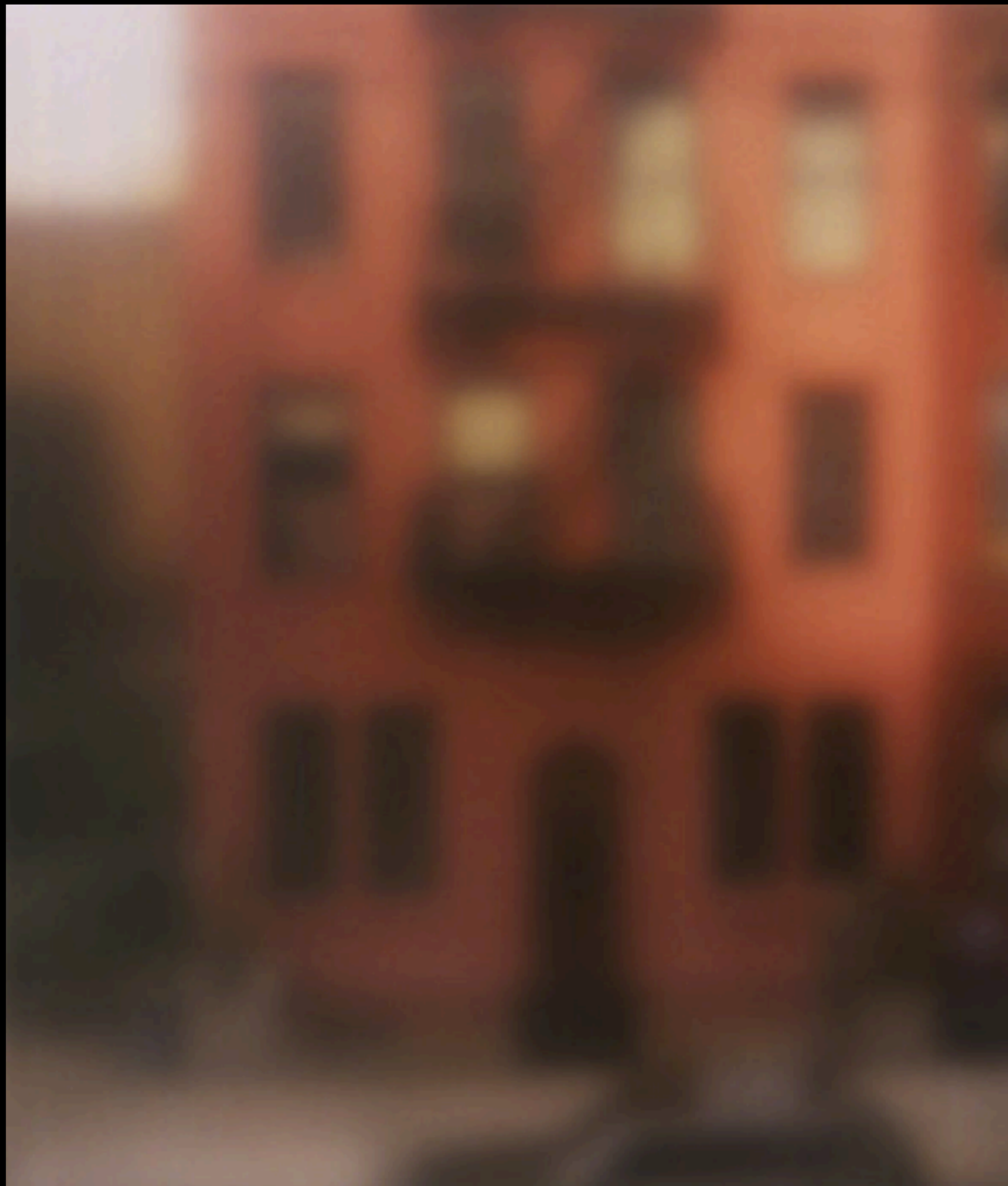
Bill Jacobson
New Year's Day #4561, 2002

It's something that lots of people have done, but Jacobson somehow nailed it -- his images have a quality of place and light that I find completely magical,



Bill Jacobson
New Year's Day #5015, 2003

even though basically all the detail has been abstracted away.



Bill Jacobson
#3001, 1999



2007

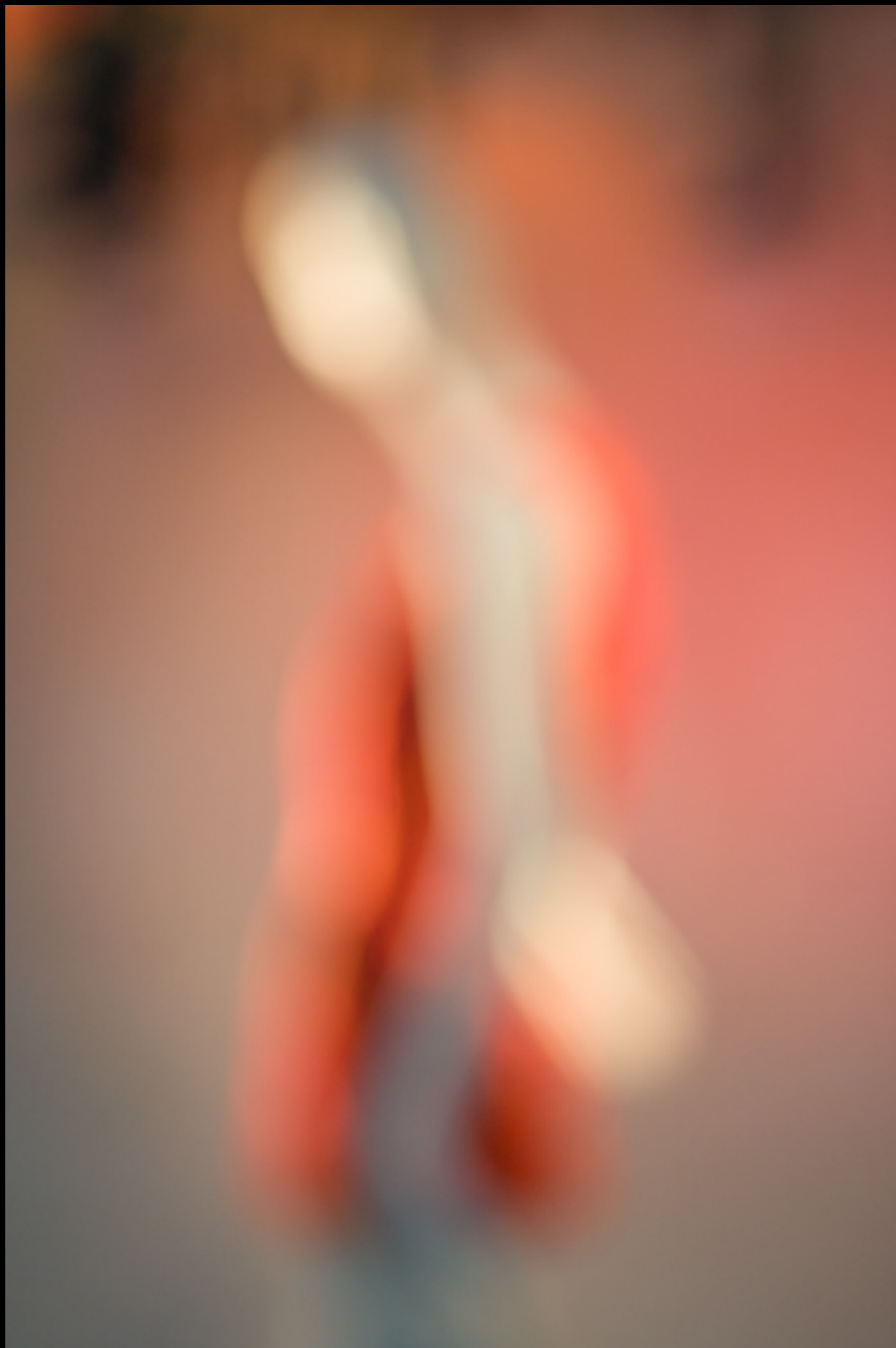
So naturally I had to try it myself.



2007

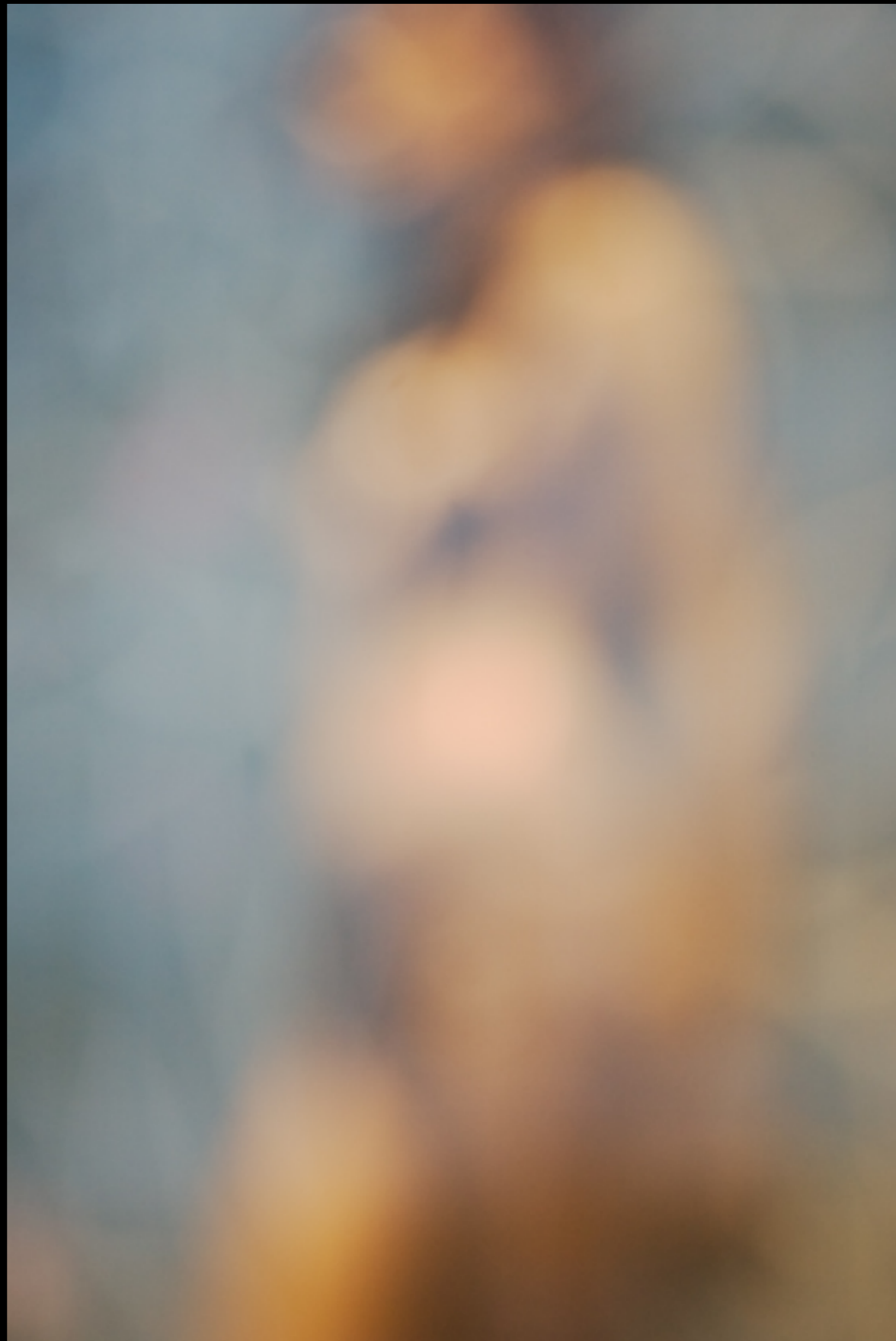
... and the next thing that happened was I discovered mannequins.

This isn't a good image, but I've kept it because it is the very first one that I took, and it still reminds me what I found compelling and what kept me going deeper and deeper into this project...



Benjamin C. Pierce
West 34th St, New York, 2007

-- the simplicity of the forms,

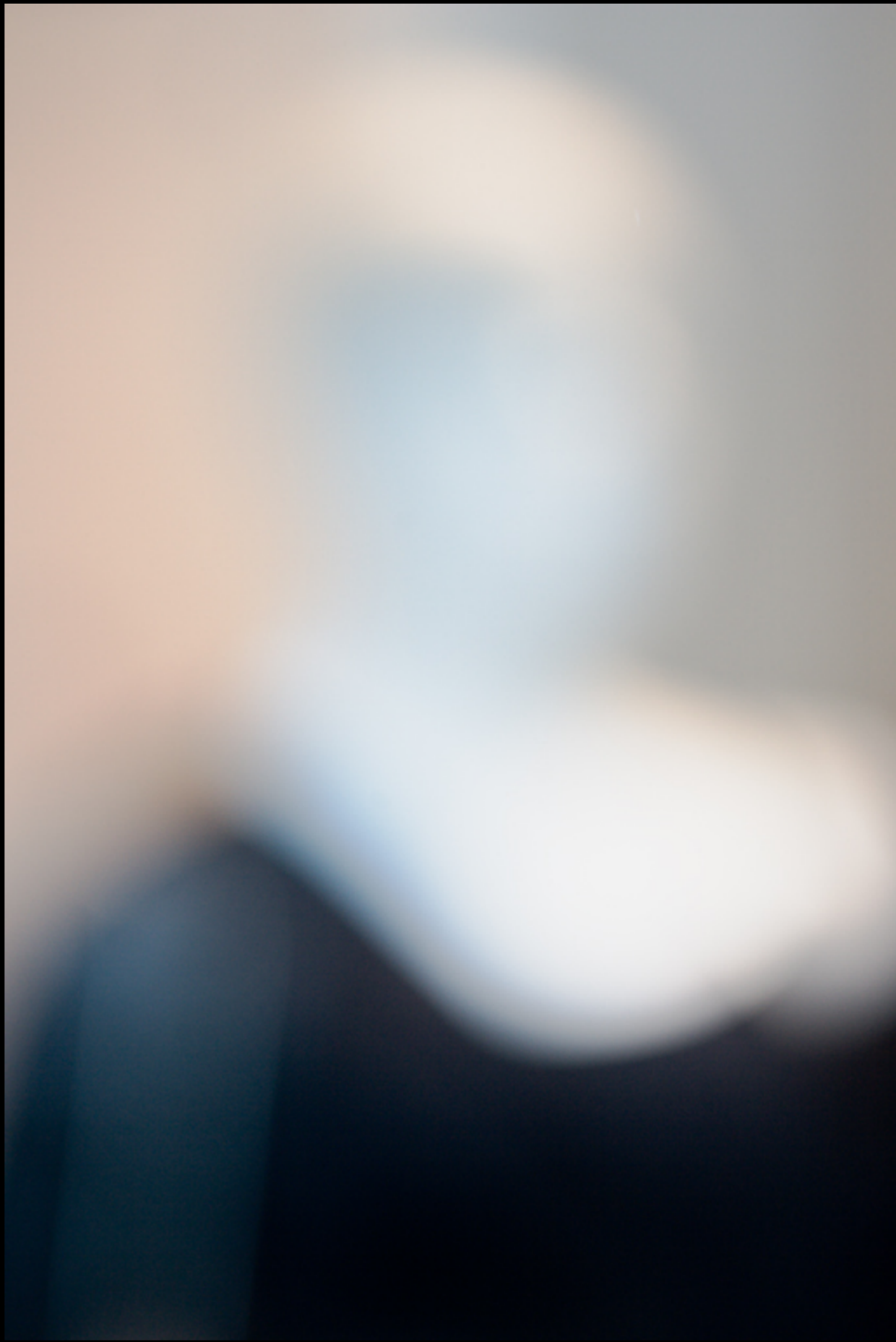


Benjamin C. Pierce
West 34th St, New York, 2008

the beauty of the surface,

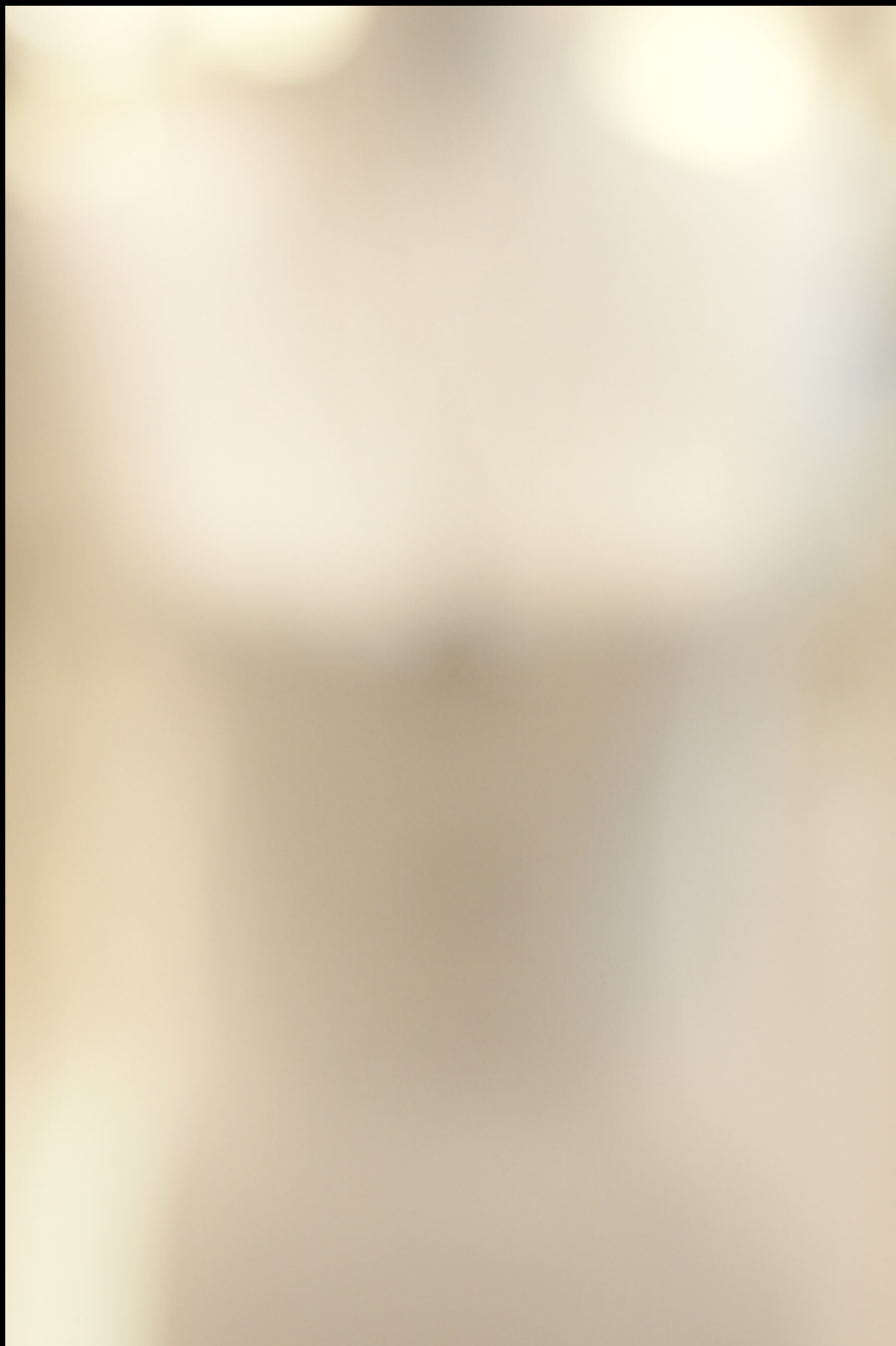


Benjamin C. Pierce
5th Ave, New York, 2007



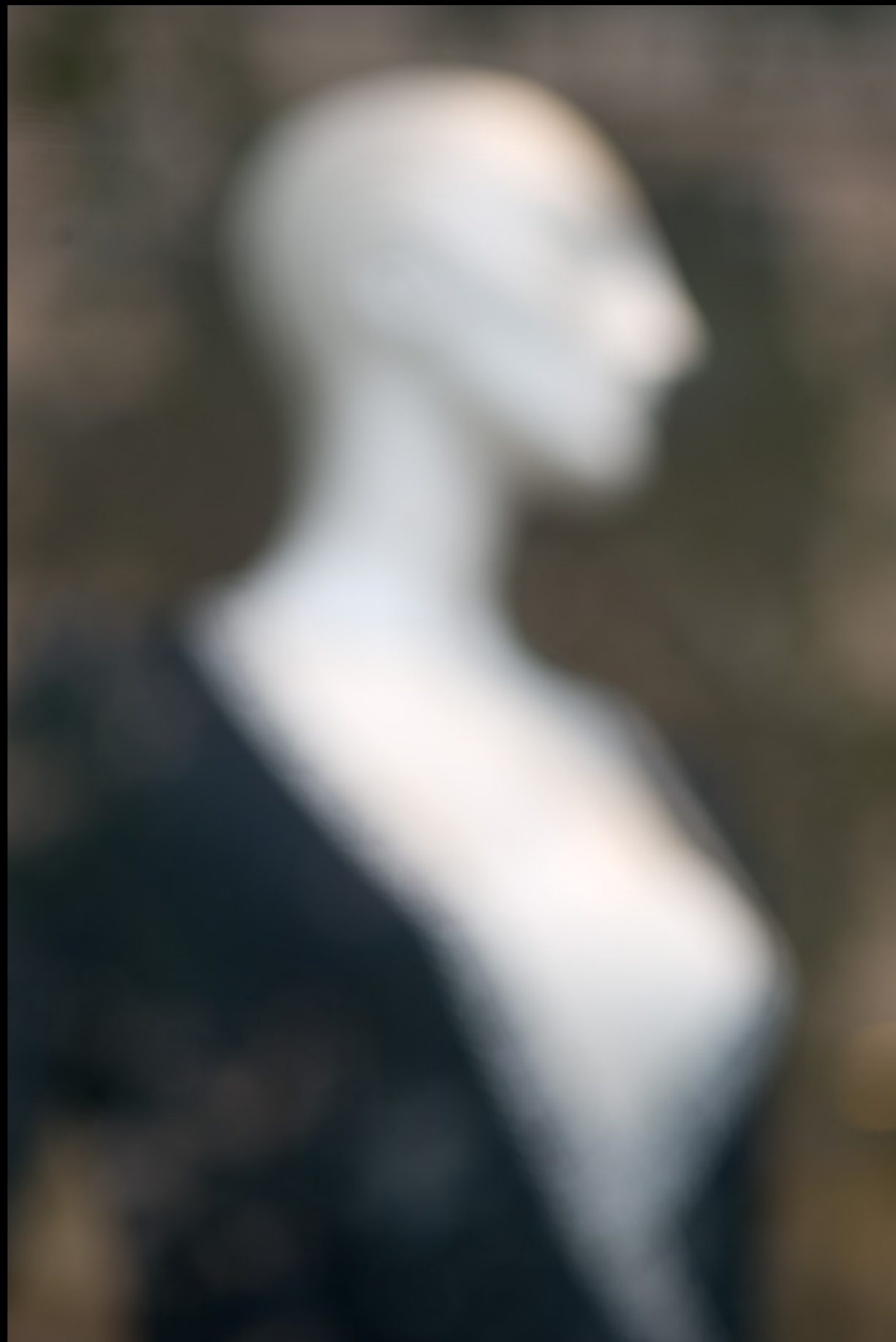
Benjamin C. Pierce
5th Ave, New York, 2008

and the way the soft focus reduced everything to its simplest essence.

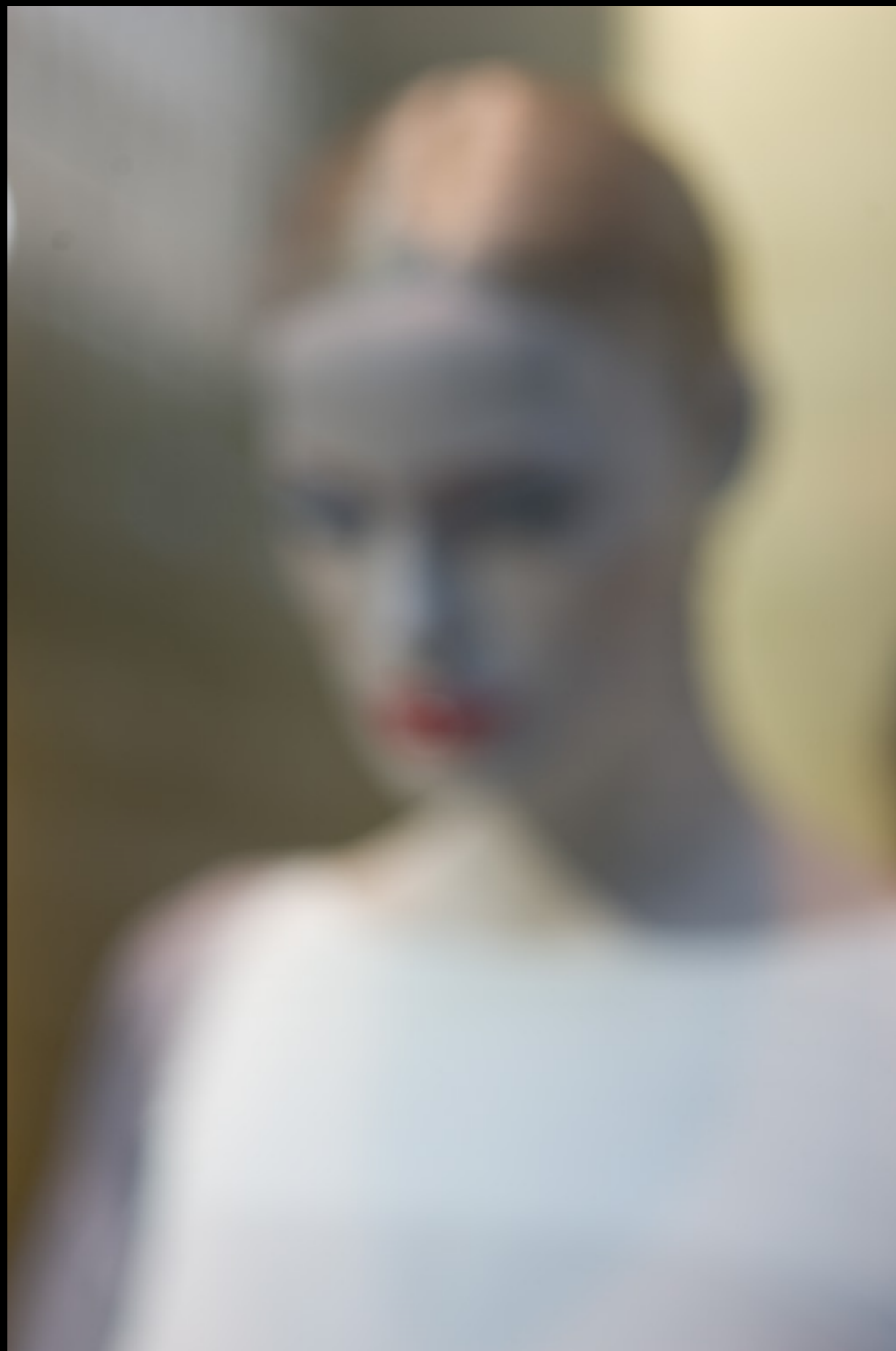


Benjamin C. Pierce
5th Ave, New York, 2008

And of course, the fact that, especially for me as a heterosexual male, what was left of the forms was a reminder of something archetypal.



Benjamin C. Pierce
Grand St, New York, 2007



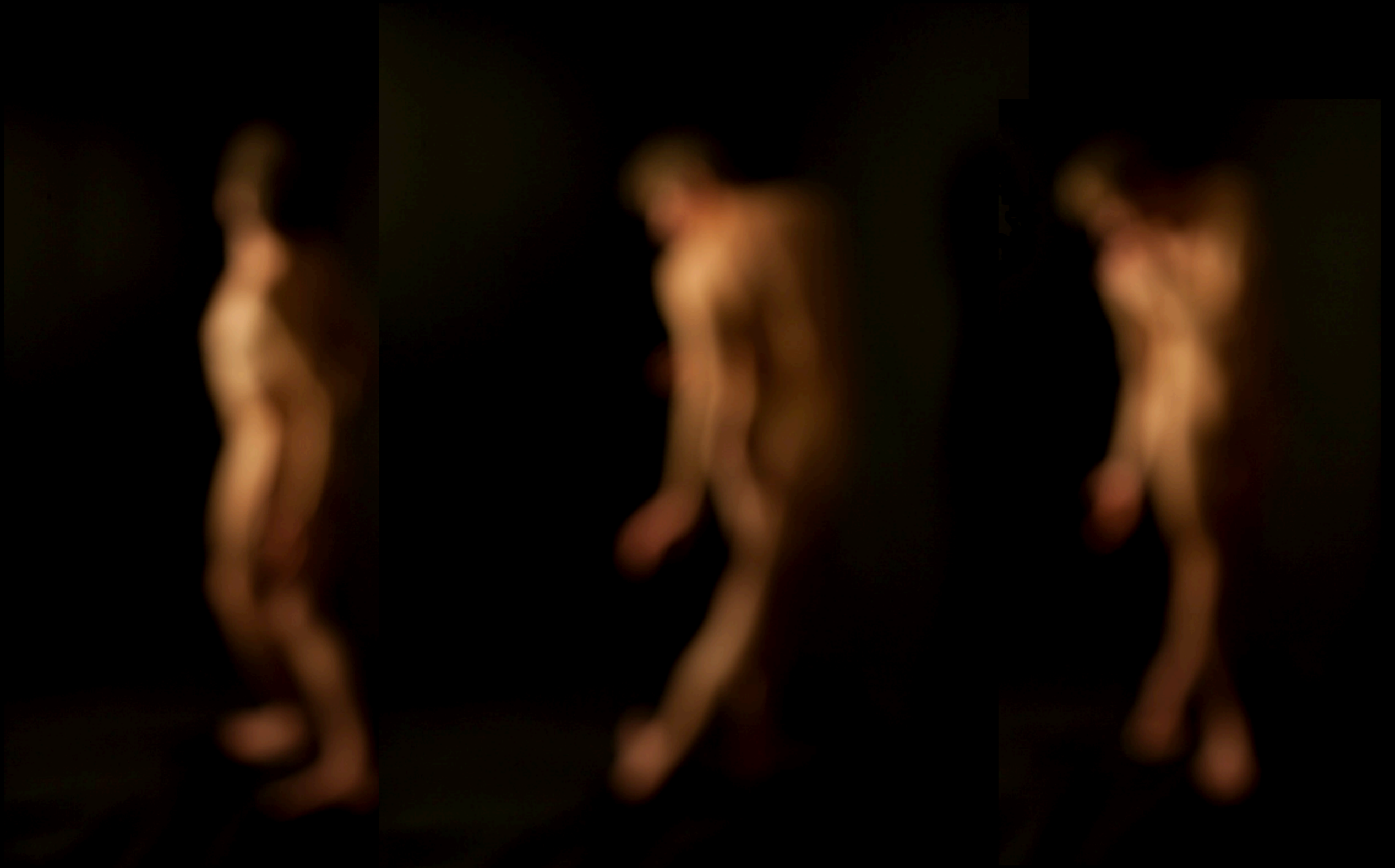
Benjamin C. Pierce
5th Ave, New York, 2007

As I went on, I noticed more and more -- in particular, the way the smearing of colors on the surface of the image gave almost the impression of paint.



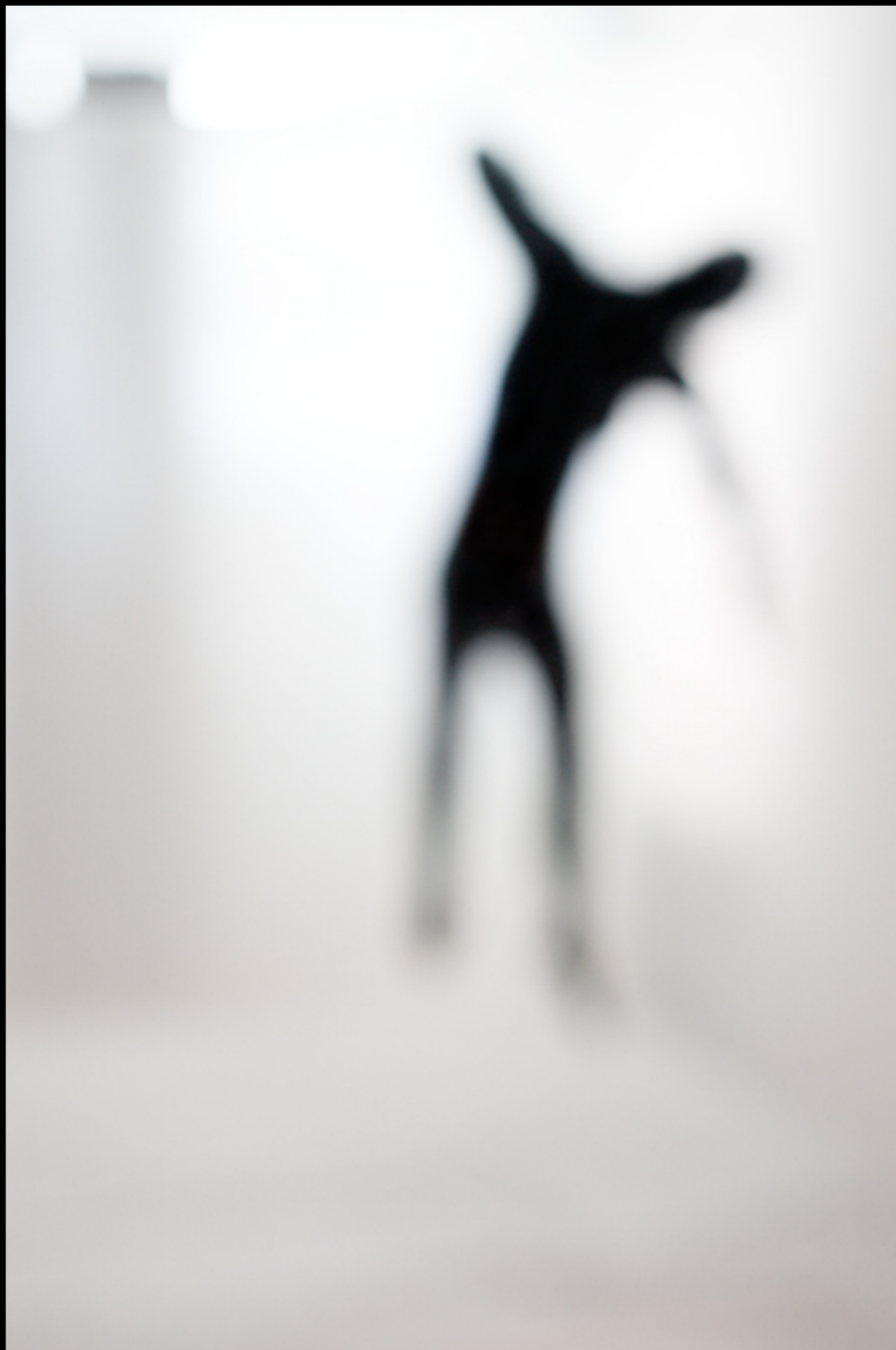
Benjamin C. Pierce
Stockton St, San Francisco, 2008

and the precise ways that specular highlights bloom -- which can sometimes make a beautiful effect or (more often) completely ruin an image.



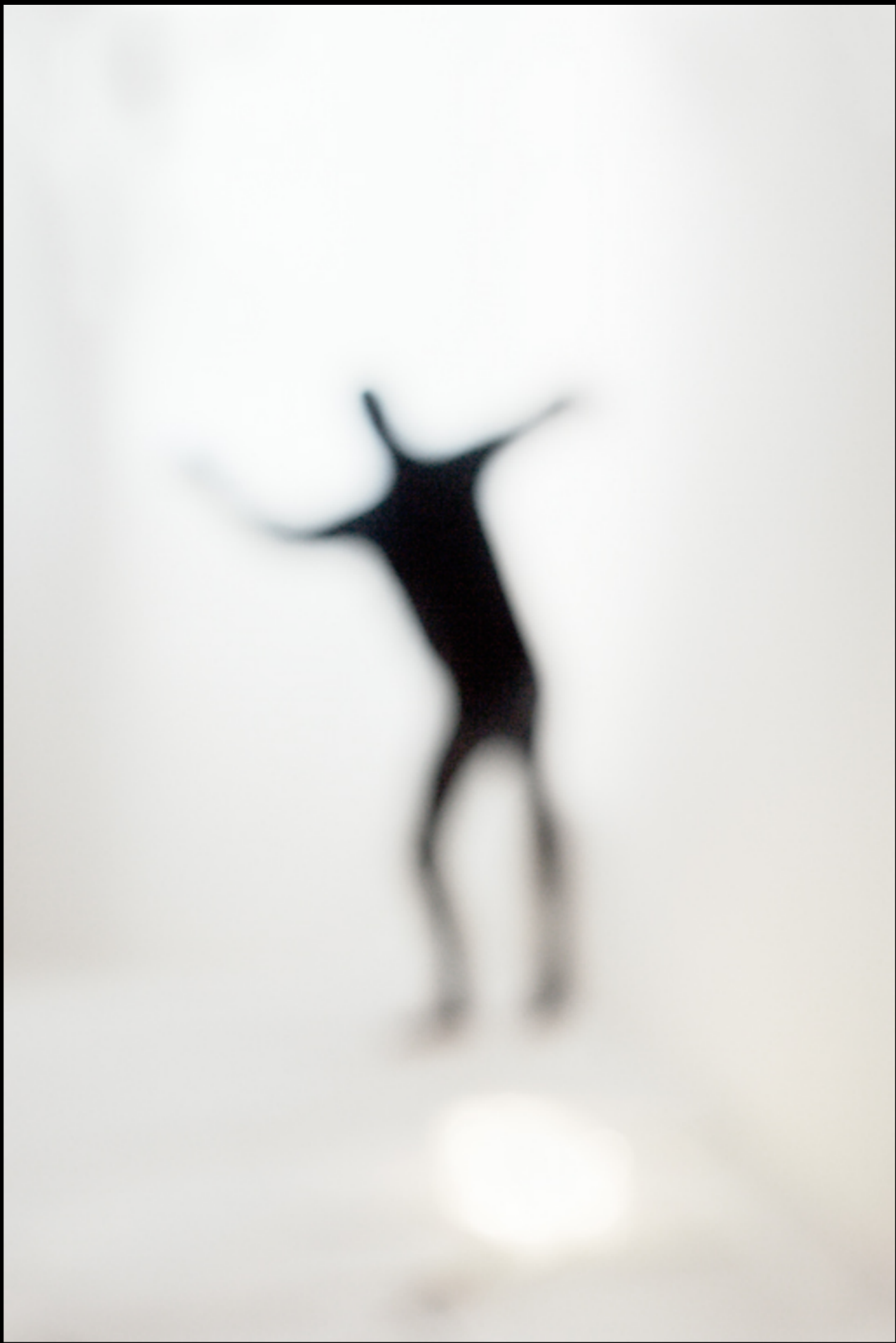
I also wondered whether you could do the same thing with live models...



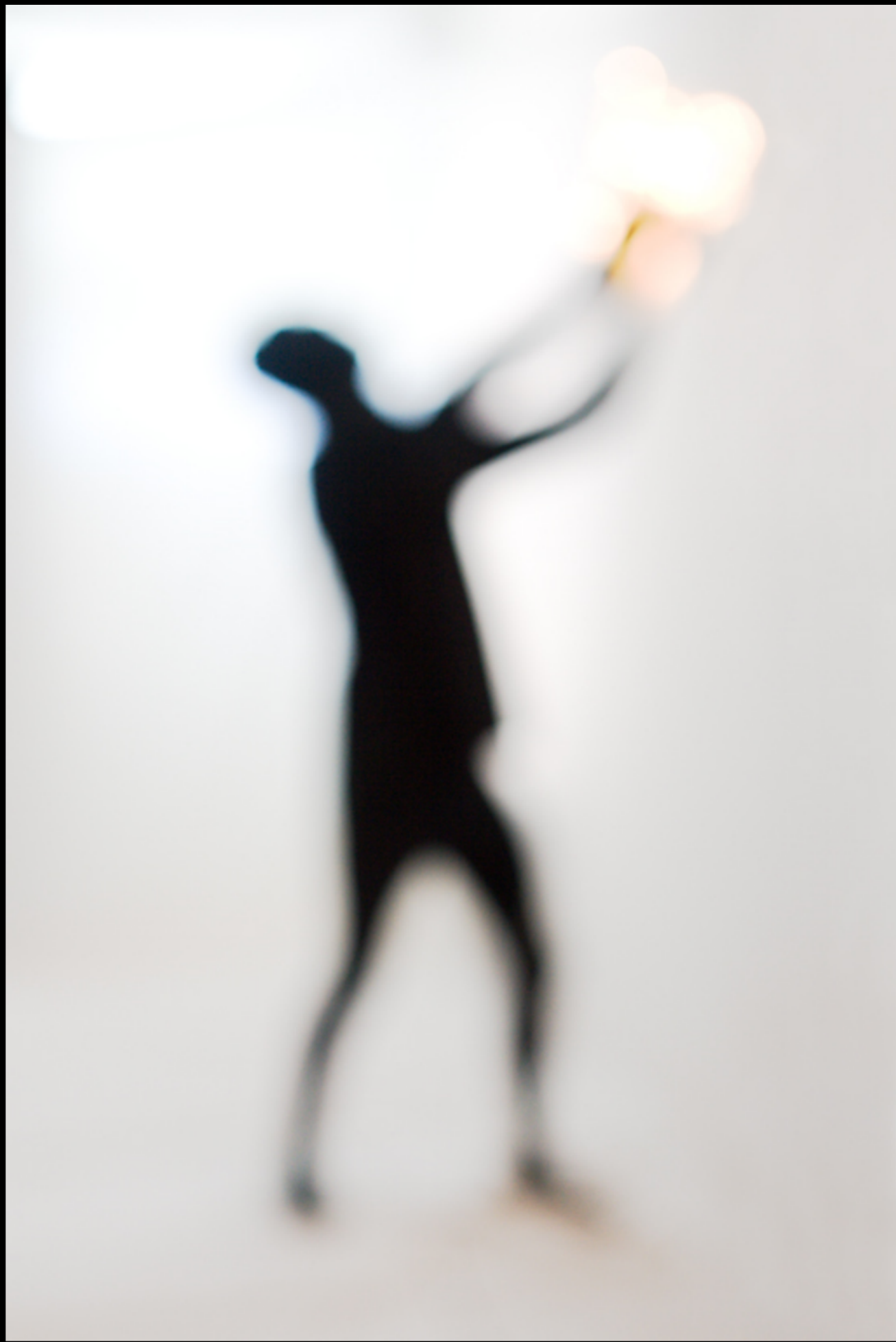


Benjamin C. Pierce
The Visitor, 2007-2009

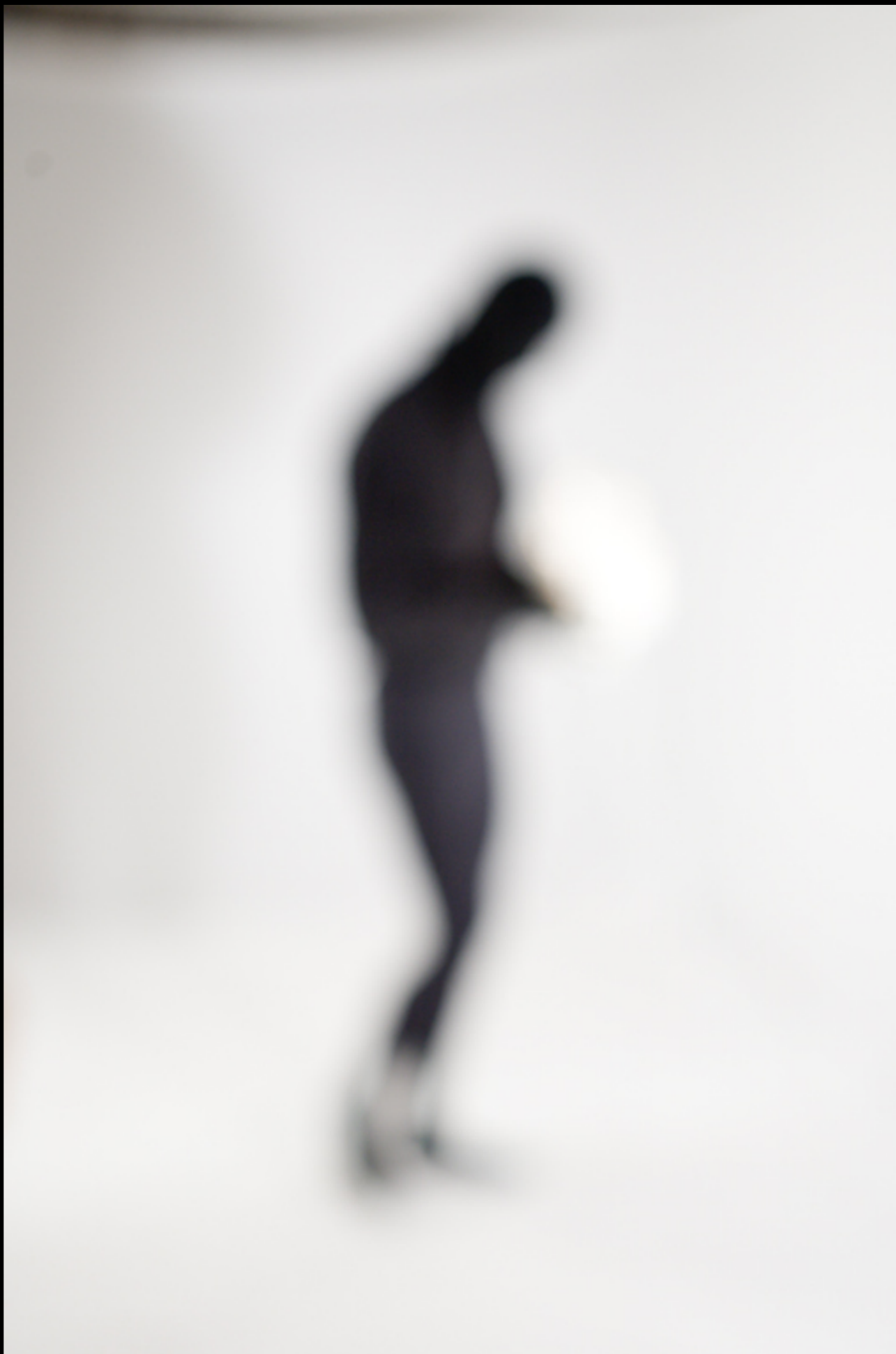
And through that exploration I became acquainted with a mysterious figure that I came to call The Visitor.



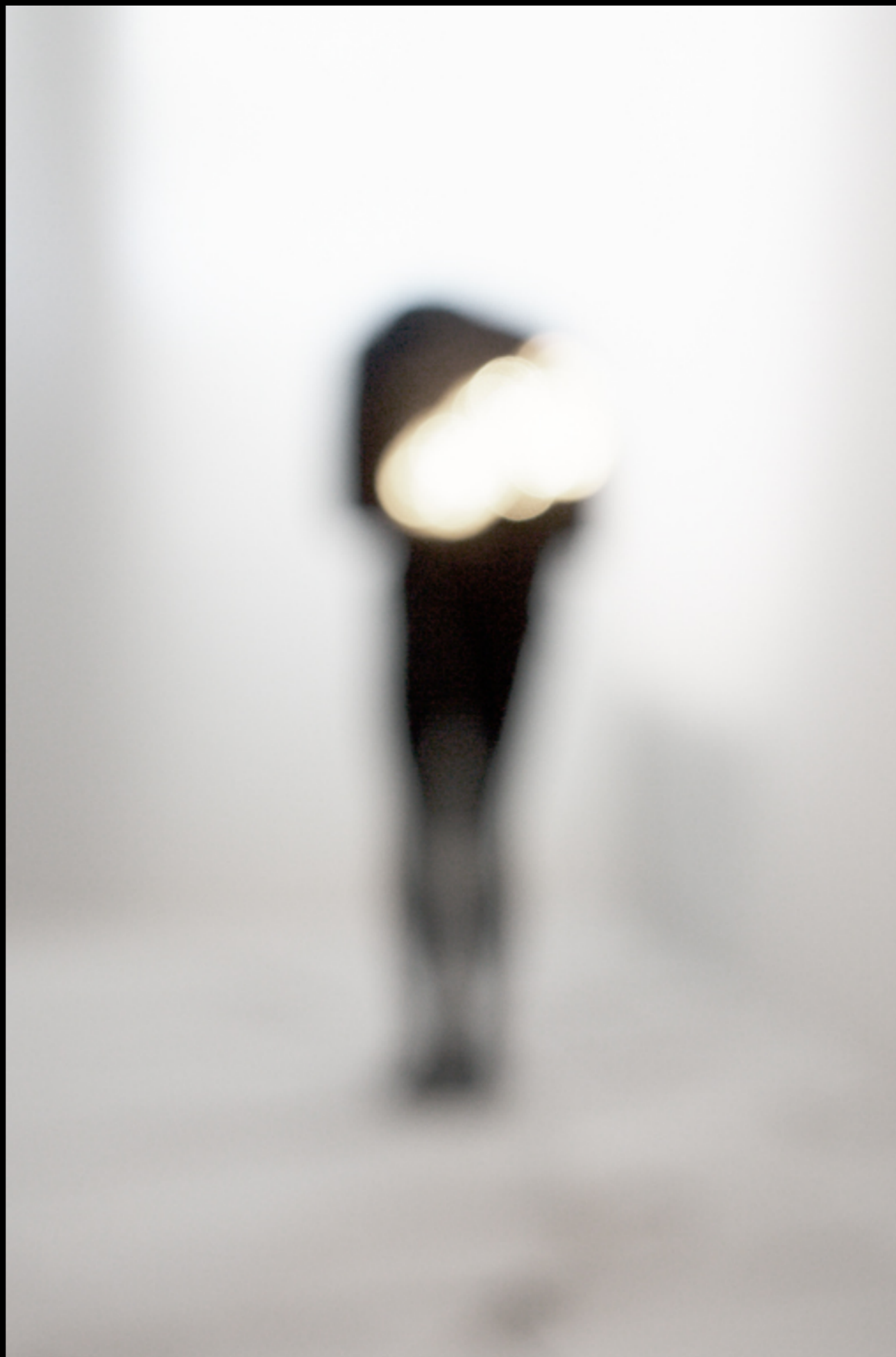
Benjamin C. Pierce
The Visitor, 2007-2009



Benjamin C. Pierce
The Visitor, 2007-2009



Benjamin C. Pierce
The Visitor, 2007-2009



Benjamin C. Pierce
The Visitor, 2007-2009

chance

Another way of finding beginnings is to take advantage of randomness, serendipity, and caprice.



Sean Kernan
The Secret Books, 1999

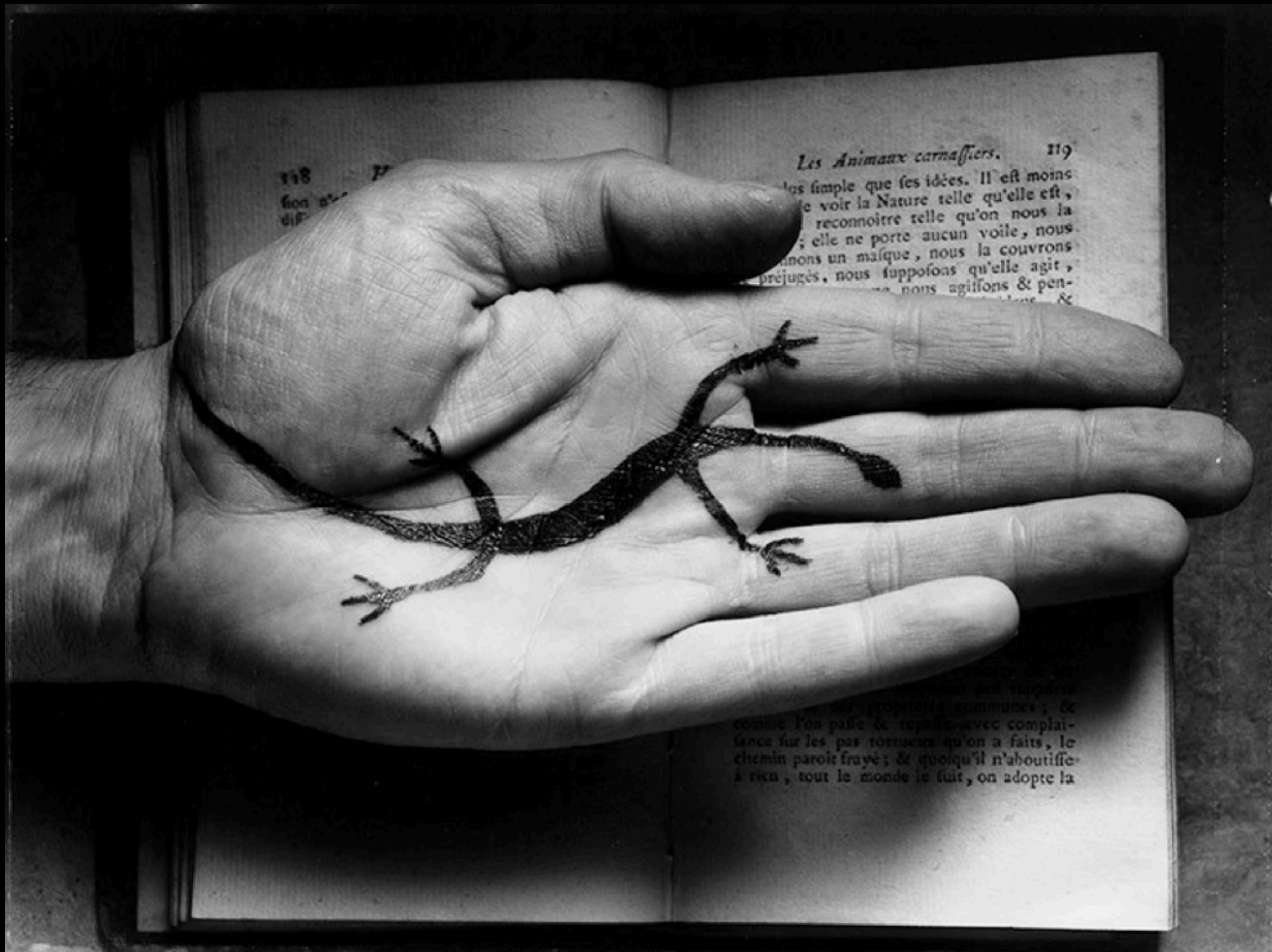
The next set of images are from a book by Sean Kernan called *The Secret Books*, where Kernan's images are paired with stories and poem fragments from Jorge Luis Borges. He writes...

"The images in this book grew out of writing—my own, not Borges...."



Sean Kernan
The Secret Books, 1999

Writing lifted me out of my world of constant doing and making, and set me down in a realm of stillness and watching, where I found the power to make real worlds in my mind... or found it again.



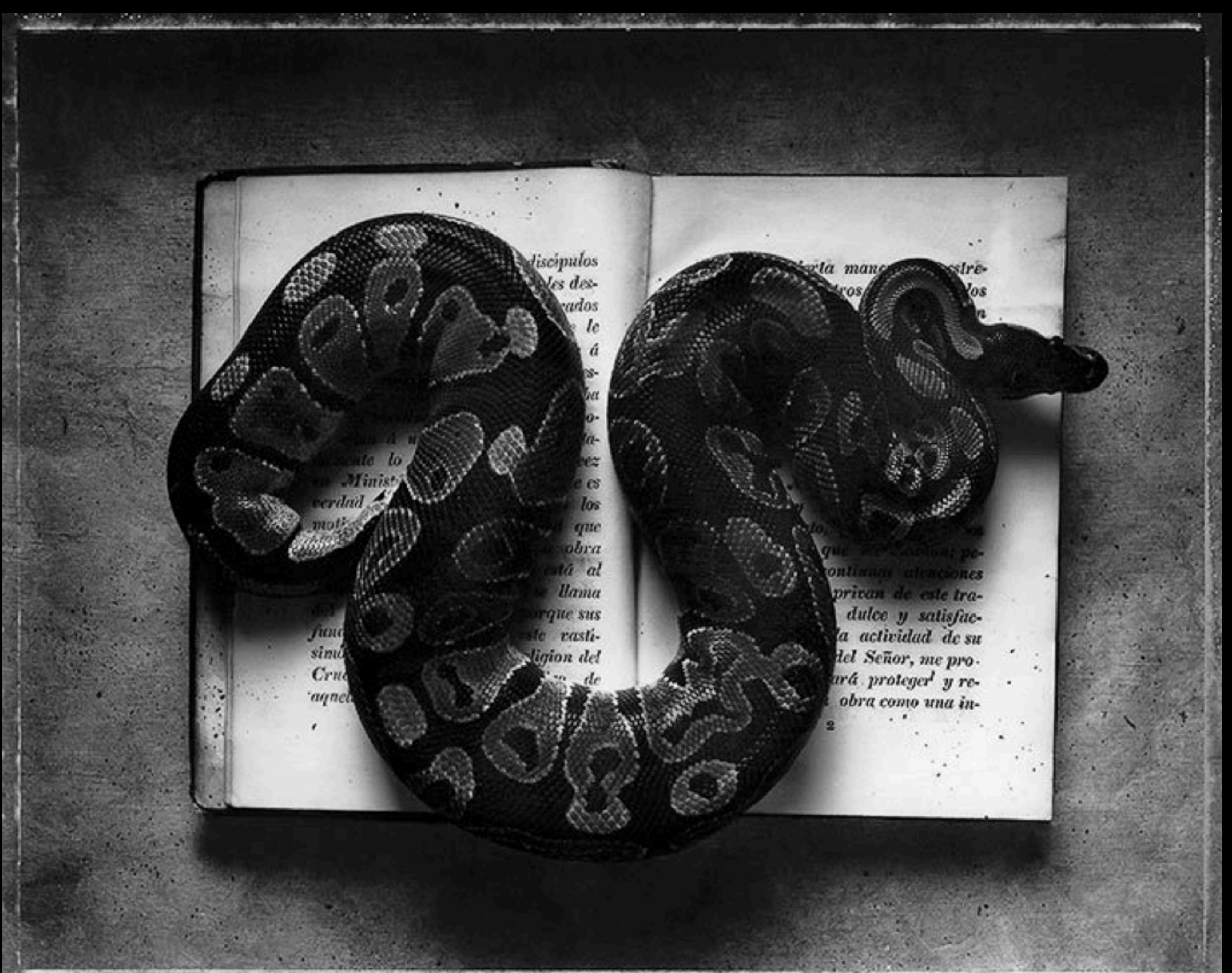
Sean Kernan
The Secret Books, 1999

One day during this time I was hanging around my studio with nothing much to do, cleaning up in a desultory sort of way (the only way I ever clean). There was an old book on the table.



Sean Kernan
The Secret Books, 1999

I went to put it away, but instead I opened it and gazed. I looked at the way the sharp metal type cut into the paper, at the blooms of foxing in the margins.



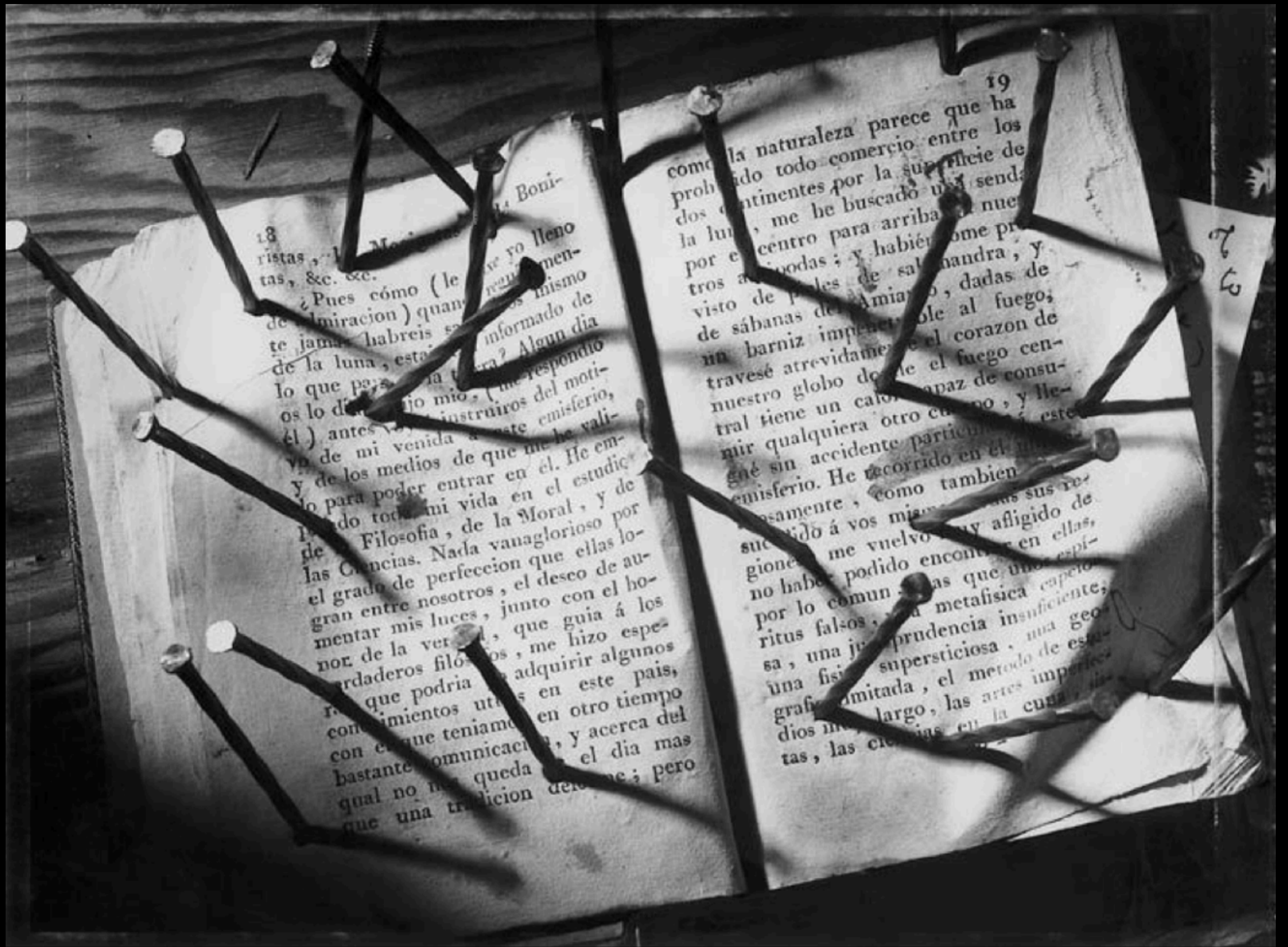
Sean Kernan
The Secret Books, 1999

I smelled its slight odor of papery rot, caught Latin words here and there, and made out that they said something about the spirit and devotion. I stood there for the longest time. The book had stilled me.



Sean Kernan
The Secret Books, 1999

On an impulse I went to the closet where I keep a compost heap of props and got four black stones from a Japanese river. I set them out carefully in a line across the pages of the book and looked and waited.



Sean Kernan
The Secret Books, 1999

And suddenly it looked to me like... a poem. Or a kind of poem at least. Maybe a haiku or something by the Imagists, something that didn't narrate or argue but just placed some simple things before you and invited you to contemplate the work.



Sean Kernan
The Secret Books, 1999

The book with its stones was a pure image, the kind that can move from one mind to another and root there in some mysterious panspermic process. Joining things that didn't logically go together—Latin meditations and Japanese rivers, black stones and creamy paper---

come ognun di noi vi prega colle parole nel primo Salmo di Terza: *Inclina cor meus Deus in testimonia tua, & non in avaritiam*, così vè pregasse con umiltà, e sincerità di spirito; ajutateci a piangere i commessi disordini, e ad esclamar in avvenire colla bocca, e col cuore, e colle forze intiere: *mihi est in Calo, & a te quæsitum est: Deus cordis mei, & non in avaritiam æternam.*

VII. MEDITAZIONE

L'odio è ripugnante alla natura, e se però si accende, è difficilissimo a spegnersi.

Acutamente si consideri il processo peccati di Caino, e l'odio che fu delitto, per cui fu punito. (Sacrifiz) di questa, e di altri peccati. *Deus: Quid fecisti? Inquit: Malum ad me de terra, & super terram. Ma non era superbia, di rapacità, di invidia, egli irreverentissimo verso Iddio offeriva le biade smunte, le frutta meno prezzevoli? Tale egli è vero, ma dele assassino, la divina giustizia nondimò rimprovera, e condanna per l'odio contro il fratello: *Opera mala Cain non dicit, nisi odium fraternum.* Ah, che a confronto di quest' odio non*

non comparisce la enormità delle altre colpe! perche fu odio ostinatissimo, e concepito nell' Altare tra Sacrifizj: L'Altare fu la fornace, che accese il furore, la offerta de' Sacrifizj fu la Madre del primo sdegno: *Fatum est ut offerret Cain de fructibus terra manera Domino; Abel quoque obtulit de primogenitis gregis sui; & respexit Dominus ad Abel, & ad munera ejus (a). . . Ira- vitus Cain, & concidit vultus ejus. Se mai si consideri Gesù Cristo Ivenato, orante, e pregante anche de' suoi Crocifissori, e de' suoi persecutori, la Legge di Grazia, e Carità, che vince ogni discordie, odj, e vendette, e che non fare parola nelle passate iniquità, sebbene imitando la giustizia, e la pietate somministrate dall'Altare, e dall'odio del Sacerdote: *dicens nisi odium fratrum meorum* mai non mi occorre di vederli in abito di Sacerdoti di altri peccati la infame imitazione de' Sacerdoti, che mi rammentano quelle colpe, che non si possono vederli più diligenti, e più diligenti. E non possiamo, già che gli occhi, mi dice la vostra coscienza, non ancora noi concepire odio, e vendette? Signori sì, ma non siate come Caini tra Sacrifizj: volete in- che vi proponga il preservativo contro*

H 4 que-

(a) Gen. 4.

—broke apart some notion of what these things should say and set my imagination free to work. I had always wanted my photography to do this, and now I saw this wonderful composition open up on the table before me.

nia Chiesa, quando voletti essere insignito del Sacerdotale Carattere: In domo Dei ambulavit cum confessa: Tu alzi contro me temeraria la fronte, sotto le bandiere di Lucifero ti arrolli, e lui servi, servo rendendoti del peccato! Oh che odio! che sdegno! che furore accende nel Cuore mio questa tua perfidissima ribellione. Ci manifestò l'Altissimo questa giustissima indignazione nello escludere Terra promessa. Duce del popolo, per la dimostrata nel, da e purgare l' e pu- rificata. E questa set quanto di Sacerdote, rem ad del statur, che legge nella Men- d' honora le genti dono, potendo dal regno dell' Unive- vaticina: Effunde iram tuam in gentes, que non observant: Prophetatio est ista, non opatio, P. S. Agostino: hoc verbo effunde sicut indicavit, quod voluit multam iram intellegi. Oimè, che sarà d'un Sacerdote, il quale non solamente il conosce, come qualunque Cristiano, ma ch'è stato arricchito di tanti raggianti lumi (a) Cum etiam ignorantes Dominum nulla exceptio tutatur a pena, quia Deum

(a) Num. 14. (b) Deut. ult. (c) cap. 4.

pro totius populi peccato prescribitur, quia quo major auctoritas, eo majus est eorum qui peccant supplicium, come notò S. Pietro Damiano. Il. Lo Eminentissimo Ugone bensì offerò una importantissima differenza: Invenitur autem differentia inter peccatum Sacerdotis, & Sinagoga; e qual'è mai questa differenza? Del popolo dice: Si omnis turba filiorum Israel ignoraverit, & peccaverit, non peccaverit quod contra mandatum Domini. Sacerdote però dice: Si Sacerdos peccaverit, peccaverit quod contra mandatum Domini. E questa differenza quanto? Il Sacerdote, che non è ad obediendum, ma ad docendum, ha del peccato, che non è nella Legge, ma nella Men- d' honora le genti dono, potendo dal regno dell' Unive- vaticina: Effunde iram tuam in gentes, que non observant: Prophetatio est ista, non opatio, P. S. Agostino: hoc verbo effunde sicut indicavit, quod voluit multam iram intellegi. Oimè, che sarà d'un Sacerdote, il quale non solamente il conosce, come qualunque Cristiano, ma ch'è stato arricchito di tanti raggianti lumi (a) Cum etiam ignorantes Dominum nulla exceptio tutatur a pena, quia Deum

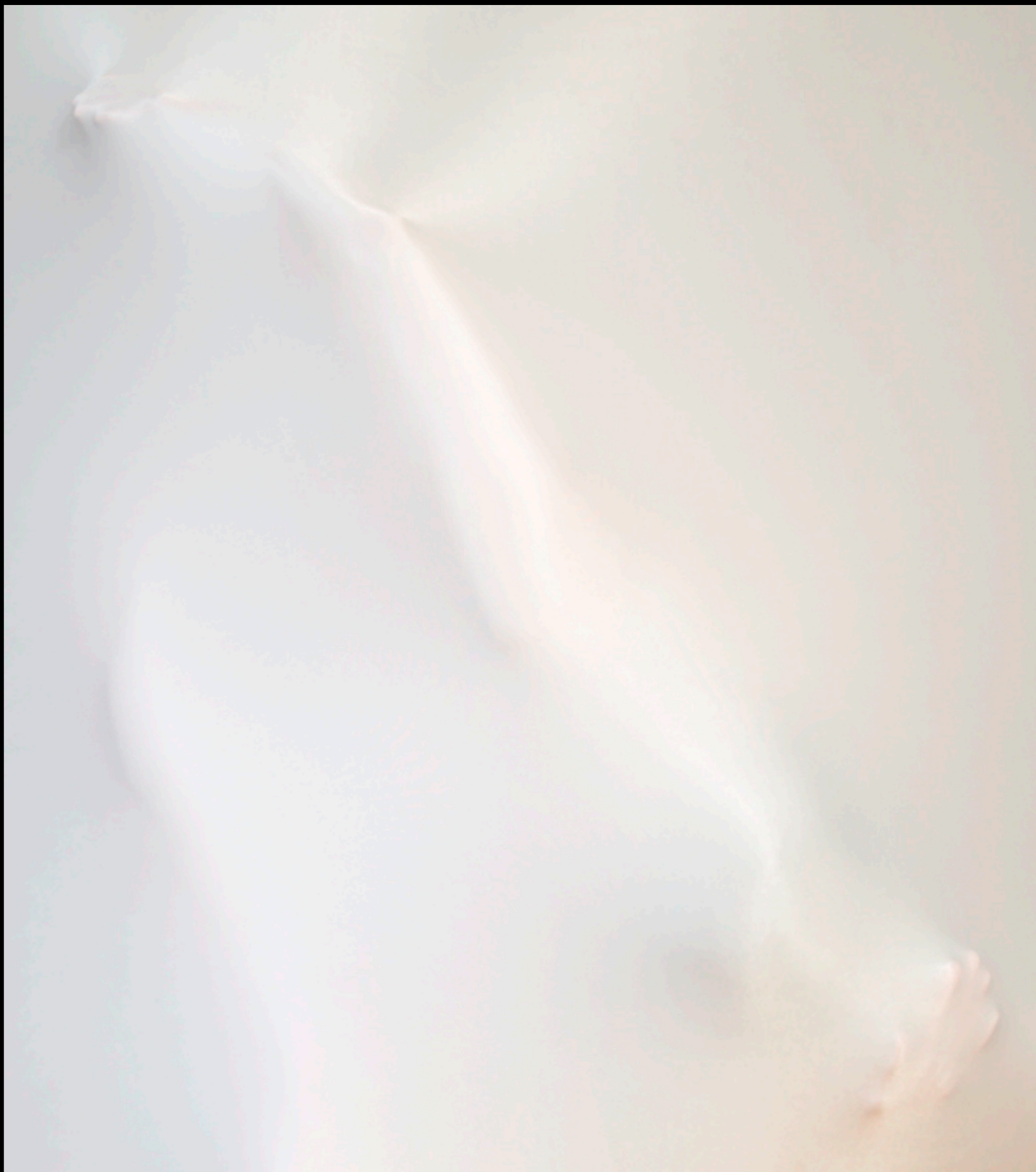
(a) lib. de pen. cap. 5.

Sean Kernan The Secret Books, 1999

I took a picture of this poem. And that was the beginning of these pictures."

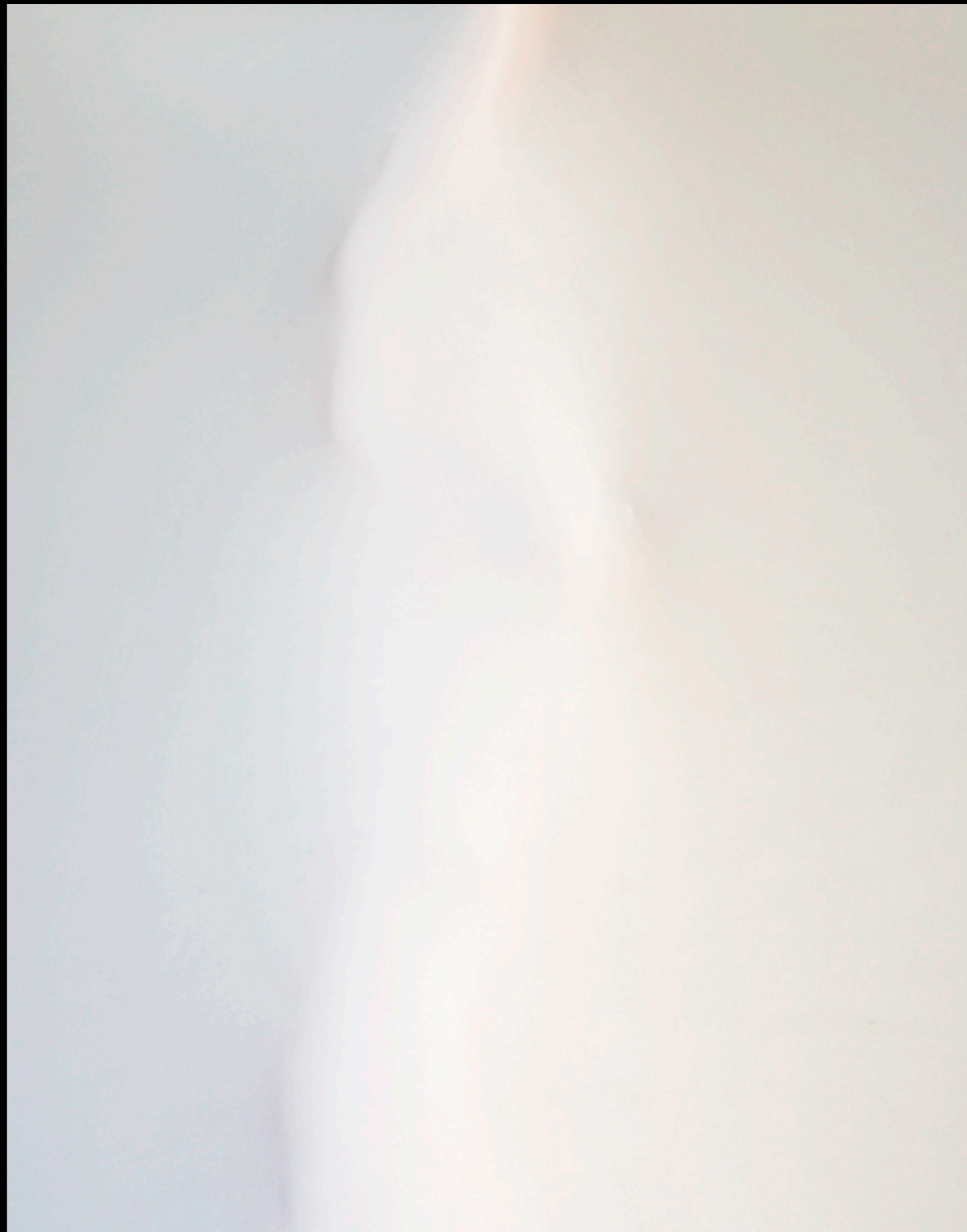
serendipity

Sometimes you don't have to consciously arrange random juxtapositions in order to be surprised: you just have to turn your eyes in the right direction.



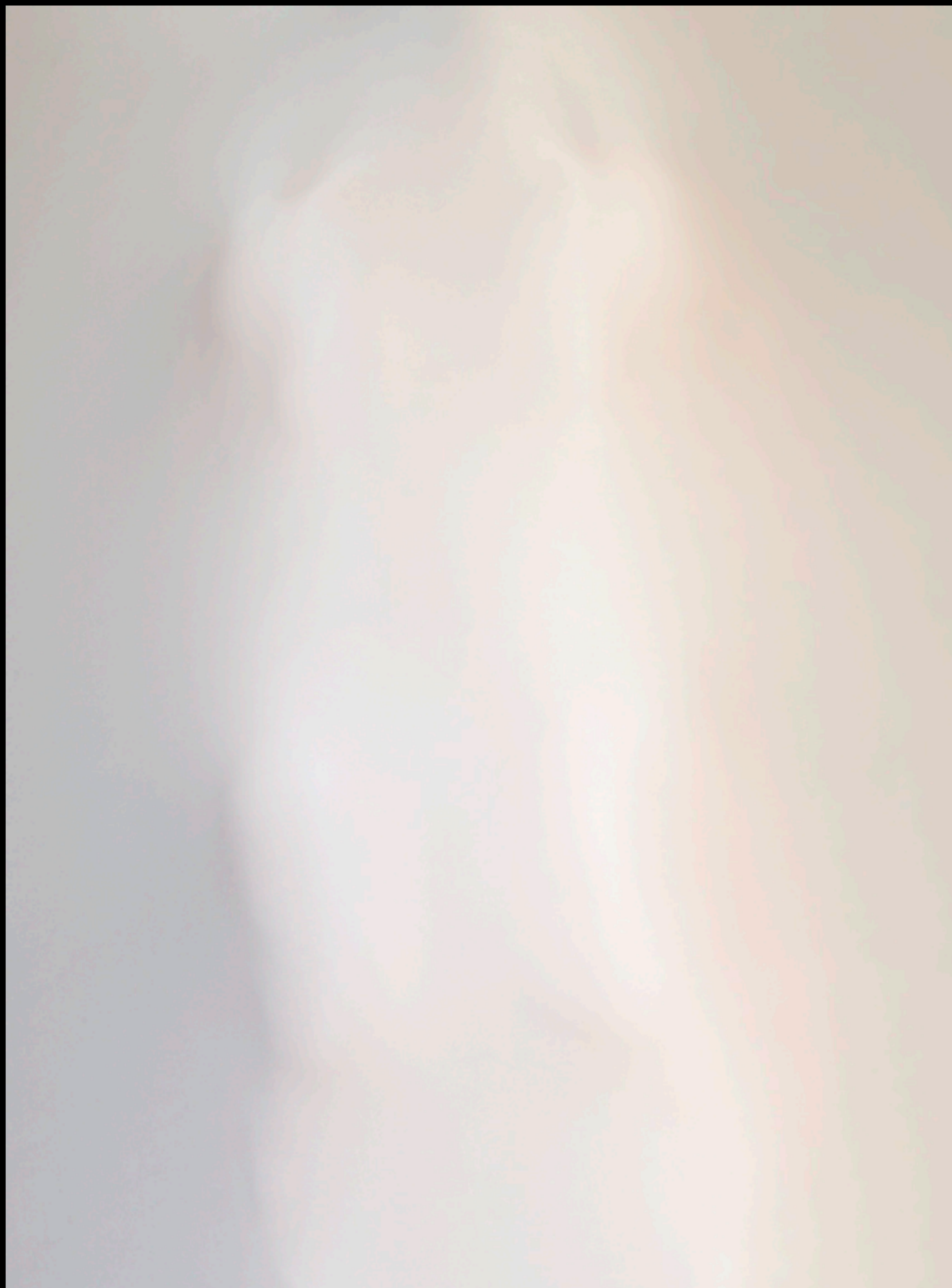
Benjamin C. Pierce
Graces, 2007

These are some of my very favorite photographs that I've ever made, and they came about completely by chance. I was in the middle of a session working on some other idea (not a very interesting one), and I was fiddling around making some adjustment to my camera.



Benjamin C. Pierce
Graces, 2007

The model was amusing herself messing around with a huge piece of lycra that we'd been using for something else, and all of a sudden I turned my head and noticed what was happening.



Benjamin C. Pierce
Graces, 2007

Because of the cloth, there was almost nothing left of the figure -- just an imprint, or an echo. And because of the way the lights were raking across the cloth, the imprint was outlined in these unbelievable peaches and grays and mauves.



Benjamin C. Pierce
Graces, 2007

I guess the lesson of this is that sometimes it's not so hard -- you really do just have to open your eyes.

connection (dances with light)

A close relative of surprise is *compulsion* -- some force that reaches out and compels the artist to make some particular thing.

And one of the most compelling subjects, and at the same time most difficult, is something that's always with us -- the human body.



Ruth Bernhard
Folding, 1962

Compelling, because our response to bodies is strong, deep, and instinctive -- it's the way we're wired. But also difficult, because it's such an old subject... not only has everything been said, it's been said about a thousand times! To be surprised by it seems impossible. Still, there's a long list of photographers who have walked down this path and found amazing things. One of the most amazing is Ruth Bernhard.



Ruth Bernhard
Curvilinear, 1971

“My enjoyment of life began with my eyes. Even as a small child, curiosity possessed me. The visible and invisible were my world, my fairy tale. In my eightieth year, the magic continues to linger. The world is always fresh.



Ruth Bernhard
Classic Torso with Hands, 1952

Looking at everything as if for the first time reveals the commonplace to be utterly incredible.



Ruth Bernhard
In the Box, Horizontal, 1962

The human body represents to me the same universal innocence, timelessness and purity of all seed pods, suggesting the mother as well as the child, the parental as well as the descendant, conceived according to nature's longing. I strongly identify with this sense of continuity and in my work strive to exalt it.



Ruth Bernhard
Sand Dune, 1967

For me, the creation of a photograph is experienced as a heightened emotional response, most akin to poetry and music, each image the culmination of a compelling impulse I cannot deny.



Ruth Bernhard
Neck Study, 1958

Light is my inspiration, my paint and brush. It is as vital as the model herself. Profoundly significant, it caresses the essential superlative curves and lines.”



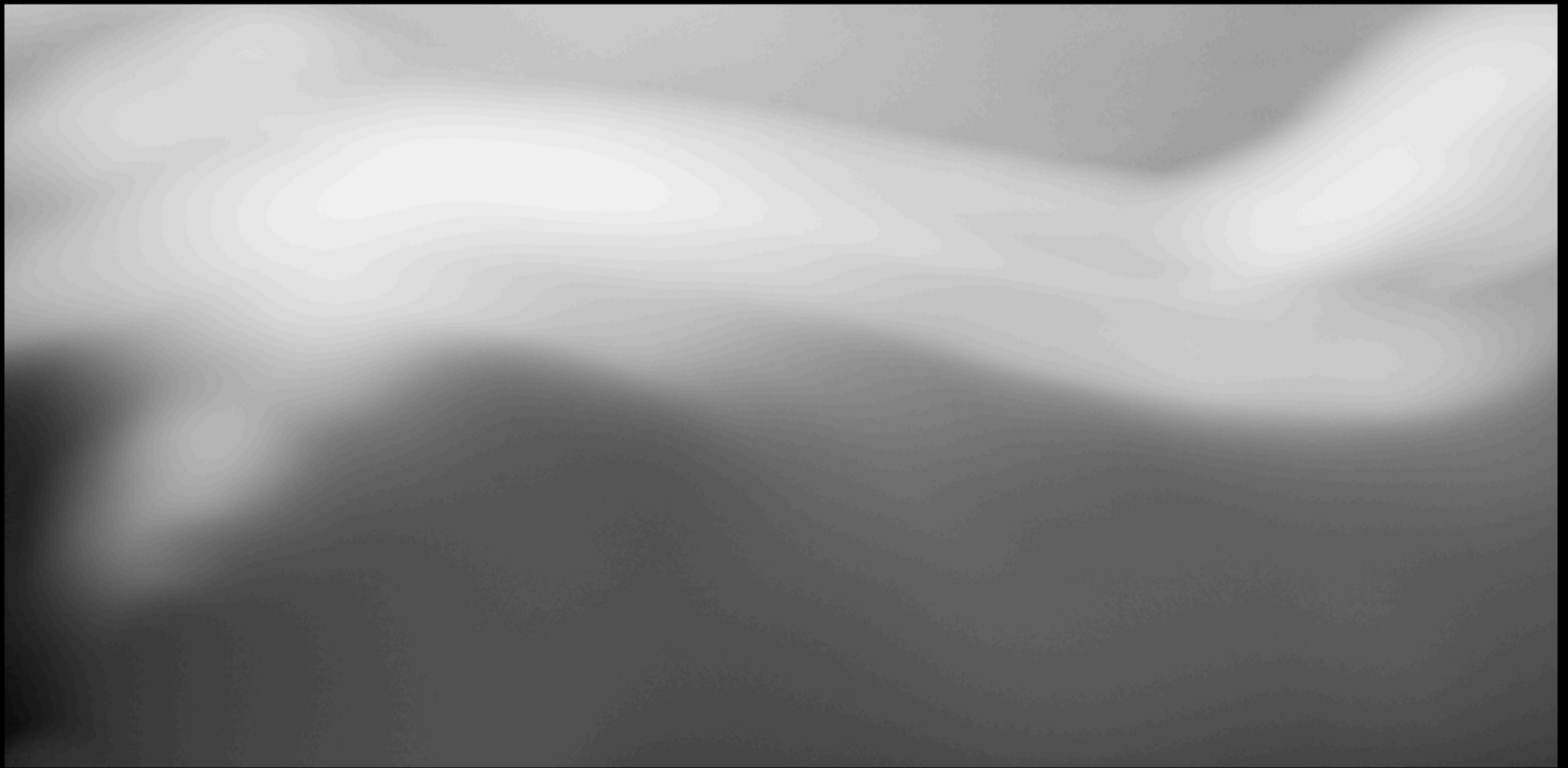
Ruth Bernhard
Knee and Arm, 1976



Ruth Bernhard
Two Forms, 1963

synthesis

What Ruth Bernhard taught me was how to be surprised by light on skin. What Bill Jacobson taught me was how to ignore everything else.



Benjamin C. Pierce
Splash, 2010



Benjamin C. Pierce
Splash, 2010



Benjamin C. Pierce
Splash, 2010



Benjamin C. Pierce
Splash, 2010

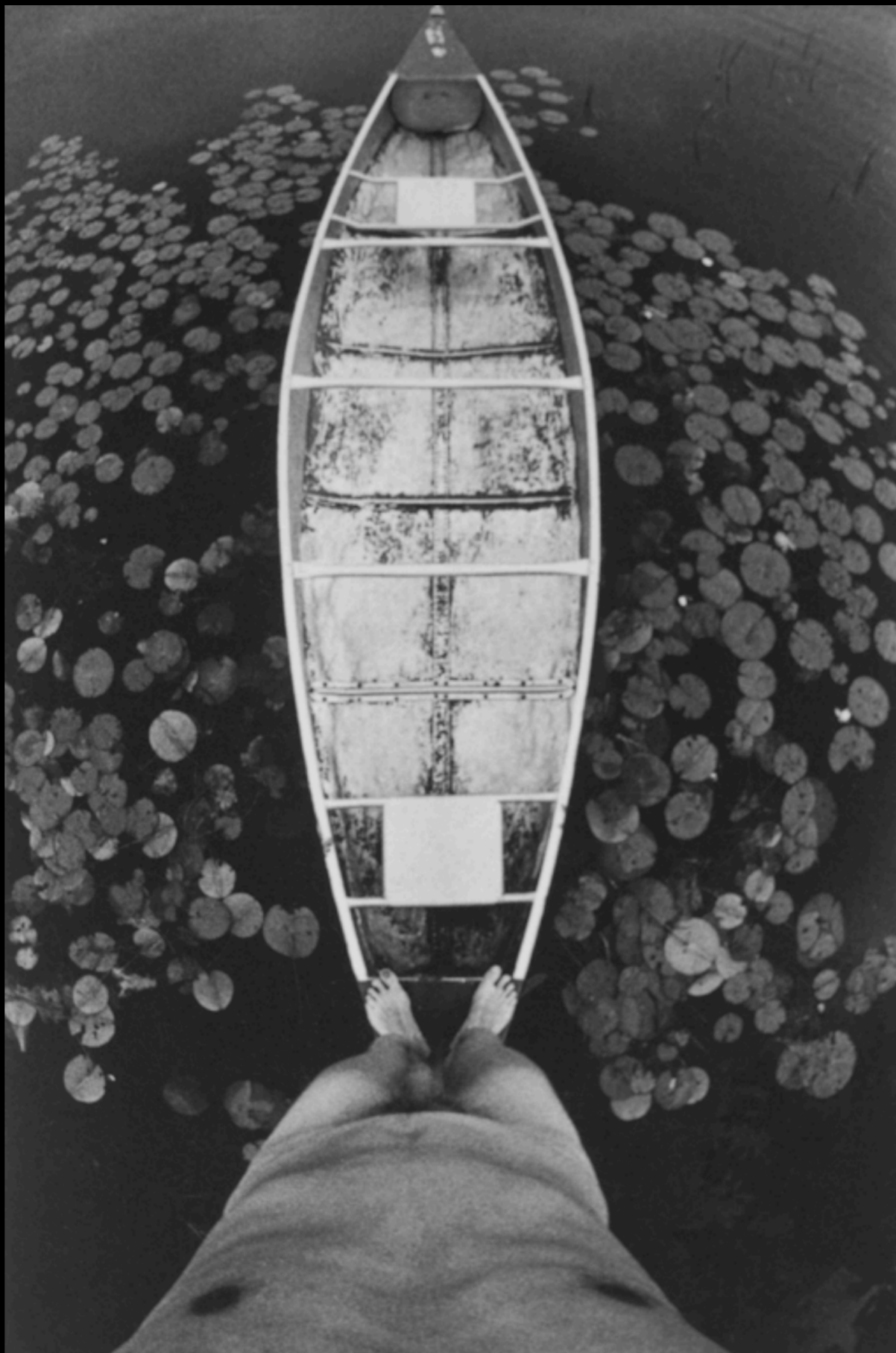
accumulation

Arno Minkinen is another great photographer of bodies -- in fact, my very favorite photographer and a kind of personal hero.



Arno Minkkinen
Self portrait, Farmhouse, Buonconvento, Italy, 1995

Arthur C. Danto wrote that Minkkinen 'had been greatly inspired by a 1963 photograph made by Diane Arbus, "Retired man and his wife at home in a nudist camp one morning, NJ, 1963," and in 1971 had signed up for a course she was scheduled to give—a commitment she cancelled just before her suicide.



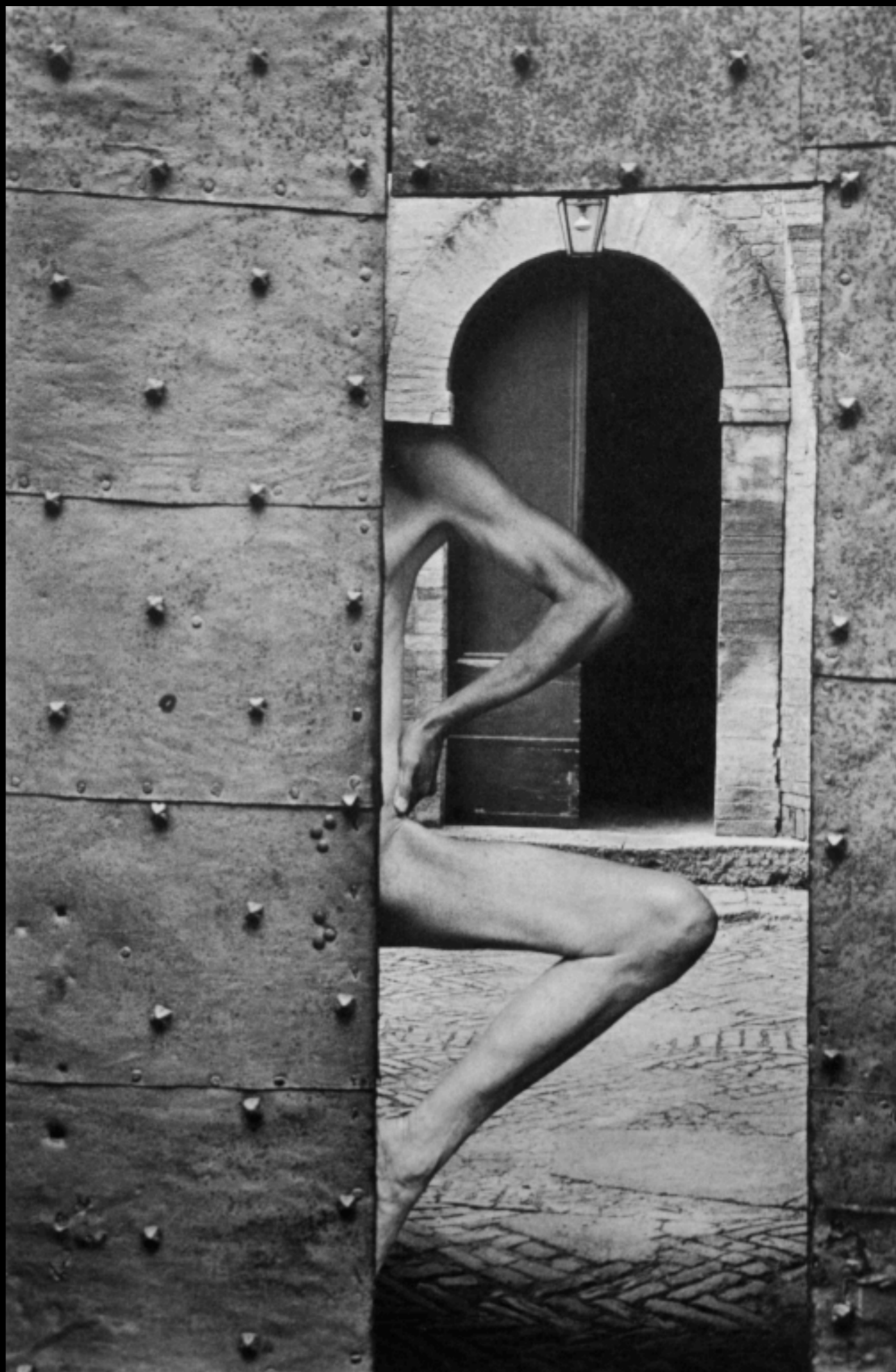
Arno Minkkinen
Self portrait, Pachaug, Connecticut, 1972

Subsequently, in a workshop with another teacher later that summer, Minkkinen floundered somewhat and was advised to take a day off. Wandering about, he found a weathered mirror outside a farm building,



Arno Minkinen
Self portrait, Millerton, New York, 1971

and the next day he decided he wanted to shed his clothes and photograph his reflection, wanting to see what he looked like that way. This set him on the path he has followed ever since, in which his chief subject had been himself photographed naked...'



Arno Minkinen
Self portrait, Castello Tancredi Gate,
Bibbiano, Tuscany, Italy, 2000

What I love about Arno's work is the particular intensity that's generated by returning over and over and over to the same subject, not just for months but over the course of 40 productive years.



Arno Minkinen
Self portrait, Beach Pond, Connecticut, 1974

His work returns on itself; each image is propelled by all the previous ones.



Arno Minkkinen
Self portrait, Fosters Pond, 1989

Of course, all artists learn from what they've done before, but with Minkkinen the exploration is within such a narrow space that the rediscovery goes deep...



Arno Minkkinen
Self portrait, Fosters Pond Millenium, I. I. 2000

down instead of forward.



Arno Minkkinen
Self portrait, Fosters Pond, 1996



Arno Minkkinen
Self portrait, Hyvinkää, Finland, 1974

“Looking up, no one would believe his or her eyes. I guess that was enough for me to know it was possible when the idea first occurred to me the day before I did it. All I would need is rope. That night I barely slept, knowing I would climb those steps again, place the camera on the tripod, aim it down, tie a rope to one wrist and one beam, climb over, and lower myself into the blizzard.”



Arno Minkkinen
Self portrait, Fosters Pond, 1996



Arno Minkkinen
Self portrait, Hirvensalmi, Finland, 1994

“Taking a breath before a difficult or impossible image keeps the body still, lets the mind concentrate on other things, and when everything is ready, lets the camera finish the job with a gentle squeeze of the shutter.”



Arno Minkkinen
Self Portrait, Two Birches, Fosters Pond, 2005



Arno Minkinen
Self portrait, Abbaye be Montmajour, Arles, France, 1983

“I have often been asked how I make some of my pictures. I used to answer such questions directly but allowed only one such query in any given lecture. Then in 1995, *Still Not There*, the film on my work directed by Kimmo Koskela for Finnish television, was previewed in Normandy. My French gallerist’s nine-year-old daughter—upon seeing a segment that hinted at how I walked on water—whispered in her mother’s ear, “You know, when I was very little I used to think he was standing on a crocodile.”



Arno Minkkinen
Self portrait, Piimävuori, Finland, 1996

I fired a fax to Finland requesting the scene be cut. “Don’t kill the crocodile!” After that, I stopped answering the “How’d you do it?” hand-raisers. Still if anyone needs to know, I suppose a crocodile’s point of view is as good a starting place as any.



Arno Minkkinen
Self portrait with Selva, Ta' Cenc, Gozo, Malta, 2002



Arno Minkinen
Self portrait with Daniel, The First Noël, Andover, Massachusetts, 1979

“Our son was born in 1979. Now the numbers have flipped; it’s 1997. I look down at the floor, and I can see his sturdy little body right this very moment, squatted down between my knees on the shiny hardwood. I had pulled off his T-shirt to take a picture in the warm, sun-filled bedroom. As his eyes followed the shirt swooshing up into the air, they sparkled. I cocked the shutter, hoping he’d look up again. Nothing doing. Until I whistled. Click. Now I whistle again, and just like that he’s eighteen.”



Arno Minkkinen
Self portrait with Daniel, Andover, Massachusetts, 31.12.1986



Arno Minkkinen
Self portrait with Maija-Kaarina, Sysmä, Finland, 1992



Arno Minkkinen
Lahti, 1984

“To aim the camera back toward the self is not necessarily an act of self-portraiture. There are other purposes served by such practice. When I enter the image that I see in the viewfinder, it is as if I am stepping into an empty room. I operate in this manner because I want to discover what happens that the moment of exposure without seeing it happen so that the result can be a surprise.”



Arno Minkinen
Self portrait, Ismo's Stick, Foster's Pond, 1993

“Ultimately, I don't have a lot of variety in my work because I am just this one body. Morandi painted the same subject matter, wine bottles, for decades. The sunlight streaming in through the windows from all directions provided his diversity. For me, stepping into the location of the image and giving up control over the moment of exposure allows reality to create the unexpected



Arno Minkkinen
Self portrait, Pyhäjärvi, Tammela, Finland, 1976

that produces, with luck, the variety in my work.”



Arno Minkkinen
Self Portrait, Jamestown, Rhode Island, 1974

the unknown

There's one last possibility that I want to touch on. I don't know how often this happens in software, but in the visual arts I think it's pretty common to work on something for a long period without ever consciously understanding even what the *question* is. As a small example of this, I'll offer a few more of my own images.



Benjamin C. Pierce
Untitled, 2003

I've always been fascinated by hands,

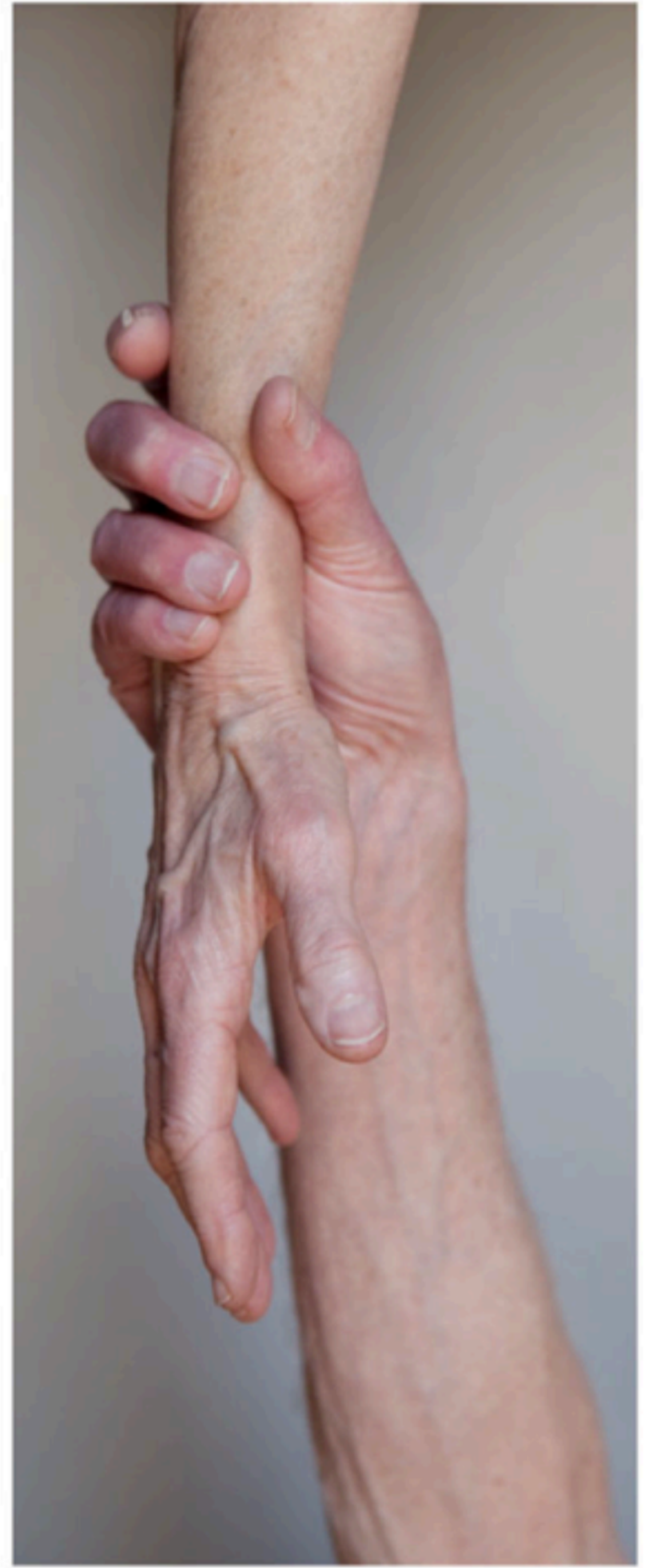
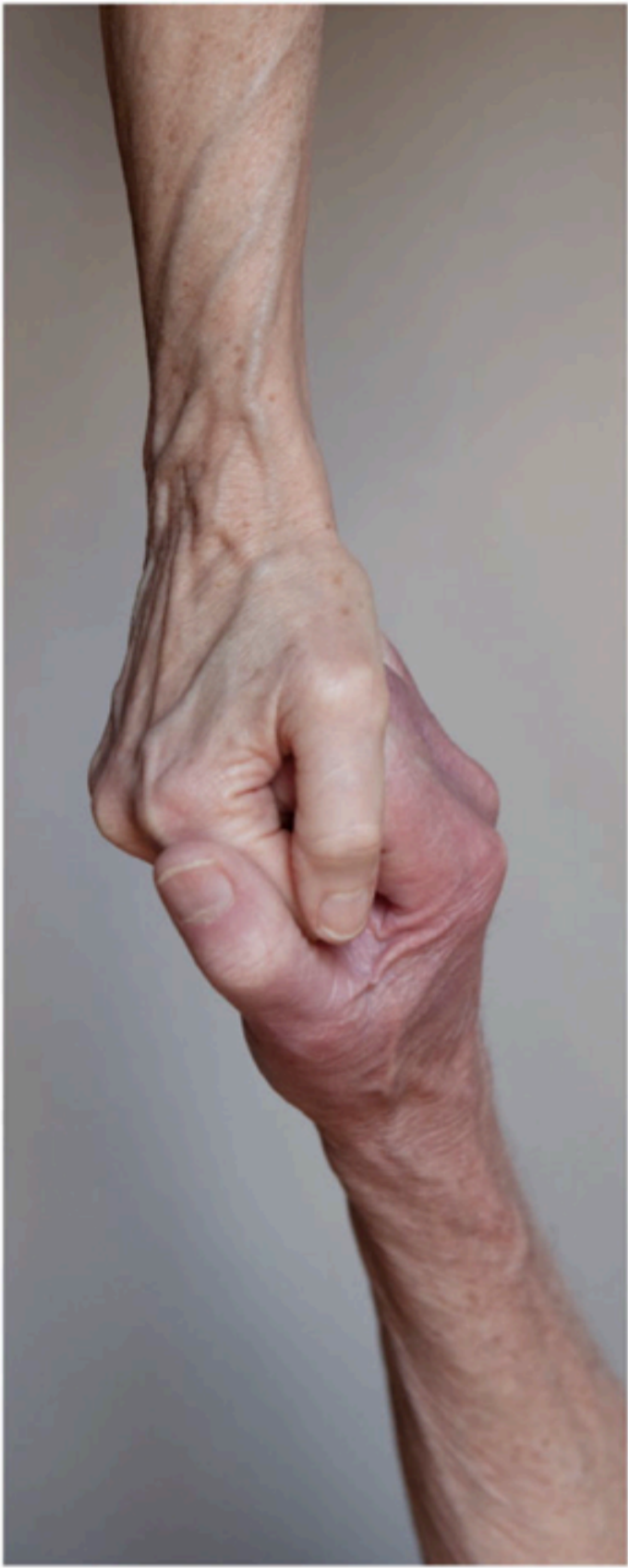


Benjamin C. Pierce
Untitled, 2003

and they've shown up from time to time in my work over the years...



Benjamin C. Pierce
Untitled, 2003







Benjamin C. Pierce
Reconnect, 2010

But for some reason about a year ago I started wanting to make almost nothing but images of hands.



Benjamin C. Pierce
Reconnect, 2010



Benjamin C. Pierce
Reconnect, 2010

And what's funny is, I really couldn't tell you exactly why. There are things to say, of course -- about the way touch closes a circle, about reconnecting with the self, ...



Benjamin C. Pierce
Reconnect, 2010

-- but every time I say these things they seem inadequate, and what I'm left with is simply that these are images I need to make and I don't understand what they're about.



Benjamin C. Pierce
Reconnect, 2010



Benjamin C. Pierce
Reconnect, 2010

And that brings us to the end. I hope you've enjoyed the images and maybe gotten a thing or two to take away and think about. I'd be happy to take questions, and even happier to hear your own thoughts and comments...

sensitivity

surprise

seeing the thing
seeing beyond the thing

decontextualization

the invisible

dreams

serendipity

connection

accumulation

the unknown

And that brings us to the end. I hope you've enjoyed the images and maybe gotten a thing or two to take away and think about. I'd be happy to take questions, and even happier to hear your own thoughts and comments...