

“Material Semiotics of Halal”

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If for hundreds of years Muslims prepared their own foods and ate them, prefaced with a blessing, in recent decades there have arisen formalized procedures to determine whether or not a product is *halal* (“admissible”) to Muslims.

Here I explore two different logics pursuant to proving that a consumer good is halal. First, a network of procedures and mechanisms (or *dispositifs*) are intended to demonstrate or perform a product’s halal quality. These mechanisms provide demonstrations of a sequence of steps taken to assure purity. Because certifying substances as halal is sufficient to constitute them as halal, they can be said to be *performative* of halal quality. This proposition would mean that declaring something as halal resembles declaring some people as married—or that, as in Latour’s laboratory studies, a molecule has such and such properties.

But completely independent of these mechanisms are debates and declarations about material substance. These debates revolve around the question of how a substance can change, or, more precisely, what do we mean by declaring that a substance has changed its nature? The standards of proof and notions of materiality about substance changes involve reference to chemical and genetic properties, and hence cannot be subsumed under the performative quality of halal declarations. I draw on recent ethnographic work in Britain and Indonesia. The broader research project involves study of local ideas about verification, formal audit systems, and the increasingly intertwined cross-national trade in trust, based on work in six countries.

An Epistemological Crisis

For many of us, eating has become a more global, and hence more complex affair, marked by greater attention to provenance and purity. For Muslims this often means trying to determine the halal status of a consumer good. New audit bodies have arisen to test consumables for their halal status. Among factors pushing for these formalized procedures have been anxieties over provenance and purity on the part of many Muslim consumers, desires to penetrate new markets on the part of producers (most of them non-Muslims), and the creation or adaptation of new technologies of governance and verification. High and increasing demand for exporting halal foodstuffs has given food industries strong economic motivations to find credible agencies to declare products as halal. Out of these ventures have grown a set of “best practices” for detecting sources of pollution. These include direct inspection of physical plants, testing for indices of (potentially polluting) meat residues, and reliance on a diverse array of halal inspection services that may (or may not) trust each other’s findings, materialized in the form of certificates.

We can see these material guarantors of the halal quality of a product as forming an assemblage, a term used here to designate a coming together of mechanisms and entities in a particular space and time. In the case of halal epistemologies, the assemblage includes intentionally generated and often formalized mechanisms, private or public, national or global, in each case designed to ascertain halal quality. These mechanisms include the development of software designed to trace the chain of processing and purity upstream from retail shop or consumer to an earlier point in the production of an article. They also include tests designed to detect trace elements of elements considered not to be halal.

In the rest of this paper, I set out the processes by which these new institutions work. I draw on recent conceptual work by Dodier and Barbot on the concept of *dispositif*. Dodier and Barbot propose a “processual approach” to *dispositifs*, an approach that lends greater analytical specificity than does assemblage. They give the following exposition of the term for such a processual approach:

un enchaînement préparé de séquences destiné à qualifier ou transformer des états de chose par l'intermédiaire d'un agencement d'éléments matériels et langagiers.

This conceptualization points toward arrangements with stipulated sequences that transform conditions by way of a specified articulation of material and discursive elements. For our purposes, the dispositive becomes clearest at moments when actors seek to audit or evaluate the procedures designed to test or perform the halal quality of something, and then to state that such-and-such a production facility, or means of transport, or retail shop has maintained the halal quality of the produce. These anticipated outcomes mean that the auditors must ascertain what all the ingredients are, whether upstream audits are reliable, and look for potential external sources of pollution downstream along the chain of production and distribution.

These agencies themselves have developed ways of assuring Muslim consumers and importers that a product is indeed halal. They work with producers to create software that records the steps taken by an article, such as a kind of cheese or potato products, or beef products. This upstream tracing requires an auditor to select products, determine the level of risk for each, and then continue to trace upwards to the point where they attest to the certification by trusted agencies, whether the same auditors, or other agencies that are trusted to have followed auditing steps with corresponding seriousness. The tracing “works”, that is, successfully *performs* the halal quality of the article in the eyes of consumers, producers, and exporters/ importers, in part by way of audit services testifying to the reliability of each other’s procedures, and in part by the very fact that these “table audits”, as some call them, follow a relatively uniform line of investigation.

I thus add to the concepts of assemblage and dispositive that of *performative*, whereby the declaring or pronouncing of something as halal, after the procedures dictated by the dispositive have been completed, suffices to give it that status. Performativity is much more than performance. Performativity points to a change in status; performance the rendering salient that status. For example, we may look at performances of halal status subsequent to that status having been granted, as when a retail shop exhibits a certificate of halal. The certificate traces its legitimacy back to the finding by a chain of audit services that the product is halal.

But software and certificates cannot guarantee that within the client’s walls there are not new sources of potential contamination. So, the auditors also visually inspect the plant, looking at where pork material are stored, how often soaking tanks are cleaned, and whether the numbers on tags attached to wrapped products link the article in question to a particular batch shipment. If the table audit presents an impressively sequenced series of halal certificates, the shop-floor inspection deals with the material realities of the articles. Both approaches must agree for an audit to be successful.

Ordinary Muslim consumers of foodstuffs may express doubts about the halal quality of what they buy and what they eat. These doubts are fed by periodic public scandals, about horsemeat or pork finding its way into what was sold as halal meat, and worries about porcine pollution, for example in gelatin capsules, toothpaste or seasoning. In some Muslim-majority countries the rise of imports, particularly from China, has sparked these fears. For Muslims who living in countries of relatively recent settlement, such as in Western Europe and North America, it is rather the sense that local food producers and distributors may themselves not be Muslims and would not know how to properly prepare foodstuffs. A third party auditor provides a potential source of certainty and ease, both for Muslims living in Leicester or Leiden, and for those living in Lahore or Kuala Lumpur.

So, the trend toward formalizing and auditing procedures is due to immigration and uncertainty about purity in new settlements, on the one hand, and large-scale international trade and anxiety about standards, on the other. (Let me emphasize that these concerns are hardly unique to Muslims.) Global movements of goods and of peoples are the mirror-images of each other in this (relatively recent) topography of doubt and unease. These specific anxieties also exacerbate fears about alien components of society: about the Chinese in Southeast Asia, for example, and about Muslims in Europe. Food anxieties reinforce fears of other people and add a new component to those fears, that these aliens are tricking us into eating that which we should not eat. “They pollute our beef” or “they force us to eat halal”! These fears strike at the core of our being.

Most of the time, the answers to these anxieties lie in interpersonal networks. Either the family has frequented a particular butcher for many years, or a newcomer is seen to worship daily in the local mosque. Piety, ethnic or country ties, or a quick judgement made of the butcher's character, these suffice for most. And after all, God does not make life difficult for His people.

But if that works for the butcher, and for the mutton or beef that he or she sells, it is a bit harder to decide whether the toothpaste or cheese for sale in the local shop is fit for a Muslim consumer—nor is there reason to expect the local shopkeeper to know this status. Furthermore, many local consumers frequent supermarkets, or shop somewhere else than in the neighborhood. And what works for local consumers does not work so well for export firms, where the pressure for greater assurance about the halal quality of a foodstuff is at a much larger scale, and has led to calls for more standardized and formalized tests.

Performatives

One might think that trust ceases to play an important role once appropriate halal dispositifs become available. Nothing could be less true, for two main reasons. First, certain purchases continue to draw on networks of trust, as before. What we can call “local trust” continues to shape how most Muslims think about halal. This trust grows out of interpersonal, local ties, which sometimes rest on the performance of piety, say by the butcher or shopkeeper.

But when such local ties are unavailable, then new procedures are needed. Auditors also must decide at what point this upstream tracing has completed its mission. As demands for proofs of purity grow, so does the difficulty of choosing (and justifying) any particular cut-off point for such tracing. The issue remains one of trust, but trust requiring new proofs. Now formalized procedures, backed by the trustworthiness of certain sources of accreditation, provide the bases for “procedural trust”. Because the highest levels of these sources have an international reach, these new proofs depend on global networks of this second level of trust.

In response to this new need for proofs of a procedural kind, hundreds of halal service bodies have sprung up around the world. They are varied and scaled responses to the diverse demands for assurance. They seek to allay fears by providing convincing dispositifs that produce proofs and guarantees of the halal quality of a product. Their goal is to demonstrate, through a series of trials, that the food item in question has been produced, stored, and transported without pollution from non-halal materials.

First are the *audit services*, the private companies or state agencies charged with producing tangible certificates of halal. In what follows, I restrict the scope of the term audit services to those services that are hired by businesses to ascertain whether their product meets the requirements for a designation of halal. Whether they seek to sell to a domestic Muslim population or to export to a country with a large number of Muslim consumers, these businesses may decide that they would benefit from having those products (not all products and not the business per se) labeled as halal.

In many countries, multiple audit services vie for this business. These are usually private bodies, with the important exception of Jakim, Malaysia's state audit board, and Indonesia, where a recent law transfers audit rights from a “quango” (MUI, the Indonesian Council of Islamic Scholars) to the Ministry of Religion. (Very recently, new bodies have been created in the Gulf States, and most importantly in the UAE.) The auditors and the certificates they deliver attest that a certain number of products, delivered to a particular company on a particular day, were inspected and are now declared to be halal. The different services differ among themselves in terms of the material conditions of production, the periodicity of audits, and the specific ends and means adhered to by a particular body. For example, a major British body (the HMC) follows goods right to the shop; a major Dutch one does not; it stops work when the processed foodstuffs are ready to be sent on to the next points of distribution and consumption. There are no standard operating procedures across bodies and across countries.

Secondly, for a subset of these production sites, are *abattoir inspectors*. When an audit body sends one of their auditors to an abattoir, that person takes on the role of “inspector”. If the *auditor* is concerned with tracing back the journey of a product, the *inspector* works in the present. He must be there at the production line to verify that each animal is killed following Islamic rules. Some audit services avoid meat certification entirely, because many don’t like the work, and its demands are unforgiving. A highly-placed inspector at the Paris Mosque spends much of her time finding out, quickly, which of her inspectors is located close to an abattoir that is about to begin a production line. Meat inspection has a distinct temporality, a distinct materiality, and is also the ‘face of halal’ to non-Muslims and to many Muslims as well. This face is colored by the peculiar role played by the French state in regulating sacrifice. Three mosques hold a monopoly on granting sacrificers the license to kill in a ritually-sanctioned manner; this monopoly only adds to the public suspicion of halal killing in that country.

Third are what I will call “*meta-audit*” services, where widespread and well-recognized audit bodies may visit an audit service to check on their audit practices. The meta-auditors most often mentioned are in Southeast Asia, and include Malaysia’s state body Jakim, and the Indonesian MUI. Audit services in the Netherlands give priority to gaining a seal of approval from as many of these bodies as possible. In several cases, MUI has sent auditors to check on Dutch auditors’ practices, and has required, as a condition of the issuance of certificate, that the Dutch services follow training centers in Indonesia.

And one level further downstream from these auditing and inspecting services we have random visits by auditors to retail shops to see if products certified as halal at the plant or distributor level risk being polluted at the shop, and if the certificates are displayed in such a way as to imply that the entire shop is halal—a violation of the service agreement. Only some audit services trace the chain into the shop, even specialize in this dispositive, and this is generally limited to meat products. Others find this extension of tracing to be onerous and less certain than their other domains of audit, and hence do not audit shops.

Auditing cheese

Debates and nastiness in various public spheres regarding halal have focused on the slaughter of animals, and indeed methods of slaughter are the point of overlap of humanitarian, anti-Muslim, and state regulatory concerns. Animal products are indeed a major focus for halal anxieties, but often Muslims’ questions concern possibilities of pollution far downstream from abattoirs, or they concern non-meat products.

Far more complex than animal slaughter is the analysis of products that include enzymes, flavoring and coloring agents, such as cheeses or beverages. My initial visits to accompany a Dutch halal auditing service were to a French-fry producer and a cheese distributor, over the course of 2017. In visits to French and Dutch services I encountered the greatest desires to preserve secrecy regarding beverages. Contamination from enzymes or from flavor supplements were discussed more than was the possibility of pork contamination.

In my cheese and fries visits, I joined two-person teams from the Leiden-based audit service HalalCorrect. The sequence that characterized the dispositive included major moments: that of the “table audit” followed by the moment of the “shop floor audit”. On both occasions the table auditor was Yosi, a young Indonesian woman and the shop floor inspections were done by Aziz, a young Dutch-Moroccan man. A second Indonesian attended one visit as part of his training. Neither of the two Indonesians spoke Dutch, so the audit was conducted in English. At both plants, the managers who worked with us had perfect English. They were not Muslims, and as is the case for many processing plants, their interest in being audited was entirely commercial: to export their products to world-wide Muslim-majority destinations. (Abattoir inspection, by contrast, is often focused on local markets.)

I will now focus in one of the audits, which took place in May 2017, at Vika Foods, a company that produces a range of prepared foods, such as processed cheese, from raw materials provided by diverse suppliers. In particular, they receive cheese in large blocks from a sister company, Naska Ingredients. Naska also produces pre-mixed cheese products, enzyme-modified cheese, and non-cheese foods. Naska and Vika are two partners in Vika Group, and the auditors repeated their audits at the Naska site a week later. Vika decided two years previously to get halal certification so they could sell processed goods to Malaysia, Indonesia, and to Muslims in the

Netherlands, and after looking around they decided to go with HalalCorrect. Today, they produce 600-700 distinct products, of which several dozen are certified as halal.

The team began with the table audit, in which the auditor worked with software allowing her to trace elements upstream from Vika, back to the previous factory, by way of truck transport, to earlier products. A block of cheese can appear at Vika after a previous stage of assembling several different food components. The auditor identifies substances that posed lower or higher levels of risk of contamination, and gives more scrutiny to the latter than with the former.

Yosi, the Indonesian auditor, came to the Netherlands because her husband was given a PhD position in a Dutch university. She has a BA in microbiology, which enabled her to get employment with the audit service. She is still learning, and began by shadowing other auditors. She has not yet done a meat processing plant or abattoir. She wears a hijab. (The other Indonesian employee, Winda, does not.) Her English is quite good, and she is tenacious in asking for documents. She audits processed foods, spices, cheese, and energy bars, so far working with companies in the Netherlands and Belgium. She does not inspect abattoirs.

She follows three steps in tracing chains of objects, looking for potential contamination by going upstream from the shop floor along the chain:

First is *source screening*, where she looks for the supplier or suppliers of an *article* and checks for halal certificates. Issues include possible pollution during transport.

Second is the “recipe”: the list of *ingredients* in the article. For each article she would ask about some of the ingredients.

Third is *specification*, of each ingredient, in terms of the relative risk due to the condition of its production. Oils, for example, are low risk, because they are thought of as naturally-occurring, whereas cheeses are higher risk because of the presence of one or more enzymes, which might have been created from, or in contact with, pigs or cattle. Indeed, the company gave her a list of such higher-risk ingredients. Those ingredients that are synthetic carry low risk and she does not pursue them. Meats present the highest risk, because of the risk of contamination at different stages of production: a poorly-cleaned line at the abattoir, or mixing of different meats, halal and non-halal, in a shop.

Of course there are other potential sources of pollution as well. Yosi asks questions about transport used to bring goods into the factory. Just as the shop-floor audit looks for possible physical contact between halal and non-halal objects, Yosi asks for the specifications of the entire load in a truck carrying halal foodstuffs. Was everything in the truck halal? What was carried in the previous load, and was the truck properly cleaned between these two loads? She only traces one shipment back from the truck’s run carrying the halal load to the audited company.

Yosi characterizes what she does as ‘traceability’. Half-way through the Vika audit, Yosi and Aziz decided to split up. A remained upstairs to ask questions about quality control, mainly about contamination risks. I went back downstairs with Yosi and watched as she and a plant director used the software program on a different computer with newer software. The issue was whether or not there was a hyper-link between a product and the supplier of that particular batch. In the recipe sheet you cannot see where the different batches of, say cheddar, come from, only the presence of ‘cheddar’, etc. so the recipe items are not linked to the suppliers. But the plant manager said they were changing that with new software. And he later verified this link on the shop floor.

At issue was the difference between the idea that audits were of a kind of substance (say, a particular cheese) and the idea that the verification was batch-by-batch. The audit service clearly had the second process in mind, as any source of contamination (unless it were endemic to an entire plant) would occur with individual batches that, with appropriate software, can be identified and isolated from the other batches of the same kind of substance, say cheddar cheese. At the time of the audit, Vika had purchased new software to match individual batches with their upstream certificates, but the computers we were using upstairs did not yet have the new software. (One computer located downstairs did have the new software, and Yosi was able to carry out this batch-by-batch linking on that machine.) Yosi also asked for a list of the previous product on each halal line, going back two days from the audit. The manager was able to find

hand-written sheets with the production program, and Yosi was able to verify the Vika claims.

Cleaning and pollution

We toured the plant with two managers. We made five clothing changes and hand-washings, each time that we passed (through secure doors) from one shop area to another, so that there would be no carrying contaminated clothes or allergens or other dust from one production line to another. At each change we put on a new set of contaminate-free clothes: blue booties and hairnets (and a beard cover for men with beards). The plant stores cheeses that had been sent from Naska to be further processed at the Vika plant. They were wrapped in bags to keep out allergens, with labels that identified them as pre-mix, each bag with its own control number.

At this plant there are no dedicated halal lines, which raises the level of concern. The plant addresses this concern in several ways. Cheese lines are never used for pork. A asked if the plant sent samples to outside labs to check for contaminants, most likely traces of non-halal meat that had escaped the cleaning process. The plant does not do this but has in-house DNA testing kits—however, they have never used them because they believe that they can rely on their own procedures. A voiced his skepticism that with a relatively dominant non-halal plant, Vika really could keep all sources of contamination away.

The problem with cheese is that there are many suppliers, and the enzymes must be properly checked, because they come from the gut of an animal, and re microbes we need to must know the growing media used. No gelatin is used inside the plant: gelatin may be porcine or of porcine, and thus can be an additional source of pollution. No animal enzymes are used. Cheese production also presents difficulties when it comes to cleaning. Wet cleanings are more effective than dry cleanings, but if you do a wet cleaning on a line used for cheese, you face a high risk of encouraging the spread of bacteria. The plant's solution was to carry out a wet cleaning at the end of a Friday for a halal line because then there are two days with the line shut down. At the end of every day, they do a dry cleaning.

An item can be approved but no certificate issued, if the client does not want a certificate, perhaps for fear of adverse publicity in a society that looks at halal food, and more generally Muslims, with suspicion. Of course the risks of inducing a Muslim to consume something as halal that in fact is not is lower if approved but not yet certified foods can serve as buffers. This is what Aziz proposed to the plant as a way to augment and reinforce the cleaning process: that they start the line with an approved but not certified batch, a dry cleaning, and then more cheese, and that this last-mentioned batch can be certified as halal. The manager agreed to try that, and going even further, that they have four products processed on a line, and approve all four, but only give the certificate to the 5th, and to those that come later, to further guard against contamination.

Why do certificates promote global trust?

During the table audit, as Yosi was working up the chain of certificates, she would stop when she reached a level of prior certification, which in most cases was not from HalalCorrect. As she later explained to me, of the 30 or so auditing bodies in the Netherlands, HalalCorrect accepts certificates of products if a trusted audit company has done a meta-audit of their procedures, or if she knows how they work and finds their audit procedures sufficiently rigorous.

The HalalCorrect auditors trust four major meta-audit bodies. The Indonesian Majelis Ulama Indonesia (MUI, Indonesian Council of Islamic Scholars) has validated HC's procedures since 2015, when they began visiting auditing bodies and inviting auditors to attend training sessions in Bogor. Jakim (Department of Islamic Development Malaysia) is a Malaysian state-run auditing service, mandatory for companies seeking to export to Malaysia. The Gulf-based GAC (Gulf Accreditation Council Accreditation Center) became active in 2017, and the WHFC (World Halal Food Council), in Jakarta, also conducts meta-audits.

Yosi called these the “big four”. When HC is carrying out a table audit, and they come to an article or ingredient that has already been certified as halal by another audit body, and when that body has been approved by one of the “big four”, HC accepts it at face value. For example, I had noticed that very often another Dutch audit body, the HVV (Halal Voeding en Voedsel, Halal

Feed and Food Inspection Authority), shows up as a provider of halal certificates. Yosi explained that they trust HVV because their audit technique is accepted by these ‘big four’. HC does not need to do a table or shop floor audit on that particular article or element. But other audit bodies do not receive these endorsement, for example those that accept stunning of animals, such as the HQC (Halal Quality Control).

The circle of audit bodies that accepts each other’s findings and certificates thus allows a rather rapid table audit, permitting Yosi to ask about a wide range of ingredients, such as flavorings. Audit bodies also specialize: for example, HFCE grants certificates for packaging, including foil wrap and the plastic wrap used for the cheese blocks sent from Naska to Vika. Packaging raised no concerns at Vika, but elsewhere it has done so. For example, HC audits tea and coffee companies, who tend to forget that tea bags include the paper and the string that usually fall into the coffee cup, and thus must be audited. Or whitening agents, fake cream, might only be perceived and tested on a second audit.

HC stops its audit activities when the trucks leave a plant for distribution. But in other directions it is trying to explore other dimensions of halal. “We face Muslim consumers who think of halal food as if it were simply a diet option, and do not pay attention to the deeper meanings”, Y told me. She also explained that HC was thinking about effects of production on the environment, and whether halal can be sustainable or *bio*, because bio goods use fewer additives. HC’s director has started to explore what could be thought of as eco-halal, for example leaving calves with their (cow) mothers, because that is good (*tayyib*); it is better for mother and calf. Science can confirm what God said to us, and the reasoning can all be in the reverse direction, too, in that we look at what science says and then look for evidence in the Quran and hadith. It is God who tells us how to slaughter, she added, even though His word can be much later confirmed by science, for example that halal methods of slaughter reduce pain.

HC is growing; they add about five new companies each year. Indeed, in late 2017 they began an energetic campaign to find new companies, and asked me to stop work, lest a new client find my presence odd and disturbing. Next month we shall see if I am welcomed back when I visit them.

Islam and science

The new, procedurally-oriented forms of halal audit add what I have been calling global trust to local trust. For this shift outward from face-to-face networks of interpersonal familiarity to the reputation of audit services, retaining the religious base for that reputation requires that all auditing be seen as religious in nature. It cannot be seen as *directly* scientific. Science informs knowledge about religious status (halal or not halal), but pronouncing something to be halal is a religious determination. Of course, this point becomes even more important to emphasize if the plant is run by non-Muslims, who are seen (correctly) as having an entirely instrumental relationship to the audit.

This issue arose in the audits I accompanied. In the case of the cheese factory, the plant managers were able to give quick responses to all questions by using their own data base, which allows them to follow the trajectory of each article. However, both Y and A asked them to highlight the Islamic sources of some steps, and indeed to create a new slide for their presentation that would list all the procedures that are carried out in order that the product be halal. It was not enough to change procedures; it was important that the reasons for doing step x or y was because Islam required it. They explained that if halal were reduced to an extra step here, or a cautionary note there, we would lose sight of the true source and criteria for properly producing food, namely from God. As it was, the slide presentation on the plant’s procedures made no mention of halal qualities.

At the beginning

This care to distinguish between science and Islam—while drawing on both—appeared at the very beginning of the modern halal auditing service. In 1988, Indonesian officials grew worried about rumors spreading to the effect that milk currently on sale in Indonesia contained pig fat. This rumor had started somewhat more modestly, when some students at the Institut Pertanian Bogor (Indonesia’s main agricultural university) learned that emulsifiers (used to mix two or more liquids) could be from vegetable and animal sources. They inferred from this that the emulsifiers used in the production of the milk in question could be from pig, and that, therefore,

the milk could contain pig fat. Although eventually the rumors were quashed, they alarmed many ordinary Indonesians, and of course those economic and political actors with much to lose.

The primary targets of these rumors were European producers of milk, including Nestle. The rumors went viral, and President Suharto grew concerned about economic stability. He asked the Islamic scholars on the MUI to calm things down, to restore economic stability. Lukmanul Hakim, at the time teaching chemistry at IPB, ended up talking with members of the MUI, and, as he tells it, deciding together that “this could not be a matter for ulama alone.” I quote Lukman extensively because his version of the key role played by Indonesia is largely verified by auditors working in Europe and North America. He and the MUI developed techniques over the years in response to recurrent moral panics, such as over Ajinomoto spices in 2001, and porcine gelatin on recurrent occasions. One might even say that it was through its series of fatwas on these issues that the MUI defined and solidified its role.

“We from IPB said that for determining halal and haram there first must be input from scientists. This model of ulama and scientists working together became the international model. This was what I promoted to the rest of the world. At that time in other food exporting countries, in Australia and Europe, the companies would just say: ‘oh there is no pork in it, so it’s halal’. Fine, but we don’t know whether the cow, if there is beef, was killed in a halal way. We don’t know if the slaughterer is a Muslim or not. And from science we cannot tell this.

“So, if before the ulama would say ‘*harus ini, harus ini, harus ini*’ (‘you must do this, and this!’), without knowing the science, we now work together. Here at Bogor we are all scientists; my background is in chemistry. And the shari`a side is in Jakarta; they are all from UIN. Because the scientists, even if they say ‘this is halal’, they don’t have the authority to say that. And, if there are substances where there is some doubt whether it is halal or not, we take a sample and take it to the laboratory. And we see if the slaughterer says ‘bismillah’. We have to be on-site to verify that. Is there pork DNA? Is there ethanol? These are our two biggest questions.

“At first we only used one method of investigation, a ‘traceability system’. We looked at the site, at most used Elisa (porcine traceability kit). We just looked for traces of pig fat and pig DNA. So we know whether it is pork or not, but we don’t know from traceability alone whether or not the slaughterer met the requirements; that requires authentication, whether procedures met the test of shari`a. We need them both. If bacteria are taken from a pig, pig DNA may not show up in testing, but according to fiqh, it could be seen as unclean, najis. And then we have to purify it following shari`a, with a procedure that uses earth. But in Indonesia we can accept cleaning using chemicals. As long as the smell, taste and color of pig are eliminated, the ulama here say it is good. And this is one of the advantages of Indonesia, that I as a man of science can be accepted by the ulama, because they are very moderate. Because if not, say ‘you have to use earth!’ but how would we do that!”

Lukman’s concern was that chemistry and shari`a be seen as two complementary modes of knowledge-gathering, wherein each side respected the other. Science is necessary to establish the chemical composition of substances (especially additives), and Islam is necessary to prescribe the preconditions for declaring something to be halal. The frame for such declarations had to be Islam, much as the HC auditors emphasized during their visits.

Substance and its Transformation

The dispositive described above represents a relatively rapid convergence of practices and standards across the globe, spurred on by market demands. But these processes and mechanisms only work against a background of Islamic agreement about the nature of things. From the perspective of Islamic classification, what are the boundaries of one substance and another? What scientific ways of thinking and measuring have an impact on Islamic categories? When can a substance be said to have been transformed into another substance?

There is, indeed, an Islamic category that can be invoked here: *istihalah*, or “transformation”. A substance that is haram to Muslims may become halal if it is shown to have transformed. Such is the case with vinegar, which has been chemically transformed from wine, something haram, to a

substance that the Prophet is said to have enjoyed as a sauce. This claim seems to be accepted by the vast majority of Islamic scholars.

Still under active debate is the possibility of something that had its origin in pork transforming into a halal consumption good. Most production of gelatin comes from pig skin. But is pig still in the gelatin? Is it a question of chemical composition? Or of DNA? As it happens, this was Lukmanul Hakim's thesis topic when he studied chemistry in Rotterdam (and an early topic for debate in Indonesia).

“The Middle Eastern Islamic scholars argued that gelatin that had its origin in pig material changed its nature when it became gelatin, it was *istihalah*, “transformed.” They did not look at the beginning of the production, only at the end product. But I proved that it was not a *istihalah* product. There is a difference between a product that is totally transformed and one that just changes its physical nature. . . . The Middle Eastern position did not feel right, but we did not have the proof (*dalil*). So I found chemical *dalils*. We always come back to its origin: if it is pig in origin, then it remains pig.”

This position is also held by the Halal Monitoring Committee based in Leicester, Great Britain. The scholar and chemist Sarfraz Mohammad works closely with the conservative Pakistani scholar Taqi Usman. He focuses much of his effort on the matter of porcine gelatin. As he sees it, there are two positions about the gelatin. One is that the process of creating the gelatin from the bones and hide substantively transforms them, so that the gelatin is halal. One Muslim gelatin manufacturer had called him recently to say: the hides are cleaned with a substance that changes their composition, so couldn't he use the gelatin therefrom produced? This argument draws strength from the parallel argument made about vinegar, that it comes from alcohol but no longer has any when it has been transformed.

He and the HMC disagree with that position, reasoning that when you boil pork you create gelatin—but no one would say that the cooked pork is halal! So the gelatin remains haram. And although he as an individual scholar might recommend the use of porcine gelatin in some individual cases, for example if someone needed to take a medicine that only came in porcine capsules, that would be following considerations of emergency (*darurat*); it would not change the general determination of the substance as haram (and would not apply if the person had another choice, such as is the case for flu vaccines). “The HMC has a responsibility toward a broad public, so it must be very careful in cases where there is doubt. Muslims should not be placed in a situation where they have to look into all the details themselves, and they also should be given assurance about their actions.”

His and Lukman's reasoning shares three premises. First, that it feels disgusting to think of pig as halal, so any argument to that effect needs to be rebuffed on sheer grounds of disgust, and potential social unrest. Secondly, that emergency conditions—in particular, that the medicine you must take only comes in capsules made of porcine gelatin—make it acceptable, and indeed required, that you take them, but that should not be confused with an argument that the capsules are now halal. And finally, that prominent bodies have to reassure people, and so should take a conservative stance.

The problem is that, in a globalized world, goods move across countries, and different bodies follow different interpretations. According to Sarfraz, Public Health England, in determining which substances it could use in creating vaccines, had relied on Yusuf Qardawi's determination that porcine gelatin was halal. In 2014, the European Fiqh Academy declared porcine gelatin to be halal, even though they had condemned its use at a meeting about 15 years earlier. Qardawi himself then declared that more research was needed, and that for the moment he would take no position. But the Fiqh Council of Jidda recently switched the other way, saying it is halal, after many years (since 1986) of saying the opposite! Sarfraz drew an analogy to the situation regarding Islamic finance in the 1970s, “when the general opinion was that interest-based finance was so basic that it would continue to be used by all—but then Islamic finance developed. The same will happen regarding the use of stricter standards for halal.”

Conclusions

Over the past two or three decades, and most likely well into the future, “halal actors” have created a loose network of audit services, laboratories, and Islamic bodies—and one could add exporters and small-shopkeepers—that we might call the halal assemblage. Loosely knitted together by new (and old) forms of trust (and occasional distrust), market demand, chemistry, and state power, the assemblage increasing puts forward agreed-on *dispositifs* regarding certification processes. The expansion also brings to the fore long-running controversies, such as that regarding stunning.

Two tendencies should be noted regarding these processes. On the one hand, as the assemblage expands it also allows for internal fissions (for example, over the acceptance of stunning, not discussed here) and specialization: a focus on meat or non-meat products, or an emphasis on the internal market or the export market. As the services and their networks continue to expand, one can expect more of these specializations. Many audit service veterans regret the fissions and difficulties of standardizations, but they mistake how expansion opens up new niches and positionings for a simple inability to meet and decide on common standards.

On the other hand, one also sees increasing reliance on the performative quality of certificates issued by globally-trusted bodies, such as the MUI in Indonesia, IFANCA in North America, and HC and HVV in the Netherlands. Their certificates are taken to *create* a status, within the current conventions of how one creates reliable standards or qualities. Although one can imagine their determinations to be challenged in the future, this has to do with the inevitably open-ended character of felicity conditions, as Derrida argued is also true for marriage and for other contracts.

Not discussed here are the refractions of local halal practices through national particularities about peoplehood and public life. I will just mention a useful contrast between a France which argues strenuously, and sometimes repressively that religious particularities should disappear from public life lest they divide the French people (thus no pork substitutes for schoolchildren and no halal-only shops, even in Muslim-majority neighborhoods), and a Netherlands, with its own anti-Islam emotions but a very different idea of toleration, which proposes to limit halal sales to Muslim neighborhoods, to *highlight* the gustatory divisions between Muslims and “native Dutch”. Whereas in France the opening of a halal-only shop in a neighborhood threatens *mixité*, encourages communalism, and discriminates against non-Muslims, in the Netherlands Muslim-oriented shops, generally halal-only, are likely to become the *only* places where non-stunned halal meat products may be sold. In this way the claim is to defend Dutch values by allowing some objectionable things but only if they remain in Muslim neighborhoods and there is *no mixité* of distribution networks.

In neither place do these steps look promising for developing more progressive policies on integration and coexistence.

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