Tools for an Unknown Prospect

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Unknown Prospect is an assemblage and collaboration with Ochre that responds to extractive industry. I am exploring methods of design in relation with the more-than-human as an alternative to design research and practices that serve infinite production and capitalist culture. Ochres are not only mineral pigment, but terrestrial beings that have an ancient relationship with human culture. I enlist these geological interlocutors in creative work and printmaking to make drawings, maps, and books that extend beyond the colonial record. Ochre not only makes color material, it activates its own agency in world-making. It realizes the desert as more than barren, criminal wasteland or public commodity. Ochre confronts the misconception of land left over as recreational ‘playground’ where humans can have ‘no impact’ and take no account for the erasure and enslavement of Indigenous people. The desert is more than an abundant ecosystem with a staggering number of endemic species and access to millions of years of geological memory — these lands are the ancestral territory of sovereign indigenous tribes. This film reveals one view of the pluriverse, as seen from the desert, as told by ochre.

Ochre, Design Research Paradigm, Design Process, Ecofeminism

1. Introduction
Unknown Prospect is an assemblage and collaboration with Ochre that responds to extractive industry. I am exploring methods of design in relation with the more-than-human as an alternative to design research and practices that serve infinite production and capitalist culture. Ochres are not only mineral pigments, but terrestrial beings that have an ancient relationship with human culture. I enlist these geological interlocutors in creative work and printmaking to make drawings, maps, and books that extend beyond the colonial record. I hope to establish a design research paradigm that can dismantle the dualism between nature/culture. So that culture is not seen as distinct from the raw material - or
nature - it is composed of. As a designer, I position myself in a dialogue with Ochre as a world making agent.

What if the design process began with the needs of the other, the more-than-human? What if it began with what the more-than-human has experienced and seen? Ochres reveal more questions than answers, they reveal potential lines of flight\(^1\) rather than discrete locations in space.

John Law describes the “implications that worlds in the plural are enacted in different and power-saturated practices” as opposed to practice in one external reality. (Law 2011) Design is uniquely situated as a practice and discipline to realize and amplify the world of many worlds that Law describes. Drawings are products of power that can distribute authority or remove agency. Designers must question these structures and the systems of oppression they create. If we can acknowledge that the drawing has authority, then new methods and practices for generating the drawing can also create alternative power relations. My print work and practice in book binding, combined with architectural training in documents and drawing, have led to an interest in maps and atlases as products of information, communication, and narrative. I wonder if these products can lead to design ethics and practices that prioritize the relation between human and more-than-human in many worlds.\(^2\) I am interested in a design research paradigm that dismantles the one-world world and denies its power and authority.

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2 This obviously refers to the often quoted Zapatista manifesto describing ‘a world where many words fit’ but I am further influenced by the scholars Marilyn Strathern, Donna Haraway, Eduardo Kohn, Marisol de la Cadena, Mario Blaser, and of course the closing speaker for this conference, Arturo Escobar.
At the 2021 Pivot Conference I presented a film documenting my design research and material practice as a model for ‘dismantling and reassembling tools for alternative futures’. My ongoing project titled Unknown Prospect is a body of work surveying so-called public lands through Ochre pigments and the products that emerge in relationship with them. Unknown Prospect is an iterative atlas of mining sites and their geological memory as told through color. Through this material practice I am developing a research paradigm that positions design as epistemic tool in defining the relationship between human (designer) and more-than-human (material), revealing alternative pasts, presents, and futures. In these proceedings I would like to continue the discussion of my relationship (as designer) to Ochre (the material of my research) in the context of the San Rafael Swell and how it implicates the theory and products that emerge from my design process and their eventual amplification or denial of the anthropo-not-seen.

2. Material Practice

2.1 Context and Positionality

I am presenting a material practice that uses design process as research or conducts research through design. I will elaborate on this form of design research later, but first, I would like to discuss my relationship to the place of my material practice. Indigenous scholar, Shawn Wilson, writes “an Indigenous research paradigm is relational and maintains relational accountability.” (Wilson 2008) While I believe this should inform all research paradigms, I find it especially relevant — and currently lacking — in design research.

This practice is conducted on protected lands with mining histories throughout the state of so-called Utah in the United States. These lands are not my ancestral lands. These lands are the ancestral territories of Indigenous tribes including the Ute, Goshute, Shoshone, Paiute, Dine, Ute Mountain Ute, and so on.

3 Tools for an Unknown Prospect https://youtu.be/5m8I6iumjy8

4 See “An Invitation to Live Together: Making the Complex We” by Marisol de la Cadena for her definition of her concept of the Anthropo-not-seen.
Hopi, Zuni. This is not an exhaustive list. The location of my current research is due to proximity in a practical sense - that I can access these places within about 5 hours by car from my location in so-called Salt Lake City where I was raised in an immigrant family from the island of Crete. Crete is the largest island in the Mediterranean Sea. After hundreds of years of colonization and a brief sovereign period from 1898 to 1913, Crete joined Greece in 1913. (Moorey 2020) My relationship with these regions is initiated by the circumstance of the migration of my family from our own ancestral territory. The simple story is that my family moved here because other Cretan families moved here before them, and those Cretan families moved here because of mining. My interest in mining was inspired by the ways the unique history of the Cretan immigrant population in so-called Utah is inextricably linked to extractive industry.

I acknowledge that the success of my people in Utah is dependent on the dispossession of lands and decimation of Indigenous people. Many Cretan-Americans will react to this statement very defensively citing that they or their forefathers came to the United States with nothing, worked hard, and earned what they have now. This doesn't change the fact that the immigrant’s opportunity in a ‘new land’ was established though the violent tactics of colonization.

My own identity is complex in a way typical to all hyphenated U.S. citizens. As a Cretan-American, in the States I’m not fully American, in Crete, I’m not fully Cretan. There is abundance in this hybridity as well - ways in which my perspective gives me more, but it makes it difficult to anchor one’s own positionality. My own ancestral heritage also values the relationship so vital to Wilson’s Indigenous research paradigm. Cretan culture and identity is built around relationship. I also believe the experience of growing up in an immigrant family in the United States has embedded a commitment (if not obligation) to honoring relations that transcends cultural origin. My relationship to the places of my research and material practice is also less practical. Beyond the circumstance of my birth or simple travel conveniences, I have a visceral, physical reaction to being in these places.

As an academic, my research practice is supported by my position as an assistant professor at a public research university in the United States and I acknowledge the privilege associated with this appointment. I also have funded research assistants that accompany me in the field and work on research, archival processes, filming, and exhibit fabrication. I’m very grateful to my current research assistant, Megan Petitt (B.S. Design ‘22) for her contributions to the film and on-going research in Unknown Prospect and also her critique and thoughtful insights. It’s important to me that all research assistants are paid for their labor, so funding for these positions is a particular challenge, since there is easily enough work to go around.

### 2.2 Site: San Rafael Swell

The installment of Unknown Prospect discussed in these proceedings is located in the San Rafael Swell. The Swell is a geological anomaly at the edge of the Colorado Plateau in the southwest United States. An anticline pushed up 60 million years ago during the Laramide Orogeny. It measures roughly 64 km wide and 121 km long. Erosion has revealed millions of years of geological time exposed to the desert sun along the reef edge. An ancient marine environment left us the Chinle formation in the Triassic Period — a formation marked by colorful instances of oxidation or reduction based on fluctuating sea levels and water conditions, tracing soft and friable pigments with variety of hue and memory.

The Colorado Plateau traverses thousands of vertical meters in diverse stratified layers, from the variable ‘ground level’ the body is minuscule and useless in scale. Access to these strata is facilitated

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5 There is a great deal of further discussion to be had that doesn’t meet the purpose of this particular paper relating the Cretan identity towards their own colonization and how it is divergent and contiguous with the effects of imperialism in the U.S.
either by natural erosion and water, or by industrial interventions: road cuts and tailings piles. My practice is enabled by miles and miles of roads that divide and scar the landscape in the name of resource extraction and national progress. Massive building projects to access prospects of mineral wealth. In some ways my design research practice becomes a tracing of mining activities that hopes to arrive at alternative futures. I also attempt to re-define the waste left in so many piles of material extracted from the earth in the name of exploration, or efficiency.

2.2 Relationship produces knowledge

My relationship to the broader region of my design research demands I confront a colonial system and it’s outcomes, but the practice itself has also revealed untold or even avoided stories. By pursuing information to contextualize the materials and design outcomes that are derived from sites like the San Rafael Swell, I have found narratives that are otherwise absent from our everyday discussion of these same places. Directly investigating the human history and meaning of the sites reveals a complex assortment of representations of many worlds. The dominant one-world world (Law 2011) of colonial pioneers, industrial development, or recreational beauty often actively ignore the Indigenous history, legacy, and heritage of the first peoples to inhabit these lands. I don’t claim to speak for Indigenous voices, but I do feel a responsibility to point out colonial culpability in the histories of human involvement in the Swell. It’s easy to arrive at the politics of extraction from an environmental or social justice perspective, but the same discussions are rarely upheld as inherent material ethics of design process. From these narratives I have identified several dualisms that I believe must be dismantled for alternative futures in the Swell. Design research through Ochre practice becomes the methodology for doing so.

The San Rafael Swell — like so much of the Western U.S. — has been shaped by dualisms in multiple dimensions. These dualisms trap the realities of this place. In terms of use, as extractive industry, which I mean to include mining, grazing and also recreation and research, being positioned as dominant to any other uses, which primarily include Indigenous life ways, culture and community knowledge production.

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Tailings are the materials left over after the process of separating the valuable fraction of ore.
In terms of commodification, where by the definition of land, and everything it contains, as resource is dominant to the identity of non-human earth beings (and selves as Kohn might position them) that we have relationship with. And finally in terms of value. The dualism in which material, life-sustaining, and aesthetic values are opposed to each other as either desolate, wastelands or abundant places of diverse terrestrial beings and culture ie: waste/resource, or wilderness study area/OHV trail.

The material investigation of my process produces knowledge about the sites and their more-than-human inhabitants by combining direct experience with research into the geological history and science. I believe design research is uniquely positioned between objective or subjective paradigms so that it can begin to reassemble relations between human and non-human. Ochres are a connection between bio and geo, between humans and rocks.

3. Ochre practice as tool for “dismantling and reassembling”

3.1 Ochre

Humans have been becoming-with\(^7\) Ochre for a very long time. Red Ochre, or iron oxide, is one of the most abundant minerals on the earth and humans have been engaging it as medicine, as art, and as divine agent for approximately 300,000 years if one relies on the archeological record. Iron Oxides are used for navigation and technology as critical guides of information and movement both global and microscopic in scale.

Iron oxides are common compounds composed of Fe together with O and OH. They are widespread in nature and present in all aspects of the global system including the atmosphere, pedosphere, biosphere, hydrosphere, and lithosphere. (Schwertmann & Cornell 2003) The common iron oxides I have found in

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\(^7\) See Kate Wright’s contribution of ‘Becoming-with’ to the Living Lexicon for the Environmental Humanities, *Environmental Humanities*, vol. 5, 2014, pp. 277-281.
the San Rafael Swell are Goethite ($\alpha$-FeOOH), Lepidocrocite ($\gamma$-FeOOH), Green Rusts, and Hematite ($\alpha$-Fe$_2$O$_3$) producing ranges of red, purple, brown, yellow and green. While any rock or soil has pigment, not every rock or soil produces good pigment material. The soft mudstone and clay stone layers of the Chinle formation in the San Rafael Swell are well suited for pigment.

Ochre bodies are iron in a geological sense, while my own body is iron in the sense of flesh and blood. I understand pigment as an extension — or one dimension of — the Ochre body. Ochre has an ancient memory of the earth and it’s fluctuating marine or desert environments. As Eduardo Kohn presents and argument for the agency of the forest and forest beings, a terrestrial being doesn’t have to use language to signify meaning. (Kohn 2013) I believe his argument about selves can be extended to Ochre as geological interlocutors. Ochre bodies have selves which are flattened when made into pigment which itself become another form of signifier. While my design practice leans on interest in pigment and color, I imagine the Ochre products I am creating as more than art or representative artifacts. They are products of information and define worlds in time and space. There is much more to be untangled between flat and round, or rhizome, or multi-dimensional beyond the cartesian space the traps us in one world.

3.2 Assemblage

The United States Geological Survey (USGS) is a government agency in the United States Department of the Interior. Since establishment in March of 1879 the center of activity for the USGS continues to be the surveying and mapping of ‘resources’. (Rabbitt 1989) The USGS maintains a data set titled the Mineral Resource Data System, collected from 1996 through 2017. It contains thousands of records related to mineral prospects and mines in the US and around the world. (USGS, n.d.) minedat.org lists 13 definitions of the term ‘prospect’. A prospect is ‘an area that is a potential site of mineral deposits. Sometimes, an area that has been explored in a preliminary way but has not given evidence of economic value. A prospect is distinct from a mine in that it is non-producing.’ All 13 definitions refer to the ground as property, value, wealth, or economic importance in some sense. Twelve denotes the actual ‘specimen or sample of mineral obtained from a small amount of paydirt or ore.’ As a verb, the final
listing for prospect describes the working of a place ‘experimentally in order to ascertain its richness in precious minerals.’

There are 1,089 listings in the MRDS with the title “Unknown Prospect” throughout the state of so-called Utah. (USGS, n.d.) This project is named for these peculiar listings that never materialized. Unknown Prospect, is made up of particular places on a map, but also a body of work surveying so-called public lands through story and pigments.

It is a practice of design research that investigates Ochres to make maps and drawings, archives, books and products of design that reveal erased histories and alternative futures in each of the sites. The performance of assembling ochres is as critical as their subsequent deployment in products. Ochre not only makes color material, it activates its own agency in world-making.

Unknown Prospect is an archive of Ochres and the products made by, for, and with them. My work begins with field visits to Ochre places\(^8\) associated with extractive industry. I assemble Ochre bodies, which are in soil and rock form, from the site. In the field, my body’s obvious responsibility is walking and gathering, but more important is the sensing of environment, becoming-with color without sight. In this practice is it the relationship between body and geology that reveals color. It doesn’t depend on aesthetic phenomena or values, and moves color and design to a conversation beyond representation.

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\(^8\) My ochre mentor Heidi Gustafson refers to particular sites where she works as Ochre Places. I follow her example of creating relationship with ‘ochre places’ over time.
or taking, sometimes it's about being with and experiencing the more-than-human. A design research paradigm that values relationship between designer and material can account for this performative and experiential form of knowledge production.

In terms of the ubiquitous definitions of design research: research into design, research through design, and research for design, I position my practice squarely in the second category — research through design in which making and material process become the methods of knowledge production. I have only begun to untangle my relationship as ‘designer/researcher’ with that of ‘matter’. This question is vital to resisting a disciplinary tendency towards control and distortion of the non-human, which we must begin to understand as interconnected to our own self.

3.3 Pigment / Swatch / Product

Later in my studio I generate pigment and swatch extensions of the Ochre bodies using a mortar & pestle, various sieves, water and binding medium, brushes and paper. After weighing and cataloging the ochre bodies, a portion is preserved for reference and a portion is ground using a mortar and pestle. Each Ochre responds to grinding in a different way producing material knowledge in the process.

I use various sieves to separate out consistent particle size and produce a finely powdered pigment that I store in glass vials. The pigment is one extension or dimension of the Ochre body and it’s expressed in further dimensions of volume and form through swatches and eventual products of design. As a process I swatch each pigment on watercolor paper with plain water immediately after grinding. I don’t mull the pigments into a binder until I’m ready to deploy them in product form — prints, maps, books, etc. When I’m ready to ‘use’ a pigment, I mull it on a glass plate with gum arabic. Sometimes I add clove or vetiver oil or honey or ox gall, but most often I just use a simple combination of pigment, water, and gum.

9 Artist Elaine Su-hui recently articulated this instinct so perfectly at the 2021 Pigment Revealed Symposium as her ‘not-taking-practice’ @Elainesuhui
arabic. Once it’s mulled I create swatches of this pigment in binding medium on watercolor paper and proceed with my intended use for the ‘paint’ I’ve made. Excess is stored either wet in sealed containers or let to dry out in open dishes which can then be revived with water again in the future. These methods for the application of pigment have aligned with my previous practice in printmaking, but I’m also finding paths forward for a variety of Ochre products beyond the paper form and also the tools that might be associated with Ochre practice.

3.4 Catalog / Archive

The design process and outcomes are catalogued for a digital OmekaS site archiving the Ochre Bodies, pigments, swatches, and products as physical manifestations of place and narrative describing
relationship between human and non-human beings. The initial precedent for my archival pursuits was the MRDS and the broader activities of the United States Geological Survey. However, research has revealed a multiplicity of archival efforts in relation to the earth from both scientific and creative disciplines.

It’s important to recognize that my practice in archiving and assembling is built upon a foundation of precedent work by a global community researching and working with pigments. I’m informed and inspired by many practitioners including Heidi Gustafson, in the U.S. who has assembled an archive as sanctuary:

“**Ochre Sanctuary is an evolving, living place that serves to protect and care for ochre, ie. iron-based earth and pigment wisdom. It’s currently based in tiny cabin in far north Cascade foothills of Nooksack territory, Washington, USA. Counsel of ochres includes hundreds of rocks and dusts, across the color spectrum...**” (Gustafson, n.d.)

Melonie Ancheta is an independent researcher archiving Indigenous Traditional Knowledge regarding NW Coast Native pigments. Architect Catalina Christensen assembles ‘pigment collections’ in her art practice in Columbia. Kauae Raro Research Collective are Sarah Hudson and Lanae Cable, a couple of Ngāti Awa, Ngāti Pūkeko, Ngāi Tūhoe artists, researchers and mums based in Whakatāne, Aotearoa... “dedicated to researching and sharing our māhi looking at whenua as an art material, a component of ceremony, for personal adornment and as rongoā.” (Hudson & Cable, n.d.) These are just a few of the global network of independent researchers assembling pigment archives. Ruth Siddall at University College London maintains multiple collections and databases regarding pigment use and has published the *Pigment Compendium: A dictionary and Optical Microscopy of Historic Pigments*. Sabine Pinon has recently completed an MA at the City & Guilds of London Art School where as part of her research she catalogued the century old historical pigment archive of L.Cornelissen & Son. The Forbes pigment collection at Harvard University features over 2,700 pigment ‘specimens’. Across the globe there are many researchers in the fields of Anthropology and Archeology documenting pigment throughout human history.

These mentors and pigment friends guide my own development of Ochre practice and I hope that my contribution can build upon the format of pigment archive while also using the practice to develop a design research paradigm. Unknown Prospect is a testing ground and prototype for designing a global, open-source, digital archive that can bring together related pigment knowledge from many diverse disciplines and bridge the problematic divide between academic and community research. But first, I am building my own specific catalog compiled of field visits, Ochre practice, imaging and analysis, divergent histories and publication in print and book form. In this slow process, color is not abstract. It’s not a proprietary code, or a swatch from a digital library, it’s not even mixed by hand via a set of pre-determined ratios of 12 base colors. Color is a result of geological being in the world. The color has history, has significance, has meaning. It comes from somewhere, but it also is some one - it has agency and desires of it’s own. Ochre embeds this knowing in the documents and products it occupies.

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10 The omekaS site is hosted by the Marriott Library at the University of Utah and we have benefited greatly from generous mentors Rebekah Cummings and Anna Neatrour in all things digital archive and metadata.
4. Dualism by Design:
Val Plumwood defines the logical structure of dualisms as:

“a reaction of separation and domination inscribed and naturalized in culture and characterized by radical exclusion, distancing and opposition between orders constructed as systematically higher and lower, as inferior and superior, as ruler and ruled, which treats the division as part of the natures of beings construed not merely as different but as belonging to radically different orders or kinds”

Design upholds the nature/culture dualism through five characteristic features of dualism as Plumwood defines them: 1. Backgrounding (denial) 2. Radical Exclusion (hyperseparation) 3. Incorporation (relational definition) 4. Instrumentalism (objectification) 5. Homogenization or stereotyping. (Plumwood 1993) A design research practice and paradigm that values relationship with the non-human can begin to dismantle these systemic ways design is complicit in denying the pluriverse.

4.1 Backgrounding
Plumwood defines backgrounding as a complex feature in which the relationship of domination makes use of the other while also denying the importance of its contribution or making it inessential. (Plumwood 1993) In multiple design practices, across disciplinary fields, the designer backgrounds the material world — or the non-human. In this way nature is deemed inessential despite providing the very materiality of design outcomes and solutions. This backgrounding can be dismantled by centering relationship with the non-human in design practice and research. Or even going further to demand the non-human agency is vital to design outcomes and prioritizing the need of the non-human actors or users affected by design processes and production. Scholars like Marisol de la Cadena, Marilyn Strathern, and Donna Haraway illustrate relational epistemological approaches that can be applied to the production of knowledge in design research practices. There is so much more here to be explored and discussed beyond my presentation of this particular design research process.

4.2 Radical Exclusion or Hyperseparation
“Because the other is to be treated as not merely different but inferior, part of a lower, different order of being, differentiation from it demands not merely distinctness but radical exclusion, not merely separation but hyperseparation.” (Plumwood 1993) The nature/culture dualism is upheld by our radical exclusion and hyperseparation as humans from the non-human and this enables the designer to position...
themselves as superior which leads to practices that enable the manipulation and exploitation of nature in the name of culture. Radical Exclusion also enables designers and systems of industrial production or resource extraction to create hierarchies of landscape and nature in order to determine superior and inferior conditions of ‘wilderness’ which can or can not be sacrifices for the needs of production. The design research practice I present here is dependent on my relation to Ochre despite the ways in which we diverge from each other as beings.

4.3 Relational Definition
Design upholds nature as a ‘dualistically construed opposite’ to the products of design by defining the non-human materials relative to human designers in terms of negativity and lack. Perhaps a design research paradigm that depends on relationship can allow designers to see how non-human materials have advantages that we desire, that they have abilities and agency beyond human ability. I’m particularly inspired by Simone Kotva in her talk for the Serpentine Gallery’s symposium, The Shape of a Circle in the Mind of a Fish: The Understory of the Understory titled An Enquiry Concerning Nonhuman Understanding: Mysticism and Plant-Thinking. Kotva poetically describes the abilities of plants as surpassing that of humans in terms of patience and attention to the sun. Also related is Marisol de la Cadena’s description of Runa as “human, but not only”. (de la Cadena 2014)

4.4 Instrumentalism (objectification)
Design disciplines and practices have obliged the non-human “to put aside their own interests for those of the master or centre”. (Plumwood 1993) Design is an explicit process of objectifying the non-human beings that we refer to as raw material or natural resource. Material ends are defined in terms of the master’s ends, in my argument the human designer. Human-centered design has congratulated itself for this very tactic and used the centering of human needs as a justification and signal of ethical superiority to other forms of design practice. I believe a design research paradigm that enables alternative futures must being to center the the ends of the material, and to resist objectification of the non-human through relationship.

4.5 Homogenization or Stereotyping
Finally, Plumwood asserts that the ‘dominating class must appear suitably homogenous if it is to be able to conform to and confirm its ‘nature’. (Plumwood 199) This is most obvious in the human/nature dualism in which humans are a homogenous category of beings opposed to the multiplicity of non-human earth beings abundant on our planet. Design research practices must acknowledge diversity and heterogeneity in both humans and non-humans. Design disciplines have a history of centering normative definitions of ‘good design’ or universal standards of aesthetics and beauty that often exclude the realities of the global majority, BIPOC, women, LGBTQ+ or disabled communities. The objective design standards of the western/colonial/capitalist design elite uphold a one-world world and anything that deviates the norm becomes immoral and misfit or even uncivil or dehumanized. In addition to amplifying the many human worlds in design practices and outcomes, design research practices can encourage recognition of the non-human and more-than-human selves that also hold many worlds and futures.

4.6 Solutions, Representations, Commodities
There are several other ways that I believe design upholds a nature/culture dualism that go beyond the formal features from Plumwood I discussed above. I don’t have an orderly theory for presenting these
ideas, but I believe they relevant to creating design research paradigms that value relationship to the non-human.

![Image of San Rafael Swell](image)

*Figure 11 Still from the film showing swatch extensions, USGS survey, and image of landscape — all descriptions of San Rafael Swell.*

So often this relationship is sacrificed for the ‘solution’ in the process of design as “problem solving”. This process predetermines design outcomes as solutions that must fix predetermined problems. This focus on fixing gives inherent value and justification for design outcomes as worth any manipulation of material associated with the fixing to be done. In my practice with Ochres, there is no predetermined artifact to measure success, the designed products are emergent from the process while also centering relationship to material.

If a designer isn’t concerned with fixing a function as described above, they tend to fall in a category of representation and aesthetics. The non-human materials become only as valuable as their aesthetic potential. Often these forms of design ignore the politics of sourcing and labor. But they also create hierarchies of landscape beauty. That only certain landscapes determined beautiful deserve preservation or protection for their ‘wildness’. Ochres are not used in the products of my design process to create representations — they are what they are, to signify what they signify.

Design disciplines and designers are complicit in the commodification of earth beings and their experiences. It’s no surprise since product design or industrial design has evolved from the very development of capitalist markets. Design must resist the prioritization of capitalist values and
objectives and commit to the relationship with material beyond resource and potential for commodities and profit.

![with the nature they design in, and from, and with:](image)

**Figure 12 Still from the film showing design research process**

### 5. Conclusion

The US Geological Survey accomplishes its total and complete conversion of earth beings into cash money through products like the MRDS, and it carefully monitors the national stockpile of material wealth. As an alternative, Unknown Prospect contemplates earth beings through their human and more-than-human stories and extends relational dimensions through design practice.

The Ochre practice I have introduced here is a process for establishing a design research paradigm that acknowledges and centers the relationship between human and non-human as one tactic for “dismantling and reassembling tools for alternative futures”. This particular installment at the San Rafael Swell is one deployment of a method to be repeated and iterated in this site and others as I continue to trace mining histories in geological time and place. Beyond the specific products of this design research practice, I have only begun to organize my thoughts regarding ontology and epistemology for design practice that goes beyond representation and contributes to the broader discourse on the relation between human and non-human. Perhaps in this way Unknown Prospect becomes a driver of design practice and design theory.

I believe design has a potential to redirect the identity of the designer (as self) and the relationship to material or the non-human (also, as self) and this can implicate a dramatically different set of worlds. Research through design as a form of knowledge production has the potential to reveal narratives of the anthropo-not-seen in past, present, and future while also questioning the authority of the document and systems of power to describe, archive, and catalog our material realities. *What if the design process began with the needs of the other, the more-than-human? What if it began with what the more-than-human has experienced and seen?*