2. Photography as Speculative Fiction

David Bate

Photography is so embedded in everyday life that when its values change the semblance of everyday life changes too. This chapter addresses, both directly and indirectly, the concern that seems to be expressed everywhere about the relation between computational images, photography, and AI. The theme of AI (Artificial Intelligence) is quite often a short-hand way to refer to a clutch of different aspects of a fast-changing visual image culture, and more specifically concerns the key role inherited from photography and adopted in digital culture. Many of the questions that are asked about this relate to two fundamental anxieties. The first anxiety is that the computer image has replaced reality: reality is nothing but a series of images, repeated endlessly across a network, whose architecture today is the World Wide Web. In this network of networks, reality does not seem to be what it used to be. The second anxiety, which only appears to be more recent, is that the photographer (and their ability to exert agency) is being automated: replaced by computer algorithms and software. Automation is not what it used to be either.

These two key anxieties, whether expressed as personal, social, political, or economic concerns can easily become emotive issues as well, compounded perhaps by a third anxiety: mega corporations, whose new meta powers of development and control of technical processes seems to outstrip any capacity to regulate them. It is thus quite easy for such discussions to become rather abstract and generalized, so I want to refer to specific examples that will, I hope, help to demonstrate some of the issues in more concrete detail. It is also necessary to say that the critical theory of photography has been left somewhat lost and perplexed about these changing technological conditions of photographic images. What is to be done with the popular suspicion that what you see is not what you get with digital images? This perplexity is compounded by the fact that (despite what has just been said) photographers continue to make images described as "photographic" and still viewed and circulated with com-

plete faith in their visuality. While a virtual photograph is image appears to make direct reference to reality, at the same time it is also acknowledged and recognized (depending on any individual's skepticism) that a number of machinic processes are involved in its making, which now make any data image suspiciously subject to accelerated manipulation and bias. What is raised is the specter of old debates between what is true and false, reality and fantasy, symbolic and imaginary, dualities that seem under stress from new technological developments. I will start with an example from the advertising industry, before moving towards the question of creative work, visual art, and generative AI. Advertising is an important case study because it relies on conventions of photographic realism as well as fantasy.

75% Virtual Photography

If you have heard of IKEA then you will likely already know that it is a Swedish brand of home furnishings distributed worldwide (over 400 stores around the world). "Flat pack" or ready-to-assemble products are ordered from shops, websites, and apps. IKEA sells not only single products but also presents these goods in photographic images as realistic scenes of a whole lifestyle. The images generate domestic ideals, designs for living as a variety of combinations of "Scandinavian-inspired" lifestyle choices. These virtual rooms, imagined bathrooms, kitchens, lounges, dining, lobby, child-friendly playrooms, home offices and so on are a vital component of their business model and success. IKEA's ideal is presented as photographic scenes which function to educate and inform consumers about how to use and organize their IKEA products, how to combine them into a "personal design" choice, as a lifestyle image. The visibility of the products combined in these photographs, as scenes, is thus central to IKEA: these photographic images can be said to constitute the public interface of IKEA, its reality is manifest as a brand through these images. IKEA are the first to admit that the styles and values of their photographic images are key, absolutely central to their worldwide identity and global success.

In August 2014, the popular USA magazine *Good Housekeeping* reported: "There's a secret behind IKEA's catalog photos." The sub-heading added: "And you're not going to believe what it is."[1] The magazine revealed that 75% of IKEA

1 See https://www.goodhousekeeping.com/home/a25588/ikea-catalog-cgi/ (accessed August 11, 2023)

catalogue photographs were actually "computer generated images" (CGI), meaning that their catalogue images are mostly generated on computers at a desk and not produced by a camera in a photography studio with real furniture. The photography website *PetaPixel* published the same story in the same month with a more direct headline: "When You Flip Through an IKEA Catalog, 75% of the 'Photography' You See is CGI." Photography has been replaced by computer generated imaging. Note that they put the word "photography" in "quote marks" as under suspicion, implying computer generated imagery is not really photography, replaced by CGI.

The same story echoed across other media outlets like a rhizome. As these stories bounced around media channels, the source of the story turned out to be IKEA itself. It was Martin Enthed, Swedish head of digital management at IKEA, who in an interview given to *Computer Graphics Society* website revealed the 75% statistic, claiming that most of IKEA's catalogue photographs were generated by computer engineers rather than photographers, no longer photographed with a camera by a photographer. Enthed elaborated:

> about 75% of all IKEA product images are CGI, and rendered at 'ridiculously high resolution' so they're good for everything from web viewing to wall-sized displays in IKEA's stores. And as time goes on and rendering software continues to get better, traditional photography promises to play a smaller and smaller role.[2]

In fact, all this had started before 2014. Already two years earlier in 2012, *The Wall Street Journal* had announced that IKEA was using CGI images with the cheerful headline pun: "IKEA's New Catalogs: Less Pine, More Pixels."[3] In the UK, the liberal newspaper *The Independent* had also run the same story in 2012 with the fact-sounding literal headline: "Three quarters of the Ikea catalogue is CGI."[4] We learn that detailed 3D models of products are dropped into vir-

2 See: https://petapixel.com/2014/08/28/flip-ikea-catalog-75-photography-see-cgi/ (accessed August 17, 2023)

3 Jens Hansegard, "IKEA's New Catalogs: Less Pine, More Pixels Computer-Generated Images Aim to Save Money on Marketing Costs as Photographers Are Retrained to Apply Skills to 3-D Scenes," *The Wall Street Journal*, Aug. 23, 2012. https://www.wsj.com/articles/SB10000872396390444508504577595414031195148 (accessed July 4, 2023)

4 James Vincent, "Three Quarters of the Ikea Catalogue is CGI," *The Independent*, 1 September 2014, https://www.independent.co.uk/tech/three-quarters-of-the-ikea-catalogue-is-cgi-9704120.html(accessed January 30, 2024)

tual CGI rooms. *PetaPixel* too had already run a similar story in 2012 as well with the headline: *IKEA Slowly Shedding Photography in Favour of Computer Renders*.[5] The article went on to include visual examples, asking: "Of the two images above, one of them is a computer render and which one of them is an actual photograph. Can you tell which is which? If you can't, why should IKEA?" They continued:

From the furniture to the beautiful light falling on the countertops and wood floors, what you're looking at is a CGI rendering that has replaced 75% of the 'photos' in the IKEA catalogs.[6]

The essence of all these news stories bubbling around 2012–2014 was that IKEA replaced 75% of its photography with computer generated images, made by computer engineer/designers not photographers. The implication of the story is that photographers and photography itself is no longer needed, was becoming extinct, surplus to requirements. Little comfort that 25% of images are still photographs made by photographers with cameras.

Now, before I turn to the implications raised by all this for "photography," there is an obvious question: *why* did IKEA do this? Why invest in "new tech" and turn away from studio photography? Why turn computer-generated images into images designed to resemble photographic images, rather than computer graphic images? Why not just continue shooting in photography? Firstly, IKEA cite essentially practical reasons: *cost* and *efficiency* as driven by the company's motto, its mission and aim to reduce year-on-year costs (a key criteria of IKEA's business structure).

CGI saves time and money. For studio photography, products have to be shipped around the world for photo-shoots. Furthermore, IKEA produces thousands of images of products for dissemination all over the world, each of these are often produced in different colors, sizes, series, and combinations. As a global business, IKEA has many hundreds of different product lines that must be organized, catalogued and listed as "product shots" as well as then also often combined into the pictured scenes, designed to appeal to local regional tastes. It takes a huge amount of work and effort to photograph new objects and re-photograph them again every year. Even if the product only has

5 Michael Zhang, Petapixel, 24 August, 2012, "IKEA Slowly Shedding Photography in Favor of Computer Renders," https://petapixel.com/2012/08/24/ikea-slowly-shedding-photography-in-favor-of-computer-renders/ (accessed August 23, 2023)

6 Ibid.

minor modification or upgrade, it needs to be photographed again, because it has to match the actual product bought by consumers. Anneli Sjogren, head of photography at IKEA noted in 2012 that kitchens are the most complex and expensive to create for studio photography: "A kitchen has to be built in a week or two and then torn down the following week to make room for a bedroom shoot, everything has to run like clockwork."[7] So, with a virtual computer generated room, virtual product images can be placed in it instead, the kitchen and other rooms can be designed almost completely as computer generated virtual images. The designer can then choose from these computerized virtual products and other CGI items (plants, toys and other homely items) to organize them into a coherent whole with the furniture, drapes and flooring. IKEA also does not have to throw away products used on sets after a photo shoot. This way, a virtual kitchen scene can be quickly adjusted for local taste, IKEA notes, for example, in Germany and the USA customers typically prefer dark toned furniture, whereas Scandinavian and Japanese cultures prefer lighter toned products. The CGI basil plant on the counter, never wilts, Sjogren says. It saves money and environmental resources to not have to ship objects to photography studios, to build room sets, and so on.[8] As will be seen, such issues of economy and efficiency are not only about a business model, they also relate to the ideological function of photography, its convention as a medium of transparency, which is central to issues in communication theory: the economy of information, the transmission of meanings, and the effectivity of messages.

What are the implications that arise from these new processes of image production and their effect on what we still call *photography*? Are these anxieties about the replacement of one type of labor (photography) by another one, computer automation and software? Or is it about the effects on photographic realism being replaced by computer simulations of photography? What *are* the effects of these processes of datafication? What and where are the actual differences inside the *image* itself? Does it make any *difference* to the conception of the image and its references (e.g., IKEA's products?) or any other kind of social value of photographic image? Let's start where IKEA started.

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7 Hansegard, "IKEA's New Catalogs."

8 The IKEA catalogue takes 10 months from concept to printing, and even with 75% of the product shots being CGI they still have 285 people working full time on photo shoots: photographers, carpenters, interior designers and related people. The IKEA 3D team is housed in the same building (in Europe).

Datafication of photography

IKEA started all this process in 2005, when three computer graphics students (from the USA) interned there set out to create one IKEA product image using only computer software. They chose to build a computer-generated image an IKEA chair, the *Bertil* model. It took them a year to achieve it.[9] Excited about the image, IKEA published it inside their 2006 catalogue to see if anyone would notice any difference. Apparently no one did, they say (although it was quite small at 2x2cm). The *Bertil* chair became IKEA's first computer generated "photographic" image (Fig. 2.1).

2.1 IKEA Bertil chair.

Courtesy of IKEA.

9 See Hansegard, "IKEA's New Catalogs."

We might distinguish this CGI image as a "digital object," a term used by Yuk Hui, in his book *On the Existence of Digital Objects*.[10] For Hui, a *digital object* is something new, specific to digital computers and can be distinguished from traditional technical objects (the historical chair), in that the digital object belongs to new computational technologies: "Digital objects are new forms of industrial objects."[11] Hui identifies two dominant forms of digitalization, one familiar to photographers, videographers and drone pilots as digital *mimesis*: the production of images made by digital cameras (still, video, photogrammetry image captures), which he names as the *objectification of data*.[12] A second form of "coding in the digital milieu," the software process which he names as the *datafication of objects* as in the IKEA CGI images. [13] In a technical engineering sense then, there are two different methods of image production, *mimesis* (images that produce objects digitally), and *coding* (digital objects produced through coding in computational language). While the images produced from these two different methods can or may look the same, their technical systems as ways of working, as modes of production are different. For IKEA the important requirement is that their digital objects resemble a photographic image of the object. In other words, the digital object is produced according to the specific criteria of industrial photography, as a "product shot."[14] Product shot (or "pack shot") photography has a particular set of conventions, characteristics and photographic codes, which companies and customers alike have come to expect: the specific values of photographic realism and verisimilitude.

Product shot photography aims to highlight the presence and visibility of a commodity as an object, and to minimize anything that interferes with this,

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10 Yuk Hui, *On the Existence of Digital Objects* (London/Minneapolis, MN: University of Minnesota Press, 2016), 49.

11 Ibid.

12 Ibid., 50.

13 Ibid. I would like to add a third category here, but there isn't the space at present, this would be the 'robotic image' as what we currently call generative Ai photography. The generative (Ai) image in my view constitutes a new stage of technical development for virtual images (after CGI) dependent on the internet and datasets for its production.

14 The 'pack shot' photograph can be said to have its origins in early German industrial photography of the 1930s as championed in the aesthetics of 'new objectivity'. However, the rules and technical codes of product shots have varied and developed over time in different cultures, often dictated by creative fashions and other imperatives. See David Bate, "The Object of Still Life" in *Photography: the Key Concepts* (London: Routledge, 2019), esp. 141–145.

hence: neutral backgrounds, a medium-soft lighting distributed evenly across to give the object a subtle tonal range to show all its surfaces and shape; it is photographed in a focus that is deep enough to look sharp from front to back, so it can all be seen as an object. The image should not have any lens distortion and show the three-dimensional shape as best. All these conventions and rules help to present the object, give it visibility to the viewer, so that customers can see as much of the object as possible. The aim: to incite the desire of the consumer for the object, so that they imagine they can possess it. The product image of a chair made of wood, for example, would be expected to show key properties of its shape, to present its neutral *objectness*, to show the contours of its surface, how its style is made, how the material has been shaped, cut, and designed, with clear details of the texture, its surface and quality of finish. Such technical specifications give rise to informational values that are typically required for most product shots in most industrial product photography (with occasional aesthetic variations and exceptions). IKEA images uses these photographic conventions and demanded of its computer-generated versions of photography too.

To achieve photographic quality with CGI digital object software required a substantial and sophisticated technical development. Martin Enthed certainly acknowledged this, admitting the IKEA technological development periods had technical and aesthetic challenges:

> We understand how important the knowledge of home furnishing is. How homes look, how homes feel, and so on. The experienced photographers at Ikea have been working with the interior designers on re-creating this feel for 15 to 20 years, some of them. We needed to translate that knowledge over to the 3D artists, who were tech-savvy, but in some cases coming directly from school. We needed them to understand the kind of feel we wanted the images to convey. It was very hard at the beginning.[15]

One of the interesting solutions to these differing knowledges and skills between computer engineers and photographers at IKEA was to develop an exchange program between the CGI computer engineers and studio photogra-

15 Martin Enthed quoted in "Say it ain't so: Ikea reveals 75% of catalog images are CGI" *Today*, 4 September 2014. https://www.today.com/home/ikea-reveals-75-catalog-images-are-cgi-1d80127051 (accessed August 2023)

phers.[16] A studio photographer will be acutely aware, for instance, of the quality and direction of light, and how its highlights, mid-tones and shadows can help show key features of an object and give it particular character, for instance, to show texture: a shiny object reflects light differently to a matt object and so on. IKEA understood that computer engineers see virtual objects and rooms differently from product shot studio photographers. In studio camera photography, most dedicated optical lenses work best at smaller apertures (e.g., f.11-16), after which the lens develops optical "diffraction," which reduces overall image sharpness. Objects in the image begin to appear slightly softer overall. Some photographers and studios use "focus stacking" to overcome such optical limitations. Studio photographers are finely attuned to these photographic issues of light and its effects on textures, forms, shape, sharpness, and the character feelings they project onto an object. Such aesthetic codes and conventions of studio photography were introduced to IKEA computer engineers by photographers, and reciprocally, CGI imaging engineering to photographers. While such nuances of representational aesthetics may be missed by speedy IKEA consumers, they nevertheless matter to IKEA as a matter of visual consistency, the representational stability of its image-products and for thinking about how these new virtual processes relate to the historical traditions of photography.

In the light of such technical and conceptual differences we can follow Yuk Hui's dual distinction in modes of digital image object production (*mimesis* and *coding*) to ask: what in fact *is* the difference between a photograph of a chair and a computer code generated image of a chair? Given both images refer to the same real object (the *Bertil* chair), what exactly is the problem? Why is it that knowing the IKEA chair image is a CGI digital object (rather than a "photographed" object) disturbs our perception, yet is not disturbing at the same time? Indeed, can we in fact realistically argue that there is no "object" created by the CGI image because it is merely a *digital* object? Do we not already know chairs exist before seeing these representations of them? Does it matter what mode of production is used to make its image? In what way does the CGI image of a chair in fact differ as a visual presentation of a chair? If there is no difference, does it matter exactly what technical form its image takes or what we call it: photograph, virtual image, simulation, computer-generated image?

16 IKEA's scheme offers a useful model for the training of industrial image-makers, where the co-existence of computing and photography specific skills and knowledge is essential. This may be a model that existing educational institutions with photography programmes would do well to consider.

Have these rapid digital developments outstripped the language we use to create a new confusing ontological problem of images and objects? What is the real chair if the image of it is generated by computer software? Where is the digital object if it is only actually located in its coded image?

The CGI rendering of the IKEA wooden chair as their first object to be rendered reminded me almost immediately of the famous conceptual artwork by Joseph Kosuth, *One and Three Chairs*, 1965 (Fig. 2.2). Although Kosuth obviously uses a different chair, both have in common an air of simplicity, both are simple chairs, stripped of ornamentation, decoration and adornment. Their design seems driven by a simple purpose: something to sit on.

2.2 Joseph Kosuth, One and Three Chairs, 1965.

Digital image, The Museum of Modern Art, New York/2024
© Photo Scala, Florence.

Kosuth's philosophical artwork is often a reference for many discussions about art, but also as here, the concept of image and object as representation. The artwork presents the idea of a chair in three sign forms: as *object* (in the gallery space), *photograph* (pinned to the wall), and *text* (printed dictionary definition of a "chair"), chair as *text*. The artwork draws attention to the interrelation of these three semiotic systems, a chair presented as object-photograph-text, yet also highlights their differences, non-identical forms. The artwork encourages the spectator to understand their *difference* yet *interdependency*, echo-

ing the argument made by Jean-Paul Sartre in his philosophical book *L'imaginaire* (*The Psychology of Imagination*) about images, who also conveniently uses a chair as a philosophical example:

> When I perceive a chair it would be absurd to say that the chair is *in* my perception. According to the terminology we have adopted, my perception is a certain consciousness and the chair is the *object* of that consciousness. I shut my eyes and I produce an image of the chair I have just perceived. The chair, now occurring as an image, can no more enter *into* consciousness that it could do as an object. An image of a chair is not, and cannot be a chair.[17]

Sartre draws a clear distinction between the object and its mental image. The commonsense idea of photography tends to encourage us to think of these as the *same*, as identical. The everyday doxa of photography: what is presented in the image is *the same* as the thing that exists elsewhere as an object. Sartre's problematic is *what is* the image of an object (or person) in consciousness:

> And what exactly is the image? Evidently it is not the chair: in general, the object of the image is not itself an image. Shall we say then that the image is the total synthetic organisation, consciousness?[18]

Sartre thus resolves the split of object and image issue by saying the image is a synthesis, a "synthetic organization". The image of something is formed in consciousness: "the object makes its appearance to consciousness, or, if one prefers, a certain way in which consciousness presents an object to itself."[19] The image of an object is a synthesis, so that the process of *imagining* a chair in our mind is given its sanity by its relation to actual chairs, as things that exist as objects. The object gives rise to perception in the imagination (while they remain different things) and whose image is given significance and meaning by reality, its symbolic context. The image offers an "imaginary" object to a (perceiving) person. So photographic images and digital object generated images operate similarly: as vehicles to make objects present as images. Yet, there is an assumed difference: a digital image produced in software is an object that may have no existing symbolic reference (in reality), whereas a photograph

17 Jean-Paul Sartre, The Psychology of Imagination (London: Methuen, 1972), 5.

18 Ibid.

19 Ibid.

partly relies on the object to mediate the image. If all images rely on the imaginary/symbolic/real relations, then the question is: what relation to "reality" do digital objects have and does that differ from photographic objects? Whereas photography traditionally (but not exclusively) supposes an automatic reference to the world (existing things in front of a lens), a digital object has no such ideological presupposition or given essence.[20]

Indeed, Hui suggests that with *data* and digital objects we need to *reconsider* the philosophy of objects in digital culture.[21] Data, "as transmissible and storable computer information … can no longer be assumed to refer entirely to sense and noetic data."[22] This is because the "givenness" of things in photography, the sense of presence that images made by a camera gives to their objects, is no longer the norm for data and its digital objects. Although the theoretical assumptions about photographic images cannot be carried over to digital objects this is complicated by the fact that photography is itself a technical format incorporated into computer images as one of its digital objects.

The IKEA CGI *Bertil* chair image, for example, is presented in the likeness of a photographic image of a chair, familiar because it relates to (a) existing semiotic codes of photographic images and (b) the cultural experience and knowledge of chairs. Although traditional codes of photography have been absorbed into a computer code format to make digital objects, the digital object produced in this way does not necessarily refer to objects that exist in the symbolic world, which of course also raises important questions about their ethical and aesthetic conditions of existence.[23] In the case of IKEA, the mission was to produce digital objects that replicate the rhetoric of product photographs. The

20 We might ask however, from where is any image produced? Is it not conscious and unconscious processes that drive the production of images? We may ask the same thing of traditional photography, while there is no guarantee of ontological knowledge, where did the image come from? However, this is not the direct issue for this paper. (Even if the old ideological debates about photography are still not resolved, they are modified by contemporary developments and the rhetorical networks in which they now exist.)

21 Hui, *On the Existence of Digital Objects*, 49.

22 Ibid. The issue relates not only to photography, of course, but all other forms of digital communication too. For example, D.N. Rodowick writing on the digital numerical image in cinema argues "a new philosophical perspective is required for these kinds of images, if they can be called such." See D.N. Rodowick, *The Virtual Life of Film* (Cambridge, MA: Harvard University Press, 2007), 175.

23 I have written elsewhere about this trilogy of concepts, representative, ethical and aesthetic, as 'three regimes of the image' from Jacques Rancière's work. See David

transformation of photographic values into new software images was necessary for their distribution in the new data economy where digital objects are distributed through other data networks. However, what if the same coding technology was used in different ways? What if there is no such normalized requisite, with no pre-existing industrial product or object as such? In such cases an author's imaginary and or generative algorithms of (Ai cybernetic) computational processes can be used to produce images that have no reference to existing symbolic reality. Such practices are of course not new, and relate to established spaces of the human imaginary, fantasies, for example, already familiar in historical and art avant-garde movements, which did not use or rejected dominant paradigms of photographic realism. But here we are not talking about margins or exceptions to the rule, but the question of a new general rule. In short, does the coding of digital objects liberate them from the semantics of symbolic reality and open data images to the possibility of new imaginary spaces: speculative images that generate speculative fictions.[24]

Speculative Fiction

In 2011 Margaret Atwood Atwood made a useful distinction between science fiction as "fantasy" and what she calls "speculative fiction" where what can be *imagined* about the actual future is explored by an author.[25] A good deal of recent contemporary art photography has taken up exactly this address to imagined futures: *speculative* fiction is a scenario that seem plausible within the potential reasoning and logic of a conventional symbolic order: "this could happen" even if it has not yet been seen to happen.[26] The term *fiction* has its own

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Bate, "Jacques Rancière: Aesthetics and Photography," in *The Routledge Companion to Photography Theory*, eds. Mark Durden and Jane Tormey (London: Routledge, 2019).

24 Given the specific technological conditions discussed here, generative images as speculative fiction can be aligned to Jean Baudrillard's *third* category of simulacra, of simulations: "based on information, the model, cybernetic play." See Jean Baudrillard, "Simulacra and Science Fiction" [1991], in *Science Fiction: Documents of Contemporary Art*, ed. Dan Byrne-Smith (London: Whitechapel & MIT Press, 2020), 51.

25 See Margaret Atwood, "Is Science Fiction Going out of Date?" in *Science Fiction*, ed. Byrne-Smith, 22–26.

26 Margaret Atwood gives the example of H. G. Wells's 1897 novel, *The War of the Worlds*, since "people thought at the time that intelligent being might live on Mars, and since space travel was believed to be possible in the imaginable future." Ibid., 25.

specific problematic ambiguities in photographic discourse and criticism. In photography the concept of "fiction" is still popularly understood as an opposition to reality, rather than as a mode of expression of reality. Little is understood, it seems, of the way we may daydream ourselves into imaginary scenarios based on actual situations, images or events we have seen or experienced. Instead fact and fiction are still seen as binary opposites of a positivist logic that lead in totally opposing directions that should be refused any connection. Today's technology of digital objects moves us further towards abolishing these old binary habits, fiction/reality at the level of the image itself. When the only guarantee that an object exists is that we have seen another image of it, then we have entered a very different image-world. If digital objects as software semblances are not as real things referred to elsewhere, then in the unreal image-world of digitally generated existences the distinction between objective and subjective become unreliable, even more untenable.

Traditionally, the perception of specular images is located in the imaginary, but subject to meanings given through symbolic culture, discourse, language, and their connotations.[27] So, for example, the IKEA product image is an imaginary image, but it corresponds to an symbolic object referred to in the real world: image is neither speculative nor "fictive." IKEA images retains a semblance of realism, not only because of the semantic properties of the computer-generated image is coded as "photographic," but because such images also refer to (and anchored by language) to tangible objects within the experience of the viewer and their culture: chairs. One does not have to have seen an actual IKEA *Bertil* chair to recognize the "chairness" of the product image, because our general experience of chairs is sufficient to recognize the object as belonging to that same category of object experienced as a chair. Whilst a computer-generated image might be expected to subscribe to such criteria if it is to replicate photography, it is not technically obliged to follow such logic and thus becomes open to speculative fiction. To build a digital object with computational software means it can construct an image outside of traditional networks of meaning, where "reference" is not governed by symbolic laws of rationality.

A primary example here can be drawn from experiments by IKEA made in 2023.[28] Ikea sub-contracted a design/data company to use old IKEA catalogue

27 "Investment in the specular image is a fundamental phase of the imaginary relation." Jacques Lacan, *Anxiety: Seminar X* (Cambridge: Polity Press, 2014), 38.

28 "Space10 is a Swedish design agency that Ikea has been funding and uses as a research and design partner that cab explore technology like AI, augmented reality,

photographs as the dataset source material for AI experiments to create new chairs (as digital objects): speculative images as speculative fictions (Fig. 2.3 Studio10, generative AI chairs from IKEA catalogue chair datasets, 2023. https://www.fastcompany.com/90871133/ikea-generative-ai-furniture-design).[29] Some of the digital images could not be made into objects because they were not logically possible to make. "Fiction" here functions in the very fabric of the images, yet they remain visually potentially plausible because they remain withing the bounds of "chairs" as real referents.

All these morphographic results depend on the dataset used, the color palettes, variety of shapes and designs of the IKEA catalogue images from the 1970s, 1980s and so on. Statistical "averaging" produces new normalities, as the images processing merges, blends, remixes each into other strange new other forms. It would be possible to discuss here all kinds of potential creative practices inspired with such fictional otherness. It is these "other scenes," the very concept of speculative fiction that are overwritten (and overdetermined) by the anxieties and uncertain feelings of the role of generative technologies in contemporary culture. The uncanniness of such speculative images signifies a machinic disturbance in the logic of photography, but also appeal to a human disturbance of the real. Digital objects, produced through coding and computational processes enable their operators to take all this a step further and draw an equivalence between machinic processes and the inner life of the author or imaginary projections of it into other spaces, other scenes. In traditional cultural theory (via psychoanalysis) the "other scene" is an uncanny double, people or things that seem to be exactly similar, yet somehow different at the same time.[30] In this context, we have to confront the idea that photography has become alienated from itself. Alienation leads to anxiety and separation.

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and Web3." Ida Torres, "IKEA experiments with Generative Ai for possible new furniture design," 14 April 2023. See: https://www.yankodesign.com/2023/04/13/ikea-experiments-with-generative-ai-for-possible-new-furniture-design/#:~:text=They%20used%20generative%20AI%20to,the%20brand%20in%20the%20future (accessed September 3, 2023).

29 The experimental computational process does not necessarily 'replace' designers, because objects still have to be judged, critiqued and transformed from a virtual digital object into a flat packable three-dimensional object design. In this sense, the software operates rather as a speculative tool for designers to use.

30 See for example, Lydia H. Liu, *The Freudian Robot: Digital Media and the Future of the Unconscious* (London/Chicago: University of Chicago Press, 2010).

Conclusion

I started with common anxieties about reality being replaced by images and computers replacing photography. Computational or cybernetic machines do not replace reality, but they do replace and transform the logic of the representational machines and their cognitive systems that we use to present reality. Almost anyone with access to today's computational practices (even on a mobile phone) can now use these apparatuses to generate their own speculative fictions. Photographic values can be used to assert other worldly things, objects and beings newly shaped into different pasts, presents and futures. The Surrealists claimed such an imaginary space as a radical novelty, to bring the space of human imaginary into the same space as symbolic culture and its languages. Such a project seems aligned with Margaret Atwood's words about speculative fiction, to imagine the world as *otherwise*, as social fictions but we cannot guarantee the critical function of speculative fictions today. The human space of the imaginary is now haunted by these processes, images, datasets and histories of representation that inform them. Like all language, images and symbolic culture, these virtual forms exceed the consciousness of any individual and the myriad fantasies produced by these processes destroy conventional boundaries of space, time, perception and meaning.

We can distinguish three overlapping fields of production: (1) traditional *mimetic* practices of digital photography developed from analogue forms; (2) the use of *coding* (CGI) software design and gaming engine constructions of virtual photography, and (3) generative AI as a mutative form. Yet, as night follows day, the logic of photography is stripped out by the plasticity of these distinctions, hollowed out by the imaginary signifiers which infiltrate and resonate inside virtual photography and a new fictive universe.