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Abject Object Relations and Epistemic Engagement in Clinical Practice

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Abstract

This article engages with medical practice to develop a philosophically informed understanding of epistemic engagement in medicine, and epistemic object relations more broadly. I take my point of departure in the clinical encounter and draw on French psychoanalytical theory to develop and expand a taxonomy already proposed by Karin Knorr-Cetina. In so doing, I argue for the addition of an abject-type object relation; that is, the encounter with objects that transgress frameworks and disrupt further investigation, hence preventing dynamic engagement and negatively shaping our epistemic pathways. This article is primarily theoretical, although partly grounded in qualitative fieldwork.

1. Introduction

Epistemic endeavors—exploring and engaging the world—are always more muddled than the stories we tell of them after the fact. The world is a messy place, and while epistemic practices in laboratories and from armchairs provide some sense of order and control, a focus on epistemic practice more broadly construed, and in this article on epistemic practice in the medical clinic in particular, reveals unruly elements in this endeavor. Objects offer themselves to us not merely as familiar or open to exploration, but also as adverse, hostile, or inaccessible, and these different ways of encountering objects shape our epistemic engagement with them. While scholars in science studies and philosophy of science have delved into the mysteries of the epistemic object and its intriguing promise of new insight (for example, Rheinberger 1997, 2010; Knorr-Cetina 1999, 2001; Landecker 2018), attention to what I will call *abject object relations* has been neglected. In this article I focus on medical practice to develop and explicate this notion as a relevant (and overlooked) type of epistemic object relation, as I think we, as philosophers, may learn something from clinical practice about how reality "shows up" in epistemic engagement with the world.

This article is theoretical in nature, but also draws on experiences and conversations from fieldwork carried out within medical practice. Specifically, I conducted fieldwork at a university dissection hall hosting courses training both medical practitioners (surgeons) and medical students (anatomical course), as well as at two surgical departments at large hospitals—all three sites located in Denmark. The fieldwork was carried out during 2019,

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and consisted of shadowing daily work as well as conducting both formal and informal interviews (for more thorough empirical work on this material, see Scott-Fordsmand 2021). In relevant places in this article, I add references to an appendix, which has short excerpts from my interviews and fieldwork notes.

The article consists of five parts. I open by introducing three different ways that I have found the body encountered in medical practice. I do not claim that these make up the full picture of medical practice, but they each cover important aspects of the epistemic element of medical practice. Second, I introduce the notion of *object relations* already developed by Karin Knorr-Cetina, and recount the two types of object relations that she has described as present in scientific practice. I map these onto medical practice. I then turn my attention to the third kind of encounter—abject object relations—and suggest this as an addition to Knorr-Cetina's taxonomy. To unfold this notion and expand on a philosophical framework for the three types of object relations, I draw on French psychoanalytical philosophy. Fourth, I address the narrative that medical professional habituation should aim toward absence of emotion (for example, doubt or horror): I dub this the "lacking habituation hypothesis." Finally, I sum up the three types of object relations matched with the three types of clinical encounters, and expand on how the abject object relation may have epistemic relevance.

A fundamental presupposition of this article is that I consider medical practice an epistemic practice. It should be noted that by "medical practice" I do not mean elements of medicine typically considered scientific such as (bio)medical research or randomized controlled trials. Rather, I take my point of departure in clinical and educational practices within the medical profession, characterized by the common task of clinicians, students, and clinical researchers of exploring specific bodies, or groups of bodies, with the aim of finding out what goes on inside them and how best to intervene. Firstly, medical practice has a long and rich tradition as a knowledge-based practice—characterised by Knorr-Cetina as of epistemic relevance (Knorr-Cetina 2001, 186)—and a scientific frame of mind is pervasive in clinical work and completely entangled in the everyday doings of hospitals and medical education. However, I think clinical practice can also be characterized as epistemic in a more immediate sense. A fundamental component of clinical and educational practice is a quest for answers, whether scientific, diagnostic, or therapeutic. If we allow an approximate definition of epistemic practice—broadly construed—as a practice that investigates or explores certain objects, areas, or themes in order to obtain knowledge, I think we may even find that medical practice is, at its core, an epistemic practice.[1] In the particular epistemic engagement of clinical medicine, I take the human body, in a broad sense, to be the primary object of investigation.[2]

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[1] It is perhaps worth noting here that I am using *epistemic practice* as more inclusive than *scientific practice*. I am not, in this article, interested in saying anything about the nature or delimitation of science or scientific knowledge; rather, I want to say something about how we learn about the world through engaging with it, and the different ways that this may happen in medical practice. In a book chapter from which this article draws many of its points, Karin Knorr-Cetina talks seemingly interchangeably of "knowledge activities/practices" (2001, 185, 186), "epistemic practice" (2001, 185), "constructive practice" (2001, 185), and "scientific practice" (2001, 187). I use *epistemic practice* to indicate an activity that is aimed at obtaining knowledge (in a broad sense) through investigation, though this "investigation" might not strictly be considered scientific.

[2] I use the term *body* as a very broad denominator that does not necessarily have to come together into one well-defined concept, but rather works as an overarching term for the variety of materials and representations of the body that converge when medical practitioners explore bodies, including medical records, anatomical models, biopsies, medical imagery, and much more. As such, I use it in a sense that takes inspiration from and aligns with Annemarie Mol's notion of *the body multiple* (Mol 2002). I also use it in a nonreductive sense. It should not be read in terms of a Cartesian contrast to soul/mind/and so on, but rather as a phenomenological notion: the material manifestation of an embodied other.

In this article, I focus on epistemic object *relations* more than on epistemic practices or epistemic object ontologies (although these are of course to some extent inseparable). I differentiate types of object relations drawing from Knorr-Cetina's proposal to look at the relational rather than performative idiom of epistemic practice (Knorr-Cetina 2001, 185); that is, not merely at the goings-on, but also at the quality of engagement between the actors in the network, to put it in Latourian terms. Following a phenomenological tradition as well as ideas from history and philosophy of science, this focus is motivated by a wish to start with the interaction with reality rather than on either side of the subject/theory-object/world divide; that is, with experiences, encounters, and practices. In this article I focus on the relation between *practitioner* and *body* (as the object of investigation) in the clinical encounter.

2. Epistemic Object Relations in Medical Practice: Three Types of Encounters

In medical practice we trust medical practitioners to be confident in dealing with the human body, as they mainly are—even while varying their routines and prescriptions to fit the individual patients with differing symptoms, biology, life stories, and so on. Medical practitioners very often know what to do, or are skilled at either figuring it out, or asking for help from more experienced or specialised colleagues. Through various questions and tests, they sort between differential diagnoses or determine the next step, whether further tests or treatment. Much medical practice is made up of this procedural machinery: one patient body replaces another in an everyday smoothness of examining and evaluating. As such, the body is a rather unproblematic object in the daily practice of clinicians. It is the object of investigation but a very manageable one. Clinicians are, after all, professionals.

Sometimes a particularly strange or curious body may interrupt this flow by not behaving the way the medical practitioner anticipates. Perhaps an X-ray image reveals an abnormal or unfamiliar bone structure, perhaps the symptom cluster does not match any obvious diagnosis, or the physical examination does not add up with the patient complaint or with the medical images. The patient body becomes an occasion for reflection and uncertainty: it escapes attempts of defining and moving it neatly along the machinery, and instead becomes a motivation for further examination. Medical practitioners will lean in closer, look attentively, point or press to engage with the body, and debate with colleagues over coffee, or at the next morning conference, holding off judgment for a while (appendix, no. 1). Further tests are ordered, but unlike the tests prescribed in the routine case, where tests are yet another step in a procedure, here, the test results are anticipated with great curiosity and often with the clinician being continuously preoccupied by the case (appendix, no. 2).

Lastly, on rare occasions the smooth running of the clinical machinery is halted by something else, by bodies that interrupt the flow, but rather than drawing the medical practitioners in closer, they repel them, push them away. One case of this, recounted to me by a surgeon during an interview, was his encounter with a woman who was admitted to an emergency department stuck to parts of an armchair. She had sat motionless in the chair in her home for weeks, and pus from pressure sores, mixed with other bodily fluids had, effectively, merged her with the fabric so that she had had to be cut loose. Entering the room to examine the patient, the surgeon reported a strong reaction to the smells and an immediate impulse to leave (appendix, no. 3). Other practitioners reported similar reactions when encountering severely injured children's bodies, and medical students in the

dissection hall often had similar responses, for example, when the work became physical—such as when they were asked to use a manual bone saw to amputate the leg of a cadaver for anatomical dissection, or when they reached a point where the face of the cadaver was no longer recognisable as human (appendix, no. 4). Common to all these cases was the desire to leave. Stressing that he did not, of course, leave the room, the surgeon who encountered the woman stuck to, and merged with, a chair, explained that he managed to overcome parts of this impulse by turning to the list of things that he knew he needed to check in order to follow the procedure of treating wounds, and focused his attention on going over these (appendix, no. 5).

In medicine, bodies are encountered in at least three ways: as manageable bodies moved and moving steadily through the clinical machinery; as curious bodies demanding further investigation and invoking reflection and collegial deliberation; and as disturbing bodies inciting negative affect and a desire for disengagement. Both the smooth routine encounter and the encounter with curious bodies are often implicitly included as core elements of medical practice (for example, Upshur and Chin-Yee 2017; Stempsey 2017),[3] and linked to the ideal of *clinical detachment;* that is, staying affectively disconnected, mirroring similar ideals of objectivity in science (Smith and Kleinman 1989; Richardson 2000).[4] But as Knorr-Cetina (2001) argues, relationality (rather than detachment) may be central to epistemic as well as scientific engagement, and thus we find motivation to look more closely at various kinds of relations and their epistemic relevance. I argue that all three types of encounters described here are relevant, if we want to understand epistemic engagement in clinical practice, as the different ways of relating affects which bodies are investigated, in what ways, and with what frame of reference.

3. A Theoretical Account of Object Relations: Routine and Dynamic Encounters

As already mentioned, other scholars have worked extensively on the topic of epistemic practices. In this article I draw particularly on the work of Knorr-Cetina, who provides a theoretical account of the relational element of epistemic practices, spelling out differences in types of encounters and objects. From a critique of the classical notion of "practice" as somewhat unsuited for creative and epistemic practices, Knorr-Cetina differentiates two distinct types of object relations that are relevant in science: one that complies with the classical idea of practice as procedural routine, or goal-oriented doing (let us call this a *routine encounter*); and one that is more specific to epistemic activity, in which the object "acts up," challenges our conception of it, provoking us to examine it more closely (let us call this a *dynamic encounter,* for its invitation to further inquiry).

[3] While philosophy of medicine has recently undergone a turn to epistemology, literature dealing with concrete clinical practice is limited and thus these themes often remain implicit. Philosophy of medicine commonly maintains an analytical approach to epistemology, focusing on core philosophical concepts and their function in debates on medical evidence, such as knowledge hierarchies, diagnostic reasoning, and so on (Stegenga et al. 2017), or, on the more "continental" end, a phenomenological patient-oriented tradition of subjective experience (of gender, illness, disability, and the like).

[4] It is worth noting here that the notion of "challenging clinical encounters" (or similar formulations) has been dealt with to some degree in medical literature, but mostly in the context of angry, uncooperative or negative patients (for example, Groves 1978; Marcum 2015), not in the epistemic-material sense, which I am dealing with here.

For the *routine encounter,* Knorr-Cetina gives as an example the task of routine cloning (2001, 187);[5] that is, an activity or action performed after some sort of schematic process (2001, 184). Here, the point of the practice is consistency and repetition, "procedural routine" (2001, 187).[6] Even if the cloning activity is broadly about doing something to objects, about cells and DNA molecules, the practice is focused on the task rather than the object. Knorr-Cetina describes this situation as one in which the object or material involved in the practice becomes transparent to our doing (or ready-to-hand, in Heideggerian terminology) (2001, 187); that is, the object relation is in fact characterized by its absence—both subject/doer (scientist) and object/material (the concrete DNA) fall into the background of the experience: things are simply *done* with objects to obtain our results (2001, 187). Unless there is a malfunction, we orient ourselves *through* the material as a medium, focusing on the goal.

For the *dynamic encounter,* she gives as an example, and directly quotes, a scientist describing their work with a particular protein that has caused issues—it, the protein, "'is a bit more moody [than the molecules in cloning],'" (Knorr-Cetina 2001, 188).[7] From this we gather that sometimes the protein does as the scientist expects, but at other times, it does not—it surprises the scientist. What Knorr-Cetina takes from this is that the object steps into focus by getting in the way of the goal-oriented activity. The object loses transparency and is "no longer 'invisible'" (2001, 188)—it becomes present-at-hand, in Heideggerian terminology.[8] Now, objects cause problems in all sorts of situations, of course—most famously for Heidegger as (too) heavy hammers (Heidegger 2014, see §15, 16, 33 and 69-b)—and this is not specific to scientific or epistemic endeavors. However, the situation Knorr-Cetina and the scientist are describing is, importantly, not one of malfunction (of a tool being broken, or maladjusted for its purpose). Even if malfunction, instrument error, or failures in the experimental setup may sometimes be the initial explanation for unexpected results,[9] when practitioners (of science or medicine)—for one reason or another—decide to trust their setup and shift the surprise onto the epistemic object, the relation to the object—now encountered as partially unknown—becomes problematic in the manner of a call for involvement (the scientist deploys "relational resources" (Knorr-Cetina 2001, 188)). Rather than a malfunctioning hammer, the object—say, the protein—is revealed as an unstable (unknown) entity: as something that is not merely in need of fixing, but rather in need of investigation, something we can come to know more about and which can generate more/new knowledge. In other words, when the object causes problems and

[5] Knorr-Cetina does not specify what this practice entails, but in her book on epistemic cultures, there are detailed descriptions of a standard type of gene cloning, to which she is presumably also referring in this book chapter (Knorr-Cetina 1999, 146).

[6] In commenting upon a similar topic, Hans-Jörg Rheinberger points out that this is particularly the case when epistemic objects are not visible to the human eye but in need of preparation and mediation through instruments (such as in microbiology) (Rheinberger 2010, 219). Although the human body in the clinical encounter is of macroscopic scale, the problem of investigating the living body is exactly that we cannot easily look inside it (without causing damage to the system we are exploring), and thus often rely on different forms of mediation and generalized procedures.

[7] Knorr-Cetina is not the only one observing this type of anthropomorphism and emotive engagement in laboratory work (see, for example, Osbeck and Nersessian 2013).

[8] Knorr-Cetina only explicitly mentions the Heideggerian notion of ready-to-hand for the transparent relation, and notes that his account does not capture properly the relation of engaged non-transparency (Knorr-Cetina 2001, 190). I invoke the Heideggerian term here to emphasize the contrast, but also take care to resist the connotation of broken-tool that present-at-hand carries.

[9] Deciding between instrument failure and potential new discovery is a dilemma that has caused philosophy of science a great deal of agony, this issue being also known as (holistic) underdetermination. It has been addressed by a vast number of philosophers, including Pierre Duhem, Willard von Orman Quine, Karl Popper, Thomas Kuhn, Imre Lakatos, Mary Hesse and others (see Stanford 2017 for a detailed overview).

does not allow us to *do* something, we assume it is not because we used the wrong protein, or because this particular protein is a dysfunctional representation of its type (of course, we might want to check for this). Rather, in the *dynamic encounter,* we take the problem to arise because we do not fully know or understand the object, and our relation to it becomes one of dynamic engagement and attempts of new sensemaking. Knorr-Cetina calls this engagement a looping—encountering partial, indeterminate objects, and the instability this affords, creates the dynamic moment in epistemic activity.

Knorr-Cetina characterizes this object instability by drawing on Hans-Jörg Rheinberger's notion of *epistemic things,* as "any scientific objects of investigation that are at the center of a research process and in the process of being materially defined" (Knorr-Cetina 2001, 190).[10] Significantly, epistemic things are not just unsettled in the sense that we miss a certain piece of information but, rather, they continuously (insofar as we relate to them as epistemic things) reveal more questions and never-ending complexity. It is the continuous potential for instability and variability that allows new discoveries and surprises in science. The dynamic encounter puts the epistemic object into focus, not as a solid, well-defined object of which we are missing one bit of information, but as something in becoming, a process, a collection of projections. In Knorr-Cetina's words, in the epistemic encounter the objects reveal themselves as having a "lack of completeness of being" (2001, 185); that is, a lack that draws scientists in, engages them.

While I do not want to disregard difference between patient bodies and (other) objects in science, or say that bodies can properly be contained in the category of "object,"[11] I do think Knorr-Cetina's account can capture important epistemic elements of medical practice.[12] Her characterization of the routine relation to the transparent scientific object makes some sense of the activities in the routine medical examination. Even if the patient body is at the center of the physical examination, what matters in a "routine examination" is determining the diagnosis (or treatment plan). In other words, the body—as the object of investigation—becomes a medium through which we search for the diagnosis, the body itself falling into the background. Likewise, elements of medical practice translate into Knorr-Cetina's notion of a dynamic relation installed by an object (a body) revealing itself as not fully known. In difficult cases, when patient bodies do not make obvious sense to medical practitioners from their routine examinations, the bodies invite a whole array of investigative attempts, and step into focus by way of escaping our initial attempt to understand them. This stepping into focus very concretely leads to further clinical tests of the individual patient body, but may also—if indeterminacy is persistent, or the knowledge uncovered is in fact new—lead medical practitioners to write up case stories, or call for large-scale studies of this bodily phenomenon. As such, even if the routine clinical encounter

[10] Much like Knorr-Cetina's distinction between the transparent and the unstable objects, for Rheinberger the epistemic thing is given as a contrast to the instrument or the technique in the experimental setup, which has, so to say, stabilised enough to become transparent (Rheinberger 2010, 217).

[11] For one thing, patient bodies speak, and have opinions and preferences. Another difference to note here is that the exploration will often find its end more quickly in medical practice compared to strict scientific practice, and not be allowed to proliferate into never-ending questions in quite the same way. Patients have urgent needs that ask for a pragmatic attitude. This is also marked by the fact that the engagement with the epistemic object—the patient body—ends when the patient gets well, rather than when the medical practitioner is satisfied that they have understood. Hence, medical practice may be an epistemic practice, but not necessarily a scientific one. Many practitioners brought up this lack of closure as a challenge in their professional improvement—for example, seeing only few examples of patients with successful recovery where X-rays "look bad" because they rarely see any patients or X-rays of patients if recovery is successful.

[12] At this point I might add that even if Knorr-Cetina's taxonomy is stated as a general taxonomy for all epistemic activity, it is not her mission to eradicate differences and variations among kinds of epistemic objects or epistemic practices varying among fields and cultures, in fact she argues explicitly for the disunity of science (see, for example, Knorr-Cetina 1999, 2).

holds some degree of *detachment* (although, following Knorr-Cetina, it is perhaps better described as a forgetting of self and object), the dynamic encounter at least is not detached but engaged (see also Alfano 2017; Barbalet 2002; Morton 2009).

While Knorr-Cetina describes the second type of object relation as coming about "when we confront nonroutine problems" in epistemic practice (Knorr-Cetina 2001, 184), there are, as already pointed out, times when an object steps into focus in medical practice without inviting dynamic looping; that is, where the epistemic response is not one of curious engagement but, as described, one of wanting to get away. To make sense of this latter category, as contrasted to both the first and the second, I propose the notion of an *abject* object relation, or a disruptive encounter. The remainder of this article tries to make sense of this third type of relation by comparing and differentiating it from the other two.

4. Abject Object Relations: Expanding the Taxonomy

Let me clarify what I mean by "abject object relations." I take the term *abject* from Julia Kristeva's extended essay *The Power of Horror: An Essay on Abjection*" (1980 (Fr.)/1982 (Eng.)).[13] The word "abject" designates "the jettisoned object" (ab-jected, literally thrown or cast off), which thus is no longer object but exists in the dissolution of subject and object (Kristeva 1982, 2).The notion of the abject is crucially tied to boundary transgression;[14] that is, something that crosses a boundary not in order to situate itself firmly on the other side, but crosses without fully letting go and, in so doing, brings about a disruption or collapse of the very same boundary. An archetypical example of something abject is body fluids: we think of them as different from other fluids even when expelled from the body, because they maintain some remainder of subject through their spatial transgression from inside to outside (Kristeva 1982, 69).[15] By this transgression (boundary-crossing without fully letting go), they suspend the inside-me/outside-world border. Likewise, the human corpse is not merely a dead thing, but a thing that has transitioned from alive to dead without fully letting go of its subjectivity, maintaining some remainder of the living, and thus creating disorder between the categories of dead and alive (Kristeva 1982, 4).

An observant reader may note here that the term "abject object" technically does not make sense since the abject is not an object but an in-between, a transgression—something *other* that intrudes. I speak of it in terms of "object relations," however, in the same way as I do of the unstable "object" of the dynamic encounter (which is neither fully an object, at least not in the very direct sense of object implied by the transparent or the broken-tool relation), as they are both ways of relating to the "object of investigation;" that is, some materiality that we direct ourselves at, but which may be more or less well defined.

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[13] Kristeva refers to the use of the term in Georges Bataille, for his link of "the production of the abject to *the weakness of that prohibition*" (Kristeva 1982, 64; emphasis in original); that is, to the inability of the social order to fully maintain its exclusions. She also refers to the work of Mary Douglas for her work on formulating dirt and defilement as something "jettisoned from the '*symbolic system*'"—although not explicitly to the term *matter-out-of-place,* for which Douglas has become renowned (Kristeva 1982, 65; emphasis in original).

[14] The English translation of Kristeva's essay uses both "borders" and "boundaries" in different places (for example, Kristeva 1982, 3, 69). I use "boundaries" here for its more general sense, as well as for the normative implications it allows in English, which are fitting for the notion of abjection. In the original French version Kristeva uses both "*limite*" and "*frontière*," neither of which is consistently translated to one or the other (for example, Kristeva 1980, 11, 17).

[15] I once read the following example: Imagine your friend spitting on a sterile plate—now imagine being asked to drink/eat the spit from the plate (unfortunately, despite some effort, I have not been able to trace my steps back to the source of this, but the example works even without its intellectual origin).

The notion of abjection is tied both to disintegration or degradation (through transgression) and the act of something being ab-jected (cast/thrown off). Like the term *degradation,* the term *abjection* has a double meaning. Something can be abject but we can also perform the action—or reaction—of "abjecting" that which is abject. In other words, abjection as a noun covers both the naming of an action (verb: abjecting ~ degrading)—that is, abjection as a name for the action of abjecting—and a predicate (adjective: x is abject ~ degraded)—that is, the abject or abjection as a name for something's being abject. Contrary to *degradation,* however, where the adjective (degraded) is a consequence of the verb—something becomes degraded when someone degrades it—there is a dissonance and an inversion of order in the pair of abject-abjecting: the action of abjecting is an attempt to negate the abject, a reaction of covering up or rejecting something's *being abject* (see Kristeva 1982, 13 for both uses). The abject is a quality that provokes a strong desire to abject it, and abjecting is that which, if successful, conceals this quality or the thing that has it. The abject is thus simultaneously a thing that transgresses, invades, and with this, the collapse of (material) boundary (disintegration/decomposition), and also the provocation of a desire to physically detach or remove oneself from that thing (to materially separate) in the very attempt to maintain or uphold boundaries. In the definition of the abject, both meanings are necessary—there is no abject thing that does not provoke a desire to abject: if there is no such desire, the thing ceases to fit the category of the abject (much as it does not make sense to say that something is frightening if it does not provoke fear). I focus mainly on encountering the body as being abject; that is, performing disruptive transgressions, but it is important to keep in mind that the notion of abjection covers both the meanings of abjecting (separation) and the abject (disintegration).

Kristeva's notion of abjection developed as part of a material/semiotic critique of Lacanian register theory,[16] and his notion of the *nom-du-père* (the *No* and the *name* of the father; much like Heidegger, Lacan was a fan of phonetic wordplay) (Kristeva 1982, 13; Oliver 1993, 48). While we should not lose ourselves in Lacanian philosophy, a small digression along this path will help to clarify the connections between psychoanalytical theory and Knorr-Cetina's two categories as well as how the notion of the abject object relation relates to and differs from these.[17] For Lacan, the *nom-du-père* is what instates the formal level of reality; that is, the Symbolic order (Hyldgaard 1998, 50). Naming is what ties together categories and being, putting an object into a specific typology (for example, *this* is an apple). Naming, in this sense, is simultaneously *meaning ascription* and *prohibition* (Rasmussen 1994, 53, 238). Note that names are always partial—always names within some framework (an apple is also "fruit," "a certain composition of molecules," "a semi-solid thing," and so on). I understand naming here in a very broad sense, as something that can also come about through practices; that is, not something strictly tied to nouns.[18] For example, repeatedly putting apples in pies "names" them as a suitable "pie ingredient." If one day we put apples in a pie and it tastes awful, we might suspect the apples were off. If one day we realized apples were delicious as salted crisps, we might be surprised and start experimenting with apples in other dishes. Likewise, when a protein "acts up," it is because

[16] *Register theory* is the term used to refer to Lacan's idea of the three registers the Real, the Imaginary and the Symbolic. Codependently—sometimes referred to as a Borromean knot (Johnston 2016)—they make up a dynamic reality by both supporting and challenging each other. For a more thorough treatment of the registers, see Johnston (2016).

[17] I should make it clear that venturing into psychoanalysis in this context is by no means an original idea—both Knorr-Cetina (2001) and Rheinberger (1997) draw (although cautiously) on Lacanian thought in their theoretical development.

[18] I take this interpretation from the Lacanian understanding of discourse as made up of word, act/deed, and practice (Johnston 2014, 75).

it resists its named place, so to speak, even if this has not yet been given an actual name: if no noun-phrase other than "protein x predicted to act such and such" exists.

Simply put, language, law, and culture regulate and systematize the world through arranging and placing categories in specific relations.[19] Naming, or the Symbolic order, instills a difference (the *No* of the father), cuts or carves out and bars (prohibits: No!) from other possible meaning (Hyldgaard 1998, 54). For example, naming the mass of molecules in your hand "apple" carves it out as different from "pear" or "beef," barring it from both those categories, much like naming a knee pain "osteoarthritis" carves it out as different from (and not!) unspecified knee pain or an anterior cruciate ligament (ACL) rupture. The name orders one thing as *something* separate from another. While naming carves out limits (bars), it also bestows meaning. Naming ascribes identity: the who or the what to reality. Literally, the name of the father was traditionally the surname, our official identification, ascribing our place in society and bestowing upon us certain traits. Osteoarthritis is not merely different from an ACL rupture, it also has specific ("positive") traits.

It has often been pointed out that the Lacanian Symbolic order, or the notion of the *nom-du-père,* embodies (almost hyperbolic) structuralism (Johnston 2016, §2.1; Hyldgaard 1998, 50); however, it is important to remember that the Symbolic does not stand alone in Lacanian register theory.[20] In Lacanian thought, naming (as bestowing a certain meaning and barring from others); that is, categorisation, always creates a certain *misrecognition* (in Lacanian terms, *méconnaissance*). This is because names are based in the imaginary presupposition of unity—a presupposition that Lacan implies is not in accordance with the Real, the material (Johnston 2016, §2.2). Naming forces a systematic and rigid structure upon a reality that is always more complex, entangled, nuanced, specific, and expanding than our categories, concepts, and words can capture (in other words, names—or imageries—are always partial). It is the notion of misrecognition that creates the movement and mobility in language, and also situates Lacan in a realist's concept of science (and beyond structuralism) (Zupančič 2017, 78): taking the encounter with the Real, which betrays our categories, to be a dynamic driver of science.

As it turns out, Knorr-Cetina's distinctions can be read along a Lacanian framework. Her description of the epistemic thing—which also draws on the notion of naming (she does not explicitly reference Lacan here, but does in other sections of the chapter) (Knorr-Cetina 2001, 193)—designates these relations of misrecognition as the encounter with things as objects with a "non-identity with themselves" (Knorr-Cetina 2001, 185 191 193); in other words, things for which we become aware that the name is a misrepresentation (Knorr-Cetina 2001, 194), or that the thing to which we gave the name is not the object we made it out to be (she also refers to this as a lack of "object-ivity" (Knorr-Cetina 2001, 191)). This misrecognition reveals itself when we encounter the Real as something that breaks and escapes the prohibitions of our categories. Think, for example, of the symptom cluster that does not match any diagnosis. It should be mentioned here that diagnoses have various degrees of precision, and many encounters in the clinic offer bodies that demand a certain flexibility from medical categorization. There is, however, a difference between clinical encounters that demand category flexibility and those that initiate dynamic looping, in the

[19] Note that Lacan argued against a nominalist reading of his work (Johnston 2014, 65)—naming, or the Symbolic order, does not merely epiphenomenally systematize the world (in abstraction). Names have real effect in reality and come about through continuous resistance from and dialogue with the Real. For a more expansive elaboration of Lacan's register theory and Lacanian ontology, see, for example, Austin (2011), Hyldgaard (1998) and Johnston (2016).

[20] It is not within the scope of this article to defend Lacanian register theory, but it is essential to grasp it properly if we want to understand the notion of abjection.

sense of revealing a lack of proper category. Whether this difference is one of essence or degree is not pertinent to the points made here.

Naming in scientific practice is stabilizing, "punctuating the flux" of the ever-proliferating meaning-making activity of engaging with the epistemic thing (Knorr-Cetina 2001, 193). Naming is making into instrument, making transparent. But when identity breaks down (when we discover misrecognitions, the messiness of the Real), the epistemic thing emerges, and we encounter a complex reality in the form of lost object-ivity, a lacking name. When identity (a name) is given, the object can become transparent. Thus enlightened about the Lacanian framework and its potential unfolding in the context of epistemic object relations, we can now return to the notion of the abject and abject object relations.

As with naming, we can understand abjecting (covering up the transgression) as an action, but abjecting—relative to "naming"—is not symbolically or linguistically carved out. Rather, in the words of Kristeva scholar Kelly Oliver, it is a form of "material negation" (Oliver 1993, 3): materially separating, moving away from. Rather than being symbolic it is—in a Kristevean term—semiotic (Oliver 1993, 4), meaning that it is first and foremost about movement, body (but not, however, devoid of meaning). Whereas naming breaks down when reality shows up as not fully captured/understood by our categories (resists our activities), abjecting breaks down when materiality transgresses our boundaries. *The abject* thus takes on a sort of agency: it is active, it *moves* (crosses) rather than *is*. It is invasive, not merely resisting our approach but transgressing our boundaries. Unlike the order of *naming* or *abjecting*, which rejects or distances to (re-)establish order, the work of the abject (that which *is* abject) is what Konstantine Georgelou has called a *negative performative* (Georgelou 2014, 31), an intrusive lowering and active undoing of taxonomy. While objects with a nonidentity with themselves (for example, curious bodies) affect the breakage of their own naming—in Lacanian terms, when the Real shows up as lacks in elements of the framework—abject objects invade the entire framework: the transgression of the abject and the disruption it entails, intrudes on our personal space, creeps under our skin. The woman merged with the chair transforms not only her own body but also the entire situation into something that is *too much,* and the roles of actor (professional/medical practitioner) and object (object of investigation/patient body) are inversed and upset. It is in this undoing, in the "negative performance" that we find *the power of horror*.

I have suggested that in medical practice there are at least three relevant types of encounter. Both curious and abject objects are opposed to transparent, stable (unproblematic) routine encounters. They both resist goal-oriented activity. However, there are crucial differences. In the first case, the breakdown is caused by the discovery that our names are lacking (and in a Lacanian register theory this continues to happen in any epistemic practice because names are always misrecognitions). With the abject, on the other hand, the breakdown is caused not by the need to expand or reformulate a name but by a disruption of category boundaries, of the framework itself, brought about by a material negative performance, an active undoing more than a reluctance.

Hence, the body-as-transparent is a body that allows unproblematic, goal-oriented activity. The body-as-misrecognized shows up as messy reality, through breaking open our naming, as an object of nonidentity with itself, or rather as a promise for more (ever-new partial names). Knorr-Cetina talks about an "unfolding ontology" (2001, 196). In the case of the body-as-abject, however, there is no promise for more, only undoing and an urge to expel (abjecting). When medical practitioners encounter disruptive bodies, they are not invited to look closer. The body steps into the focus of the practice in a way that shuts down the system of reference and urges the medical practitioner out of the epistemic practice or

epistemic framework. However, as we saw in the case of the woman merged with the chair, the response is not necessarily that of making physical distance but can also be that of a stricter enforcement of order (focusing on lists).

It should be noted that abjection—as well as any object relation—is always linked to both the reaction and the object: it is what happens between the practitioner and the object of investigation. Thus, being abject is not a fixed property of any physical thing but a mode of encounter. The corpse, for example, is not per se abject, but can be and *is* encountered through all three object relations described here during clinical practice, training, and anatomical dissection.[21] As with the moment that sets off the difference between the stable, transparent object and the dynamic encounter, the abject relation comes about as situated and embedded and can vary depending on a whole range of factors. The abject is exactly relational. Whether the epistemic object becomes unstable or abject depends on how we interact with it, and within what framework we approach it.

5. Addressing the Lacking Habituation Hypothesis: Routine, Frameworks, and Surprise

As already suggested, medical practice is sometimes framed around the ideal of clinical detachment. Anatomical dissection, for example, is viewed as beneficial not only for anatomical knowledge but also for clinical acclimatisation (see, for example, Walter 2004; Francis 2001), teaching students to remain detached, and hence (it is understood) objective in the face of situations that normally would be viewed as horrific. In fact, while doing my fieldwork in the dissection hall, it was often understood and narrated by teaching staff and gatekeepers that I would witness the students' path toward objectivity of this kind.

As pointed out, however, epistemic engagement may be better described as "different ways of relating" than as "detached." And, in fact, what I observed in the dissection hall was not a smooth progression from horror to professional immunity but something much more fluctuating.[22] While most students had an initial hesitation (caused, they explained, equally by moral and professional uncertainty, this being the first time they were actively asked to intervene in irreversible ways on human bodies (appendix, no. 6)). Many of them rather quickly found a routine rhythm, using the bodies as tools for their theoretical anatomy learning. Sometimes, specificities of the bodies, such as pathology, biological variation, or mistakes made in earlier phases of the dissection, would demand that they pay attention to the specific body allocated to them, leaning in closely (disregarding the smell for the sake of understanding). Sometimes something would trigger an abject relation—such as the manual sawing, or facial disintegration mentioned earlier.

It is, of course, obvious from the central role of habituation in routine that habituation will play a significant part in any practice in terms of our object relations, including epistemic practices. However, what I wish to address here is the idea that horror or abjection is *merely* a matter of lacking habituation, and that horror or abjection is something that can—and should—be done away with. Let us therefore briefly dwell on the relation between routine, surprise, and epistemic framework.

As already stated, I take medical practice to be an epistemic practice insofar as it is an investigation of bodies in order to come to some knowledge of what is going on and how to potentially intervene. The reason, I would argue, that this is not only the case for medical

[21] While some things/materials may lend themselves more easily to abjection (such as corpses and (some) body fluids), they are not in and of themselves abject, and potentially many things may be abject.
[22] Similar indications have been observed in other studies—see, for example, Tseng and Lin (2016).

research but also for its practice is that bodies are never fully determined. As knowledge grows throughout the professional practice, medical practitioners will, of course, expand the scope of routine encounters. Whereas the novice may find even well-known cases in demand of focused attention, experienced practitioners will often find themselves relating through goal-oriented activities. This does not mean, however, that expert practitioners never come across curious bodies as promises for more (to be gained from investigation); just as we do not assume that Knorr-Cetina's moody protein case should be explained by inexperience of the researcher. The instability of epistemic objects is not a matter of lacking expertise. Sometimes, even the best medical practitioners come across bodies to which they will need to pay particular and explicit attention—herein lies the epistemic nature of the discipline.

Following this, I wish to counter the narrative or intuition that I call the *lacking habituation hypothesis,* the idea that abject object relations can be explained as merely a lack of habituation and reduced to a matter of lacking experience or professionalism; and following from this narrative, that this type of object relation will disappear with experience/exposure and expertise.[23] Abjection is about boundary transgression, and thus we may think of abject object relations as potentially present in any setting that operates with boundaries (for example, categories). When there is a framework, there is potential misrecognition (instability, dynamic looping) but also potential transgression (abjection). Habituation and routinization do not get rid of either. While habituation may strengthen the framework and allow more flexibility in its application of categories—gradually encountering a varied range of bodies that fit into these, becoming better acquainted with and gaining confidence within the framework—categories can still be transgressed and threaten framework collapse. While the abject object relation may become rarer with experience,[24] just as the instability of objects may, what is common across the reactions of the medical students, the medical practitioners in training, and the lead surgeons I followed in my fieldwork is that when the abject object relation comes about, it is as a sudden and urgent pushing away from engagement with the object (abjecting): a resistance to routine or transparency in the form of shutting off (not in the form of promise).

It may be worth noting here that along with a decrease in frequency of instability of one type or another, we often also associate expertise with smoother moves between dealing with known and unknown objects (for example, Braude 2017, 703). For example, when dealing with a moody protein in a biology laboratory, scientists will often find strategies of engagement by talking with more experienced or specialized colleagues (Knorr-Cetina 1999, 106); likewise in medical practice. Neither habituation nor professionalization is a matter of getting rid of encountering the unknown, but rather a question of broadening the field of the known, as well as finding ease in occasional instability. Perhaps professionalism (and habituation) in terms of disruptive encounters are likewise not about training detachment, nor about remaining only in the transparent (routine) object relation, but rather about expanding the range of framework-included bodies *and* of finding ease in certain strategies when disruptive bodies threaten framework collapse. I expand on these strategies in my closing remarks.

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[23] I want to thank the History and Philosophy of Science and Technology (HPST) group at Aarhus University for a helpful debate on the role of this intuition in the article when I presented an earlier draft at their research seminar, not least for coining the term "habituation hypothesis," which later—with the help of an anonymous reviewer, developed into the "lacking habituation hypothesis."

[24] In a more quantifiable study Linda M. Isbell et al. (2020) find that while uncomfortable encounters do decrease as practitioners gain experience, they are present throughout the career of medical professionals.

6. Closing Remarks: Why Think about Abject Object Relations in Epistemic Practices?

Let us shortly recap (again) the different epistemic object relations as presented in this article. Following Knorr-Cetina, I differentiate, first, objects that are transparent in our routine, goal-oriented activity. These constitute an unproblematic relation to the object in the encounter and align themselves with classical views on practice. Various routine questions are asked, routine tests can be carried out, and most of the clinical encounter is spent conveying information to the patient and reaching agreement on the treatment plan (goal-oriented). Second, there are epistemic things that we encounter as a promise for more when they break routine because of their instability, an instability or nonidentity with themselves, which invites a dynamic looping through these objects toward new questions and more knowledge. These constitute a problematic relation to the object as something that steps into focus by its "lack of completeness of being," and asks us to know more. We could formulate this as the epistemic moment in scientific practice. Perhaps surgeons regret not having done further tests while they had the patient (body) there with them, ruminating on potential explanations for strange symptoms; perhaps they hold off on further planning in order to seek consultation from colleagues, and rather schedule follow-up calls or appointments with patients. Departing from Knorr-Cetina, I add a third object relation, encounters with a disruptive materiality that closes itself off as abject, urging the action of abjecting. This relation is problematic and also places the object—or material—in focus but as something that intrudes, transgresses category boundaries, and causes the collapse of our framework. A woman merged with a chair urges the surgeon to leave the room, a disintegrated human face makes anatomical orientation impossible for a medical student. This type of problematic object relation is not—like the looping—one that leads to more knowledge. However, I want to argue that it is epistemically relevant.

Perhaps quite trivially one could argue from completeness: that as much as an account of epistemic object relations in medical practice depends on the "epistemic moment," it also depends on an account of routine practices, because medical and scientific practices are full of routine; so, likewise, it depends on a proper account of abject object relations, because these occur and make up part of this practice. However, more than just being present, I wish to argue that an account of abject object relations is relevant because this type of relation may have significant effects on the epistemic practice—an argument from effect, so to speak. Even if at first it may seem that the first and second relation—the well-understood and the curious body—make up the epistemic sphere of medical practice, disruptive bodies are also epistemically relevant insofar as they make our relation to the epistemic object one of *shutting off*.

The obvious effect of the abject encounter is complete disengagement—leaving the room. This may result in certain objects never being investigated. While the paths of science and of epistemic practice in a broader sense may be seen as shaped by epistemic things—by objects that step into focus revealing lacks in our knowledge and promising more if we delve into them—I think we might want to consider whether objects that step into focus urging toward closing off (abjecting) also play a negative role in shaping these paths. In other words: perhaps epistemic practices are shaped as much by objects closing themselves off as by objects unfolding.

However, when the body becomes abject in medical practice it is not easy for medical students, medical practitioners in training, or lead surgeons to simply distance themselves from it, to abject it, as it is their primary professional object, and complete disengagement is rarely possible or acceptable. Apart from complete disengagement, then, I suggest the abject object relation may bring about one of two other effects: either enforcing the given

framework and closing off certain paths of exploration, or bringing about framework shifts, breaking open the discipline to different ways of capturing and making sense of the world.

On the one hand, abjecting—as we saw with the surgeon's encounter with the woman merged with the chair—may lead to a rigid application of the already given framework, strict focusing on a list of criteria and a deliberate exclusion of anything that does not fit into already given categories—abjecting, not by distancing, but in the form of enforcement of symbolic control. However, the abject object encounter is not always followed by a successful exclusion (abjection), a successful covering over and rejection of the abject. Instead, in the field, I noted a different strategy—framework shifts: medical students seeking me out during the amputation to talk about existential and ethical issues, such as the relation between person and body; medical practitioners in training reflecting on social inequality and bodily ownership/autonomy; or lead surgeons reflecting on behavioral norms and risk. While the abject object relation thus pushes the practitioner away—in opposition to the epistemic thing that pulls them in and focuses their gaze—it is not necessarily a push away from the object (in abjecting it) because this is not always possible either physically or symbolically, but may instead be a push out of their framework, allowing them to reflect on and relate to other possible frameworks.[25] The (epistemic) power of horror thus becomes a power of gaze-direction, containing the negative power of complete disengagement, or the double potential of both framework enforcement and framework openings. All three strategies—disengagement, enforcement, or framework shift—may be employed in a variety of combinations throughout medical practice (for example, leaving the room to take a break, and then returning with a stricter focus on wound care). However, they share an initiation by the framework disruption of the abject encounter and are all different from the leaning in and engagement brought about by the dynamic encounter, and the transparency and ease in the routine encounter.

As a final remark, I want to raise the question of the scope of this article. While Knorr-Cetina's chapter aims to point at object relations present in all kinds of epistemic practices included in day-to-day work in knowledge professions, my analysis takes its point of departure in fieldwork in medical practice. A practice that deals with inherently ambiguous "objects;" namely, bodies that are both objects and subjects (patients/concrete human beings). And while abjection is not inherently tied in any particular materiality and, as I note in section 4, theoretically could occur in any setting where category transgression is possible, human bodies and human materials tend to transfer more easily to abject relations. As such, it is unclear whether this type of object relation is distinct for the medical practice as a practice that takes the human body as its epistemic object, or whether a similar or parallel type of relation would, for example, occur in other biological sciences such as veterinary science or molecular biology, or even in epistemic practices in nonlife fields, such as physics or mathematics.[26] While I think there are important and crucial differences

[25] Readers' thoughts may begin to wander towards Thomas S. Kuhn's distinction between normal science with (potentially complex) puzzle-solving within settled paradigms and revolutionary science with sudden collapse and paradigm shifts (Kuhn and Hacking 2012). However, I would resist such a reading, as I think it is unclear whether the open proliferating engagement with the epistemic thing in the unstable encounter can be justifiably reduced to single-paradigm puzzle-solving, and also I do not wish to claim that abject encounters are grounded in theory anomalies. I do not think we can properly describe the abject as something that poses a challenge for the theory, as it does not so much challenge as simply undo. It is not a data point that we cannot explain, but a material encounter that encroaches on us and breaks our attempts of organization.

[26] Kirsten Hyldgaard implies that something that sounds at least similar to some of the situations I witnessed, or stories I was told, in medical practice, was the case in the formulation of imaginary numbers in ancient Greece (Hyldgaard 1998, 58). However, being unfamiliar with the historical sources and relevant cultural and scientific differences, I am unable to evaluate whether "abject object relation" is an appropriate term for this mathematical case.

between these practices with regard to their objects and object relations, it may be that the abject object relation is present in other epistemic practices, but is particularly clear and emphatic in medical practice. This, however, remains to be examined more closely by scholars familiar with the fields in question.

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Appendix: Field Excerpts

1) Example, interview. Recounted to me by a surgeon in training when asked if she could tell me about strange encounters:

   "There was a girl who hit her hand [...] she had a couple of fingers where, when she made one movement, it worked, and then when she tried another movement, it didn't. And this didn't make any sense in terms of the injury she had on her nerves and muscles and such. So, we thought that was odd, and we [surgeon and patient] actually laughed a bit about it [...] we ended up getting the opinion of a hand surgeon."

2) Example, fieldnote excerpt. Following a lead surgeon in the outpatient clinic:

   Patient has difficulties lifting her arm. Surgeon examines her and shows her that if he presses her shoulder down, she can lift the arm [indicating there is no ligament rupture]. He scans her and there is nothing wrong to see in the joint. He explains that he can't help [...] when she leaves surgeon says [to me]: "I don't know about neck patients, but with shoulder patients I see right away what it is." His sense is that this is a strange case, adding that maybe this is a functional thing [a symptom in the extremities originating in the central nervous system]. He starts to write the records, and I write notes. Then he says, "There is something called angel wings" and explains what this is but adds that it didn't seem like this (clearly still thinking about differential diagnoses). There is silence while we both take notes. Then the surgeon turns toward me, "It annoys me a bit, you get scared you overlooked something" [...] More time passes in silence. He then says neurology is a bit of an obscure area for him, but he is still thinking about whether he checked the right things to see if it was a nerve thing.

3) Interview. Asked to describe how he felt with the patient, the surgeon in training replied:

   "Well. I think my head tells me you need to get out of this room as quick as possible, because there is something unpleasant here. It is difficult to have a long conversation. [...] I think it's always worst just when you enter. The first impression. Mostly the smell. And then the first examination [...] when you look at those huge sores, the first look where everything looks very chaotic, until you gain orientation."

4) Fieldnote excerpt. While observing the students dissecting at their anatomical dissection course, I noticed a student sitting passively next to the dissected body and asked her why she was not working:

   "I just think it's too much," she says, adding that she thinks it is too macabre for her to focus on finding those structures. "It's also because you cannot see anything … then you can see 5 cm of this, but where does it come from and where does it end… somewhere in there. So you just sit and say, well, but it's probably this one…"

5) Interview. When asked if he did leave the room, the surgeon replied:

   "Well, typically there are other people there, looking at you. Nurses or family, so you can't just leave. But I don't know, it's also an acknowledgement of the fact that we need to do something for these patients, otherwise they will die sooner rather than later. And that's not how it should be. Somehow they have asked for help [...] Then

you start going through your list with things you need to remember and then it disappears a bit, the shock of how gross it is."

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6) Example, fieldnote excerpt. Observing the students in the very first minutes of the first day of the anatomical dissection course:

   The students stand around looking at books, each other, hesitating. "You don't know where to start, you don't want to do something wrong," one of them says. The first one to touch the body is the instructor. The students have written lists of what they have to do, and watched a video explaining all the technicalities, which they can recount perfectly. In spite of this, they tell the instructor: "We are just uncertain about how to start" as an implicit request for help. "You don't want to ruin anything," a student says about why it is difficult to make the first cut.