Abstract

This essay reflects philosophically on how the Making and Knowing Project engages with Ms. Fr. 640 to gain insight into artisanal epistemology. I draw a distinction between "virtual" and "concrete" modes of investigating the manuscript before arguing that it should be studied using both modes in an interwoven manner. I track the problematic virtual/concrete distinction through some recent scholarship, and I suggest that texts like Ms. Fr. 640, which combine records of craft practice with evidence of engagement in those practices, call for a reevaluation of epistemological categories such as propositional and practical knowledge in order to better understand artisanal ways of knowing.

Cite As

Branscum, Olivia. "Necessary Particulars: Philosophical Reflections on Making and Knowing with Ms. Fr. 640," In *Secrets of Craft and Nature in Renaissance France. A Digital Critical Edition and English Translation of BnF Ms. Fr. 640*, edited by Making and Knowing Project, Pamela H. Smith, Naomi Rosenkranz, Tianna Helena Uchacz, Tillmann Taape, Clément Godbarge, Sophie Pitman, Jenny Boulboullé, Joel Klein, Donna Bilak, Marc Smith, and Terry Catapano. New York: Making and Knowing Project, 2020. https://edition640.makingandknowing.org/#/essays/ann_069_fa_18 (https://edition640.makingandknowing.org/#/essays/ann_069_fa_18). DOI: https://www.doi.org/10.7916/2ap7-d967 (https://www.doi.org/10.7916/2ap7-d967)

How to Study Texts

One intuitive way to understand texts that form coherent "books" involves seeing them as physical objects that encode information through linguistic representation. If this description is plausible, then scholars are entitled to treat manuscript texts such as BnF Ms. Fr. 640 as descriptions of craft practices that can be mined for information, both processual and historical or contextual, about those practices. The manuscript seems to be at once a cultural artifact of a particular time and a text that can be "read for meaning" more generally, which suggests that it admits of research methodologies appropriate to both dimensions of its identity. Setting aside questions of the genre categorization of the manuscript, this broad characterization is already misleading, since, as Adrian Wilson points out, textuality is generated by a readerly process consisting in an abstraction of "verbal content [that] is assigned the quality of reality, independent of its material embodiment and from the setting of action in which it arose."[1] For Wilson, as for other scholars writing in the postmodern mode of textual and authorial critique, there is an unbridgeable gap between the inevitably interpretive efforts of text-based scholarship and the "truth" that is sometimes presumed to reside in the objects supporting the texts in question.

For the purposes of this essay, I will draw a distinction between *virtual* and *concrete* modes of engagement with works like Ms. Fr. 640. I take virtual modes to capture the textual situation described by Wilson, whereas concrete modes refer to various methods of approaching works in the "setting of action in which [they] arose."[2] Recipe reconstruction is one such mode of study.

If Wilson is right, the relationship between virtual and concrete modes of investigation is a fraught one. His observation seemingly calls into question the unity and transferability of claims made about either way of looking at a work. We therefore face an epistemological problem: how can the study of Ms. Fr. 640 yield *knowledge about* the *knowledge generated by* the historical practices it describes? What kinds of knowledge can be gleaned from examining the manuscript virtually—in terms of its verbal content—as opposed to concretely? Do the two apparently distinct modes of engagement produce distinct bodies of knowledge? If so, are we justified in treating those bodies of knowledge as unified, continuous, or otherwise interpenetrating? If not, what is the relationship between the two kinds of knowledge, and how can we travel from one to the next while retaining a solid theoretical foundation? This range of problems is far from new; in fact, facing such concerns head-on puts us in the company of many historical actors who "paradoxically declared *in writing* that writing was inadequate to convey their skills, and that book learning was inferior to bodily experience."[3]

The members of the Making and Knowing Project are already invested in the continuity of these two bodies of knowledge. The Project's investment is reflected in the following passage from the "About" section of the Making and Knowing website:

> *through the Project's transcription, English translation, and encoding of the text, the edition will present the text of Fr. 640 in a searchable digital format in both French and English translation for the first time. The critical apparatus (including multimedia annotations, essay-length analyses of techniques and materials, a glossary of technical terms, and a list of resources for further exploration) will situate the manuscript's contents within the material and historical context in which they were produced. The Project hopes to engage readers, whether researchers, students, or the broader public, in a new approach to exploring historical texts, one which emphasizes the importance of the material conditions, interpretations, and outcomes that emerge when the written word is realized through investigations into matter.*[4]

In its emphasis upon the epistemic benefits of establishing a continuity between content, materiality, context, and laboratory reconstructive efforts, the above excerpt brings to light the need for a philosophical examination of the sort I undertake in this essay. In what follows, I seek to show first that it is reasonable to approach Ms. Fr. 640 in both virtual and concrete modes of investigation. Indeed, Ms. Fr. 640 complicates the distinction because of certain elements of its construction, apparent use, and possible purpose. Nevertheless, it is useful to maintain a distinction between virtual and concrete modes because doing so allows us to gain insight into the challenging project of clarifying the kinds of knowledge that works like this manuscript produce.

What is Knowledge in Ms. Fr. 640

The second half of this essay aims to establish that the existing literature on works comparable to Ms. Fr. 640 already engages both virtual and concrete strategies, albeit in an entangled way. This state of affairs muddies efforts to determine the kind of knowledge these texts (and the practices they describe) create, even as valuable insights and observations are generated. I suggest that the application of distinctions like the virtual/concrete framework can assist scholars in sorting through these insights to gain clarity about how to categorize, understand, or even simply describe the types of knowledge under consideration. While this essay can only gesture towards an answer to those ultimate questions, I think progress can be made by considering Ms. Fr. 640 in light of examples from epistemic genres such as the encyclopedia, the miscellany, books of secrets, recipe collections, and collections of objects known as *Kunstkammern*. This essay contributes to the immediate purpose of investigating Ms. Fr. 640 by showing that the manuscript can be understood as existing within and between the genres introduced above.[5] In so doing, I hope to go part of the way toward a philosophical justification of the continuity of the bodies of knowledge we get from studying the manuscript in both virtual and concrete scholarly modes. Further, I think this characterization of Ms. Fr. 640 underscores the need to develop more complicated epistemic categories than the "knowledge-how," "knowledge-that," and "knowledge-why" which pervade the history of philosophy and contemporary epistemology.

Let me take a moment to explain what I mean by "knowledge-how," "knowledge-that," and "knowledge-why." Philosophers who study and theorize about knowledge—called epistemologists—frequently describe knowledge in terms of these three categories, although it is certainly possible to challenge this taxonomy. "Knowledge-how" is usually taken to be the kind of practical knowledge involved in knowing how to do something, while "knowledge-that" refers to propositional knowledge of the form "x knows that p" (for instance, I have propositional knowledge when I know that Columbia University is in the city of New York).[6] "Knowledge-why," or causal knowledge, means knowing how it is that something is the case. Since "knowledge-why" can be reformulated in propositional terms, some philosophers take it to be reducible to "knowledge-that."[7] For the purposes of this essay, I will assume that knowledge of causes is also propositional knowledge.

It is worth noting that the history of western philosophy has generally treated "knowledge-how," associated with the category of *techne*, as inferior to propositional knowledge, which is associated with *episteme* or *scientia*, regarded as knowledge of greater certainty. This tradition traces back to Plato and Socrates, influencing the development of modern epistemology through the Aristotelian inheritance in European thought, and continuing to affect contemporary text-based scholarship. Even if text-based scholars do not elevate propositional knowledge for principled reasons, they do so at least because accepted methodology requires propositional expression for the sake of linguistic communication.[8] The following essay considers the possibility that assuming a strong distinction between propositional and practical knowledge, combined with the pervasive idea that a hierarchy exists between them, precludes thorough readings of texts like Ms. Fr. 640. It may be the case that these works require scholars to look for other ways of classifying knowledge. In this respect, I follow Pamela H. Smith and other authors in calling for a more expansive way of thinking about artisanal epistemology.

Establishing the Framework: Virtual and Concrete Modes of Engagement

In his essay "What is a text?," Adrian Wilson extends the postmodern critique of authorship to a problematization of textuality (primarily as it pertains to written works, although the theory should be as flexible as the concept of "text" itself).[9] Wilson introduces the notion of a *virtual author* to capture the way in which "the creator of a given text becomes abstracted into a virtual individual who is read in that text, who is constructed by the reader. The virtual author is a projection of the act of reading."[10] The author, in this sense, is abstracted from the historical person who produced the work in question; unlike the real Aristotle, for instance, who has been dead for millenia, it makes sense to say of the virtual Aristotle that he writes, speaks, contests, and means things in the present tense. Through the act of reading, readers interact with virtual authors between the present and the historical past, establishing interpretive ground that might be termed "the past-as-present in our culture."[11] Similarly, Wilson argues, the new use of "text" makes visible—but does not invent—the way in which works themselves are abstracted through the act of reading, becoming "timeless objects" supported by their material substrates but not necessarily identical to or dependent upon them.[12] Indeed, according to Wilson, readers can never approach works as texts without triggering this projective move.[13] While texts have material embodiments that can be reproduced in some sense, "this is always, and necessarily, a *new* material form" that stands apart from the text itself, which is virtual and timeless.[14] There always arises a gap between the textual content of a work and the object that embodies it. Consider the way in which translations, transcriptions, and modernizations can be thought to instantiate the same text—as is the case with the digital critical edition of Ms. Fr. 640. I will borrow Wilson's lexicon of virtuality to describe these textual modes of engaging with and/or investigating works.

Wilson's account is appealing, in part, because it captures the way we engage with texts as generative fonts of insights of various kinds and feel ourselves able to meet works in our present moment in ways that are not hopelessly skeptical in nature. I am not suggesting that all texts are ahistorical or are read ahistorically—knowledge about the past inflects, and sometimes determines, the way meaning is interpreted in the present. However, as Wilson illuminates, there seems to be a serious sense in which engaging with a work in a virtual manner renders elusive a simultaneous engagement with it as a "mere thing." The "thingness" of a work encompasses both its artifactual materiality and (in Wilson's terms) the "setting of action" in which the work was created. Either or both of these aspects of a work's thingness could be called up by the terminology of *concrete* engagement, but for the purposes of this essay I will use it primarily in the latter sense. For Ms. Fr. 640, the "setting of action" I have in mind concerns the context of the workshop or other physical locus of artisanal practice. As we will soon see, there is evidence to suggest that the author-practitioner of Ms. Fr. 640 actually executed recipes contained in the manuscript (hence the decision to refer to him as "author-practitioner" rather than "author"), giving us reason to include the workshop as part of the "setting of action" in need of investigation.

At this point, a puzzle appears: if a work can be encountered either virtually or concretely, how can we learn about something as a concrete object while simultaneously approaching it as a virtual text? This problem is difficult to solve if we follow a naive reading of Wilson as establishing a sharp distinction between textuality and objecthood. I take it, though, that Wilson does not mean to deny what we might call a "dual citizenship" of historical artifacts as both virtual texts and concrete objects.[15] Instead, he calls for interpreters to take the

projected nature of a given text into account in order to face the ineluctable constructive power of textual scholarly engagement. We should therefore think critically before assuming that concrete engagement can be integrated thoroughly into, or even undertaken within, text-based projects. Further justification seems to be required.

Ms. Fr. 640 draws out the import of this critique because it feels so natural to study the work through its virtual as well as concrete dimensions. One key example of a concrete engagement with the manuscript consists in the reconstructive work undertaken by the Making and Knowing Project. As Pamela H. Smith and the Making and Knowing Project discovered during their investigation of Ms. Fr. 640, a straightforward reading of the manuscript was in any case not possible because it is not a linear text… Indeed, it became clear to us that 'reading' the text for understanding in fact meant reconstructing the actions described in it."[16] This statement indicates the limitations of virtual engagement in the case of the manuscript, but it also reveals the Project's commitment to treating concrete engagement with Ms. Fr. 640 as a way of tackling interpretive angles—such as reading—which are frequently taken to be virtual. While authors like Hasok Chang and Dietmar Höttecke have argued convincingly that scholars can learn about historical experimental processes by reconstructing those experiments, I think it is worth asking whether the dual citizenship posited earlier justifies studying Ms. Fr. 640 in such a flexible manner.[17] In other words, we might worry that dual citizenship gets us only so far. Perhaps it simply justifies studying the manuscript as a virtual projection through tools such as the transcription, translation, and metadata available in the Digital Critical Edition while reserving concrete modes of engagement (like recipe reconstruction) for the separate project of studying Ms. Fr. 640 as a repository of craft practice. However, the Making and Knowing Project surpasses this by arguing that recipe reconstruction contributes directly to the supposedly virtual toolkit brought to bear on the manuscript. The Project has found, for instance, that translation is aided by the practical experience occasioned by concrete investigation. This calls for a conception of dual citizenship that renders Ms. Fr. 640 simultaneously and fluidly amenable to virtual and concrete modes of study.

We can justify this fluidity by considering the way that any artifactual incarnation of Ms. Fr. 640 embodies its meaning (to borrow a term from the philosophy of art), not as "the original" embodiment of the text by virtue of its status as a manuscript bearing the hand of its anonymous author-practitioner, but thanks to the epistemic context evoked by its structure and certain clues we have to its means and purpose of composition.[18] This is to say that evidence of the manuscript's use(s) and possible purpose(s) lends credence to understanding it under the stronger version of dual citizenship just described. The stronger form of dual citizenship then reinforces the tenability of using concrete methodologies to "read" Ms. Fr. 640. The upsides seem clear: concrete modes of research aim to capture the kind of embodied engagement with which the author-practitioner—or some other possible user of Ms. Fr. 640—would have "met" the manuscript as not only a record of artisanal experience, but also as a kind of contestant and tool in craft processes. While undertaking recipe reconstruction, for instance, cannot provide a distortionless view into even one's lab partner's phenomenological reality (let alone that of the author-practitioner!), it nevertheless allows us to approach the tacit and embodied knowledge upon which the author-practitioner relied. Since such knowledge is so hard to express in words, it is not clear that it could ever be apprehended through virtual means alone.

Taking inventory of some of the ways in which Ms. Fr. 640 embodies its meaning involves looking for instances in which information about the manuscript's use and/or creation is encoded non-propositionally. Consider the

cliché of showing rather than telling: studying the way Ms. Fr. 640 embodies its meaning has to do with what the manuscript *shows* us instead of what the author-practitioner *tells* us. Ms. Fr. 640 consists of 171 folios written in eight different scripts, suggesting a degree of revision and re-visitation. In some places, the main hand of the author-practitioner adds notes in the margins or advises against using certain recipes, which may indicate personal experience with the processes included in the compilation. While the manuscript resembles a formal recipe collection and was originally bound under a title indicating it as such, it stands apart from most extant examples of books of secrets in that its author and compiler used it as a site of reflexive negotiation and a companion in practice. Other books of secrets, such as the *Secrets* of Alessio Piemontese (1555), declare authorial expertise; still others, like Hugh Plat's *The Jewell House of Art and Nature* (1594), at least occasionally make use of attributions to assure readers of the validity of the information held within.[19] In contrast, the author-practitioner of Ms. Fr. 640 neither trumpets his own mastery of artifice through rhetorical flourishes nor grounds the trustworthiness of his recipes in others' epistemic respectability. His reliability as a practitioner is *embodied* in the way he composed, and probably used, the text he was engaged in writing. As Pamela H. Smith notices, "it would appear that the composition of the manuscript itself could not be divorced from the lived experience of actually performing the actions."[20]

Due to this distinctive feature of Ms. Fr. 640, I think we are justified in attributing to it the stronger form of dual citizenship I outlined above. As a result, it makes sense to weave together the virtual and concrete modes of investigation in the vein characteristic of the Making and Knowing Project. If this is plausible, it might seem tempting to do away with the virtual/concrete distinction altogether, sidestepping Wilson's critique and rendering moot the preoccupations of this essay. However, I think it is useful to preserve the distinction, at least insofar as it helps clarify the kind of knowledge that is produced by craft practices. To be more precise, I argue in the next section of this essay that a lack of direct attention to the virtual/concrete distinction leads interpreters of texts like Ms. Fr. 640 to alternate between casting the texts and practices under examination as productive of either propositional or practical knowledge. This piecemeal approach, although technically appropriate on account of the dual citizenship of Ms. Fr. 640, obscures the deep entanglement of the knowledge-concepts inherent in the text. A closer look may reveal that the knowledge produced by Ms. Fr. 640 consistently defies binaries such as the practical and the propositional, the encyclopedic and the miscellaneous, and the virtual and the concrete.

The Virtual/Concrete Distinction in Context

The Making and Knowing Project has posited a small series of productive genre comparisons for Ms. Fr. 640, the strongest of which is with books of secrets. Reading the manuscript for its affinities with books of secrets inserts it into a tradition which began during the Middle Ages and continued to rise in prominence and popularity throughout early modern Europe.[21] Many books of secrets were printed and sold by the enterprising, but as Elaine Leong and Alisha Rankin note, manuscripts also fill out the genre.[22] Comparisons of Ms. Fr. 640 with recipe books and how-to manuals are also fruitful, though whether these two constitute distinct genres is perhaps a matter for debate. Further, the manuscript contains recipes for many objects which would have populated *Kunstkammern*, or collections that combined natural objects and objects made through human artifice.

I use examples of literature concerned with each of these relevant forms to frame the epistemological issues that will occupy the remainder of this essay.

Lest readers be concerned that the concrete/virtual distinction I have drawn in the first half of this essay is arbitrary or constructed, it is worth looking at several examples of scholarship that voice concerns about engaging with texts like Ms. Fr. 640 in a wholly virtual way. In their study of the relationship between artifacts and their digital surrogates in librarianship, Robbyn Gordon Lanning and Jonathan B. Bengston note the difficulty of trying "to capture, without engaging directly with the objects, ... the sense of how they were intended to be used by their creators," suggesting that an important dimension of working with rare resources can be undermined by digitizations that do not take concrete engagement into consideration.[23] Sara Pennell's treatment of women's culinary recipe books in early modern England resonates with my claims about the distinct yet closely related means of investigation suggested by the concrete and virtual modes. Pennell writes that

> *it is the practical possibilities of the written recipe which locate [it] outside literary parameters. The practitioner would become a recipe's author and owner for the moment, but this authorial relationship was only temporary—the perception of involvement, of intimacy with the methods and media of production… attached only partially.*[24]

It is reasonable to read Pennell's "literary parameters" as a rough stand-in for the conventions of virtual engagement that Wilson identifies. Crucially, Pennell expresses the way in which virtual engagement with what she terms "texts of action" accounts only partially for the "intimacy with the methods and media of production," the understanding of which Pamela H. Smith links to reconstruction processes.[25] Finally, in his essay about the reconstruction of historical experiments, Dietmar Höttecke points to the "double perspective of actor and observer" that occupying the role of an experimenter provides.[26] This double perspective recalls the notion of author-practitioner, indicating another sort of dual citizenship that coheres with my account of Ms. Fr. 640. Each of these examples shows how the desire for something along the lines of concrete engagement has been registered in the relevant literature.

Two other examples, both drawn from Elaine Leong and Alisha Rankin's edited volume on knowledge and books of secrets, illustrate how inchoate instances of this distinction in the existing literature can shed light on the epistemological challenge of dealing with texts like Ms. Fr. 640. The authors I will discuss seem to value both concrete and virtual modes of engagement with books of secrets, but they do not look closely at the implications of those methodologies or the different epistemological frameworks they invoke. Instead, they vacillate between framing books of secrets through these different modes, making it possible to conceive of the texts under study as exemplars of either practical or propositional knowledge depending on the approach at hand. (To see why this might be the case, it is helpful to notice that virtual engagement frequently leads to the production of propositional claims, while concrete engagement yields increased interest in the practical knowledge of historical actors.) Ms. Fr. 640 problematizes these binaries, however, and in so doing ultimately

undermines the validity of the distinctions I employ. In this respect, the distinctions are just foils, albeit useful ones for uncovering what is at stake in approaching the manuscript as the Making and Knowing Project does.

In the introduction to their volume, Leong and Rankin call upon both propositional and practical knowledge without interrogating or explaining those categories. Moreover, as editors, they mix and match the results of concrete and virtual engagement in a way that presupposes at least some epistemological continuity between the categories. They write that "hunting for secrets was one [way]... early modern men and women attempted to satisfy their desire to understand the natural world," suggesting that books of secrets preserve or compile propositional knowledge about nature—knowledge-*that* the world works in such-and-such a way.[27] When they turn to scholarship on books of secrets that emphasizes the importance of craft traditions, Leong and Rankin state that the "movement focusing on" those traditions "examines the role of artisanal 'know-how,'" which corresponds to practical knowledge.[28] It should not be taken as obvious, however, that artisanal epistemology can comfortably be characterized as knowledge-how. Pamela H. Smith, for one, has argued for the "investigative and philosophical" valences of practice and artisanal knowledge.[29] I do not think that Leong and Rankin would challenge this claim in its entirety, since one of the chapters of the volume in question—written by Smith—concerns the potentially propositional aspects of artisanal epistemology. Perhaps, then, tracking the distinctions between concrete and virtual engagement with texts, as well as propositional and practical knowledge, are not primary concerns for Rankin and Leong. Thus, while their treatment brings out important ways of thinking about particular texts, it does not yet help us close in on the question of how to theorize the kinds of knowledge produced by artisanal practice.

William Eamon's contribution to the Leong and Rankin volume draws out still further ambiguities in the realm of craft epistemology as it relates to books of secrets. According to Eamon, "books of secrets… gave readers the assurance that nature was predictable and that craft and professional secrets were not beyond their ken."[30] At the same time, Eamon and the volume's editors emphasize the particularity of the knowledge associated with books of secrets. Leong and Rankin describe secrets as "little bits of information" which "played a central role in producing and sharing knowledge in early modern Europe," while Eamon recommends that scholars of books of secrets spend more time "pouring through [sic]" the volumes to "look closer at the particulars."[31] This dynamic between generalizability and particularity is interesting for two reasons. First, it may partly align books of secrets with the new philosophy and its aims to found generalizable truths about nature on particular experiences and observations, underscoring the possibility that the artisanal practices the books describe could be philosophical. Second, it brings together elements of two streams in the Renaissance conception of knowledge which often seem to oppose one another: namely, the encyclopedic and miscellaneous traditions.

Neil Kenny's analysis of these two forms in *The Palace of Secrets: Béroalde de Verville and Renaissance Conceptions of Knowledge* will help us understand how Eamon, Leong, and Rankin provide support for a more expansive conception of the kind of knowledge produced by craft practices. Kenny in fact frames "Renaissance philosophical writing" as encompassing three basic structures.[32] As he writes,

> *the structures of most works are compatible with encyclopaedism; certain miscellanies organize knowledge in alternative, unsystematic ways; and thirdly, some philosophical fictions hover ambivalently between these two poles.*[33]

According to Kenny, encyclopedism is characterized by its values of systematicity and necessity; encyclopedic writers aimed to collect the knowledge necessary to understand nature, and organize it in a way that reflected nature's own systematicity.[34] Kenny notes that encyclopedism's

> *diverse manifestations all share the goal of selecting a body of learning from the formless mass of the knowable, and relating the constituent parts to each other logically, so that together they form a circle of learning. The structure of the circle is held to be metaphysically significant, reflecting the inner structure both of the world and the human mind.*[35]

Kenny posits that palaces and cabinets—including

Kunstkammern

—resemble the circle as metaphors for perfect encyclopedic knowledge. It is worth noting, however, that Kenny's casting of *Kunstkammern* as encyclopedic is contested among scholars who see the cabinets as unsystematic groupings of whatever struck the fancy of the collectors in question.[36]

Since it seems clear that books of secrets are not philosophical fictions, only two of Kenny's categories might apply: the encyclopedia and the miscellany. As we have seen, Kenny connects encyclopedias to systematic bodies of necessary knowledge. He clearly acknowledges that forms of knowledge-conception exist outside of the encyclopedic frame, but asserts that other contemporaneous conceptions of knowledge tend to define themselves in relation to the encyclopedic ideal.[37] This explains why, for Kenny, the miscellany is often described as an explicit challenge to the encyclopedic model. In contrast to encyclopedias, miscellanies lack systematic or logical construction, and they frequently construe knowledge of nature in terms of flux rather than tractable propositions that can be fixed and organized.[38] Instead of striving for universalizable knowledge, miscellanies (as their name suggests) typically consist of assemblies of particulars. While some miscellanies explicitly challenge—and even seek to reform—the approach to knowledge lauded by the encyclopedic ideal, others simply offer alternatives to that way of seeing the world.

With the contrast between encyclopedic and miscellaneous works in hand, we can now consider Leong, Rankin, and Eamon's claims in their context. It seems to me that these authors have alighted upon a way that certain books of secrets challenge the binary opposition of miscellaneous and encyclopedic conceptions of knowledge.

By showing how some works aspire to systematicity without eschewing particularity or idiosyncrasy, Eamon, Rankin, and Leong identify the potential for seeing these books as robust records of kinds of knowledge uncapturable by the usual distinctions. If this is the case for typical books of secrets containing craft knowledge, Ms. Fr. 640 presents even more of a challenge to the encyclopedic-miscellaneous paradigm.

At first, the manuscript seems clearly to fall outside of the encyclopedic ideal: no systematicity has been detected therein, and it contains recipes ranging from life casting to imitation gemstones to burn salves. It is difficult to imagine the recipes standing in necessary, complete, or systematic relation to one another. Still, Ms. Fr. 640 displays some surprisingly encyclopedic, or at least non-miscellaneous, elements. Recall that Pamela H. Smith has argued for understanding the manuscript as possessing a "philosophical" dimension, one which has systematic components in what she calls the author-practitioner's "material imaginary."[39] Moreover, there are blank spaces on a few pages in Ms. Fr. 640 that might be interpreted as signs of systematic pre-planning, and the manuscript does not obviously explore skeptical worries or demand reforms to the encyclopedic approach to knowledge. These features of Ms. Fr. 640 seem to set it apart from Kenny's characterization of miscellaneous texts.

One final point about Ms. Fr. 640 would appear to land it in the encyclopedic camp, at least if Kenny is right about the relationship between *Kunstkammern* and the encyclopedic ideal. Kenny writes that a *Kunstkammer* "reveals encyclopaedic knowledge via physically small artefacts," thus suggesting that *Kunstkammern* are representatives of the ideal of encyclopedic knowledge.[40] Since many of the recipes found in Ms. Fr. 640 seem to produce objects that would have been destined for—or at least at home in—*Kunstkammern*, it is tempting to think of the manuscript as closely aligned with encyclopedic knowledge-conceptions because of the relationship Kenny posits. In addition, since books of secrets were collectors' items in their own right rather than straightforward workshop manuals, Ms. Fr. 640's kinship with that genre might underscore an encyclopedic tendency in the work.

Nevertheless, this possible evidence of systematicity does not make Ms. Fr. 640 an encyclopedic text; on the contrary, the relationship between miscellaneous and encyclopedic elements in the manuscript is informative precisely because of the manuscript's irreducibility to one category or the other. Perhaps Ms. Fr. 640 *does* evince a set of logical relations that we, twenty-first-century readers saddled with the legacy of a revisionist philosophical canon, do not have the epistemological framework to perceive—a miscellaneous presentation of a possibly systematic worldview. I think that the best way to conceive of Ms. Fr. 640 calls for a rejection of the choice between the encyclopedic and miscellaneous paradigms, and that the complications generated in this rejection help point us in the direction of solutions to our questions about artisanal epistemology. Like philosophical fictions, perhaps works that are also records of active personal engagement—works that highlight the value of *doing* as a means of developing knowledge—fall somewhere outside of the terrain Kenny describes. It may be the case that engaging with these texts concretely is necessary to draw out the "material imaginary" they instantiate, as Smith's scholarship already suggests. Such works may demand a new space all their own, one that pushes twenty-first-century readers to add new dimensions to our conceptions of knowledge, practice, and their interrelations.

Conclusion

While the encyclopedic/miscellaneous binary does not perfectly map onto the relationship between propositional and practical knowledge, we might think that only practical knowledge has the potential to survive the skeptical challenge of reform-oriented miscellanies. Indeed, ancient Greek skeptics often faced the objection that their dictum of suspension of judgment would lead to inaction; after all, since know-how is thought to be non-propositional, practical knowledge seems not to present us with any propositions toward which to grant or withhold our assent.[41] In any case, it seems to me that enough aspects of Ms. Fr. 640 resemble the encyclopedic ideal to complicate the story about artisanal epistemology as exclusively practical knowledge, at least if practical knowledge is thought to consist in knowledge-how. What kind of knowledge does artisanal epistemology produce, then? Pamela H. Smith's notion of "emergent knowledge" picks out a promising possibility:

> *practical knowledge is very different from propositional knowledge, which is easy to capture in a written proof. Practical knowledge always involves emergent phenomena, and its 'proof' is brought into being in real time. A recipe, or better still, a compilation of recipes, thus indicates… the particularity, variability, and the emergent quality of material things, and of practical knowledge… Only by engaging in the practice of reconstruction—itself a form of emergent knowledge—would I have recognized this dimension of recipe compilations.*[42]

Smith's account brings forth the sense in which concrete engagement with texts like Ms. Fr. 640 allows readers to access previously invisible and unsayable knowledge. Only through this sort of investigation can we hope to tackle the problem Pennell identifies when she writes that

> *both the recipe and the experimental observation… surely render complete demystification impossible. As a record of practice they are vulnerable precisely because, as texts of action, they always evade standardization.*[43]

Nevertheless, I think the notion of emergent knowledge requires development. It seems to me that the emergent quality of this sort of practical knowledge describes the process of acquisition very well, but leaves open the question of what is being grasped through the process of emergence. The project of precisifying craft knowledge —of determining the thing that is apprehended, if it is a thing at all—leaves me groping about for something other, something uncaptured by traditional epistemological categories.

Smith returns to this project in a forthcoming monograph, in which she explains her aim of defining "more clearly the terms… 'skill' and '*Kunst*.'"[44] This undertaking is important because "there is not a language in

which to analyze or historicize experiential knowledge."[45] Smith offers a number of useful taxonomic possibilities, some of which—like "materialized theory"—reveal the intertwined natures of practical and propositional knowledge in artisanal epistemology.[46] At the end of her chapter on the subject, Smith concludes that

> *artisanal epistemology, the search for certain knowledge that is carried out through action and practice must be extracted from the materials of nature by the practitioner through bodily struggle… at its most basic and all-encompassing, [artisanal epistemology] was simply and straightforwardly a mode of work.*[47]

Smith's characterization of artisanal epistemology as a "mode of work" is illuminating because, among other things, it neatly challenges what she identifies as the "facile dichotomy" between propositional and practical knowledge by undermining the hierarchical relationship between mind and hand.[48] Like the category of emergent knowledge, though, it seems to stop short of expressing *what it is* that artisanal work and emergent processes transfigure epistemically. After all, Smith's lexical suggestions are meant to be taken up, experimented with, and enriched by further scholarship. I think that the difficulty of getting at the content of knowledge yielded by artisanal epistemological practices traces to a deeper point than the need for more research, however: perhaps, instead, it is an issue of articulation, a challenge which arises precisely because of the disciplinary domination of the categories of knowledge-that and knowledge-how. Michael Polanyi suggests in *Personal Knowledge* that

> *the actual foundations of our scientific beliefs cannot be asserted at all… They are not asserted and cannot be asserted, for assertions can be made only within a framework with which we have identified ourselves for the time being.*[49]

Polanyi's proposal emerges from the particular context of attempting to account for the authority of scientific beliefs in light of their apparently absurd foundations. Even so, I think his insight points to a program of inquiry that counts concrete investigation among its irreplaceable components. If Polanyi is right, it could be that "the thing that is grasped" through emergent processes will remain inarticulable until such time as we are able to identify ourselves within a different framework, one which responds to and learns from the material imaginaries of early modern vernacular philosophers. Maybe concrete engagement with Ms. Fr. 640's setting of action has the potential to make previously inarticulable possibilities available by activating the very "bodily struggle" Smith describes above. Polanyi anticipates this line of thought when he suggests that

> *like the tool, the sign or the symbol can be conceived as such only in the eyes of a person who relies on them to achieve or signify something. This reliance is a personal commitment which is involved in all acts of intelligence… Every act of personal assimilation by which we make a thing forms an extension of ourselves through our subsidiary awareness of it, is a commitment of ourselves; a manner of disposing of ourselves.*
>
> *But the context of purpose and commitment… yet lacks dynamic character. The pouring out of ourselves into the particulars given by experience so as to make sense of them… is not achieved effortlessly.*[50]

And so we are left to practice, by relying on unfamiliar tools and symbols, by trusting them to achieve and to signify.

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1. Adrian Wilson, "What is a text?," *Studies in History and Philosophy of Science* 43 (2012): 347.↩

2. Wilson, "What is a text?," 347.↩

3. Pamela H. Smith and the Making and Knowing Project, "Historians in the Laboratory: Reconstruction of Renaissance Art and Technology in the Making and Knowing Project," *Art History*, 39.2 (2016): 210.↩

4. "Overview," About the Project, The Making and Knowing Project, accessed December 1, 2018, https://www.makingandknowing.org/about-the-project/ (https://www.makingandknowing.org/about-the-project/).↩

5. For an example of a comparative genre study, see Katie Bergen, "*La Maison Rustique*: Cultivation and the Genre of the Household Manual," in *Secrets of Craft and Nature in Renaissance France. A Digital Critical Edition and English Translation of BnF Ms. Fr. 640*, ed. Making and Knowing Project, et al. (New York: Making and Knowing Project, 2020), https://edition640.makingandknowing.org/#/essays/ann_066_fa_18 (https://edition640.makingandknowing.org/#/essays/ann_066_fa_18).↩

6. Jeremy Fantl, "Knowledge How," in *Stanford Encyclopedia of Philosophy* Stanford University, 1997, article published Fall 2017, https://plato.stanford.edu/entries/knowledge-how/ (https://plato.stanford.edu/entries/knowledge-how/).↩

7. Stephen Hetherington, "How to Know (that Knowledge-that is Knowledge-how)," in *Epistemology Futures*, ed. Stephen Hetherington (Oxford: Oxford University Press, 2006), 71.↩

8. For a concise discussion of this evaluative tradition, see Pamela H. Smith, "Why Write a Book? From Lived Experience to the Written Word in Early Modern Europe," *Bulletin of the GHI* 47 (Fall 2010): 25–50.↩

9. Wilson notes that beginning in the late 1960s, the word "text" "came to refer to a literary work, in place of the word 'work' itself, and it began to subsume the written-or-printed word as such, in all its manifold forms." Wilson, "What is a text?," 341. However, the term applies today in a wide variety of non-lexical contexts; e.g., paintings and pieces of music can also be analyzed as texts. I will use the word mostly in Wilson's terms as "literary work" or "written-or-printed word as such."↩

10. Wilson, "What is a text?," 344.↩

11. Wilson, "What is a text?," 346.↩

12. Wilson, "What is a text?," 346.↩

13. It is worth asking what makes an approach textual in Wilson's sense. I take it that practices which interpret or speculate about meaning—intentional or otherwise—are textual. This observation makes the need for an account like this one all the more apparent, since claims about historical reconstruction illuminating Ms. Fr. 640's meaning are ubiquitous in the Making and Knowing literature.↩

14. Wilson, "What is a text?," 347.↩

15. In "The Artworld" (1964), Arthur Danto suggests that some objects "enjoy double citizenship" as both works of art and "mere real things." I adopt this terminology to capture the status of works like Ms. Fr. 640, which as good as demand to be interpreted through both virtual and concrete modes of investigation. It could be claimed that all texts possess dual citizenship to some extent, but this essay will not concern itself with that line of argument. See Arthur Danto, "The Artworld," *The Journal of Philosophy* 61, no. 19 (1964): 584. doi:10.2307/2022937.↩

16. Smith and The Making and Knowing Project, "Historians in the Laboratory," 218.↩

17. Hasok Chang, "How Historical Experiments Can Improve Scientific Knowledge and Science Education: The Cases of Boiling Water and Electrochemistry," *Science & Education* 20 (November 10, 2010): 317–41. Dietmar Höttecke, "How and What Can We Learn From Replicating Historical Experiments? A Case Study," *Science and Education* 9 (2000): 343–62.↩

18. It is important to establish the applicability of this view to all embodiments of Ms. Fr. 640 in Wilson's sense so that the claims made here extend to the Digital Critical Edition created by Making and Knowing Project.↩

19. Elaine Leong and Alisha Rankin, "Introduction: Secrets and Knowledge," in *Secrets and Knowledge in Medicine and Science, 1500-1800* (Farnham: Ashgate, 2011), 3. See also Amanda Faulkner, "Ms. Fr. 640 and *The Jewell House of Art and Nature* (1594)," in *Secrets of Craft and Nature in Renaissance France. A Digital Critical Edition and English Translation of BnF Ms. Fr. 640*, ed. Making and Knowing Project, et

al. (New York: Making and Knowing Project, 2020), https://edition640.makingandknowing.org/#/essays/ann_072_fa_18 (https://edition640.makingandknowing.org/#/essays/ann_072_fa_18).↩

20. Pamela H. Smith, "In the Workshop of History: Making, Writing, and Meaning," *West 86th* 19 (2012): 25.↩

21. "A Book of Secrets?," BnF Ms. Fr. 640, The Making and Knowing Project, https://www.makingandknowing.org/bnf-ms-fr-640/ (https://www.makingandknowing.org/bnf-ms-fr-640/).↩

22. Leong and Rankin, "Introduction: Secrets and Knowledge," 3.↩

23. Robbyn Gordon Lanning and Jonathan B. Bengston, "Traces of humanity: Echoes of social and cultural experience in physical objects and digital surrogates in the University of Victoria Libraries," *Cogent Arts & Humanities* 3 (2016): 6.↩

24. Sara Pennell, "Perfecting Practice? Women, Manuscript Recipes and Knowledge in Early Modern England," in *Early Modern Women's Manuscript Writing: Selected Papers from the Trinity/Trent Colloquium*, ed. Victoria E. Burke and Jonathan Gibson (Farnham: Ashgate, 2004), 250.↩

25. Pennell, "Perfecting Practice," 246.↩

26. Höttecke, "Replicating Historical Experiments," 346.↩

27. Leong and Rankin, "Secrets and Knowledge," 3.↩

28. Leong and Rankin, "Secrets and Knowledge," 4.↩

29. Smith and The Making and Knowing Project, "Historians in the Laboratory," 228.↩

30. William Eamon, "How to Read a Book of Secrets," in *Secrets and Knowledge in Medicine and Science, 1500–1800*, ed. Elaine Leong and Alisha Rankin (Farnham: Ashgate, 2011), 36.↩

31. Leong and Rankin, "Secrets and Knowledge," 6. Eamon, "How to Read a Book of Secrets," 41.↩

32. Kenny, "The Palace of Secrets," 126.↩

33. Kenny, "The Palace of Secrets," 126.↩

34. Kenny, "The Palace of Secrets," 9, 26.↩

35. Kenny, "The Palace of Secrets," 1.↩

36. See, for example, Pamela H. Smith, "Collecting Nature and Art: Artisans and Knowledge in the *Kunstkammer*," in *Engaging with Nature: Essays on the Natural World in Medieval and Early Modern*

Europe, ed. Barbara A. Hanawalt and Lisa J. Kiser (Notre Dame: University of Notre Dame Press, 2008), 115–36.↩

37. Kenny, "The Palace of Secrets," 1.↩

38. Kenny, "The Palace of Secrets," 1–9. Montaigne's *Essais* are offered by Kenny as a "canonical" example of miscellaneous texts' skeptical conception of knowledge as "unsystematic and fluctuating, in opposition to the dominant picture of an ordered and static encyclopaedia." See Kenny, "The Palace of Secrets," 3, 4.↩

39. Smith and The Making and Knowing Project, "Historians in the Laboratory," 221.↩

40. Kenny, "The Palace of Secrets," 173.↩

41. See A. A. Long and D. N. Sedley, *The Hellenistic Philosophers Volume 1* (Cambridge: Cambridge University Press, 1987), 13, 236-259, 438-460.↩

42. Smith and The Making and Knowing Project, "Historians in the Laboratory," 219.↩

43. Pennell, "Perfecting Practice," 246.↩

44. Pamela H. Smith, "Artisanal Epistemology," in *From Lived Experience to the Written Word: Recovering Art and Skill in Early Modern Europe* (forthcoming), 1.↩

45. Smith, "Artisanal Epistemology," 1.↩

46. Smith, "Artisanal Epistemology," 5.↩

47. Smith, "Artisanal Epistemology," 10.↩

48. Smith, "Artisanal Epistemology," 1-2.↩

49. Michael Polanyi, "Skills," in *Personal Knowledge: Towards a Post-Critical Philosophy* (Chicago: The University of Chicago Press, 1958), 60.↩

50. Polanyi, "Skills," 61.↩

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