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## The Explanatory Burden: an Essay on Hugh Raffles' *Insectopedia*

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*Hugh Raffles, Insectopedia, Pantheon Books, New York,  
2010; 465 pages*

This version was published by heterogeneities.net on 16<sup>th</sup> March 2011 at  
<http://www.heterogeneities.net/publications/Law2011ExplanatoryBurden.pdf>

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## Appreciation

To review a book is to *appreciate* it.

In one way this is easy. Hugh Raffles' *Insectopedia* is superb. Literate, scholarly, wonderfully researched, and movingly written, it takes us on an erudite cultural, ethnographic, and historical tour of a series of diverse and heterogeneous practices in which people and insects intersect: locusts and people in the Sahel; trainers, gamblers and fighting crickets in Shanghai; Florence and its festival of crickets (except that the crickets have disappeared); Jean-Henri Fabre, the parasitism of wasps and anti-evolutionism; the erotic pleasures of crushing insects; the meticulous paintings of radiation-deformed leaf-bugs by Swiss artist Cornelia Hesse-Honegger. We are drawn into nightmares personal (cockroaches) and collective (the Nazis, lice, and the Jews). We struggle with metamorphosis, the language of bees, and Jacob von Uexküll's *umwelt*. Much of this is new, at least to me. Much of it is moving. Some of it is pretty sick-making. Often it's unnerving too. But all of it is fascinating, and it's challenging as well, intellectually and ethically.

If you simply want to know whether this is a good book you can stop at this point. It is. It's outstandingly good. Even if you're *not* interested in insects I recommend it unreservedly. Like the best of popular science, it reads itself. But it also counts as a profound meditation on the character and limits of representation, and on what it is to know.

## Book

But what's in a *book*? And what's in *this* book?

Once again, there's an easy way of answering. *Insectopedia* is a series of twenty-six essays of varying lengths on insects and people, ordered by title, alphabetically. Some are sub-divided. So it's a quasi-encyclopaedia which takes us from 'Air' to 'Zen and the Art of Zzz's' via 'Death', 'Evolution', 'Sex', and 'Temptation', to name but a few. So why this conceit?

Here's an answer. Except in the most literal sense, this is a book that does away with a beginning, a middle and an end. Like Deleuze and Guattari's *Mille Plateaux* (though a lot more grounded, and a whole lot easier to read), you can pretty much start anywhere you want, and you can end up anywhere too. So, yes, there are narratives, twenty-six plus, and riveting they are. But here's the important point. At least on the face of it, there isn't a *grand* narrative. The standard conventions of plot don't dominate. It turns out, then, that despite the fact that it is bound into a single, handsomely produced, and extensively illustrated volume, this is a book that is hard at work crafting itself as a non-book in a variety of significant ways.

## Cabinet of curiosities

Why would a book not want to be a book?

Of course there are many possible answers. It might be badly crafted, or the author might not be able to control the intricacies of plot. But this isn't what's happening here. Where he plots, Raffles plots convincingly. Rather, at least on the face of it, it's because there *is* no plot to be told. Or again, it's because telling, describing or representing insects isn't what it is about. Or again, it's because the representational conventions implied in the package that we call 'a book' presuppose too much. Or then again (all these overlap), it's because the notion of authorship, that particular version of subjectivity and authority, doesn't quite work.

So what is it that we actually have in our hands? One answer is that it can be understood as a contemporary *cabinet of curiosities*. *Insectopedia* can be imagined as a space, a room, containing a set of somewhat unclassifiable exhibits. Raffles writes of the cusp of the sixteenth and the seventeenth centuries that:

“The identification and collection of wondrous objects in cabinets of curiosity were central to the self-definition of the European cultural elite.” (128)

Of course what we read about has been *collected*. And yes, there are *stories* to be told about those exhibits. But overall, not only is there no large story to be told, but there’s no clear taxonomy either. However, the key term here is *wondrous*. For what we have is a space for exciting curiosity about people and insects, for exciting curiosity and *wonder*.

### Disenchantment

So we need to talk, perhaps, about disenchantment.

Raffles continues from the above passage so:

“Within decades, objects once wondrous would become vulgar and undesirable, too gaudy and too unreliably emotional to satisfy the rising imperatives of rational discrimination.” (128)

This is a moment, perhaps the moment, when the rational gets peeled off from the emotional. Other separations will follow in the grand narrative of Western high status thought and the stories that it tells of itself. Bodies will vanish. Physical labour will be removed. By the time Boyle has finished his work in the newly created Royal Society in Restoration England, politics and society will also have disappeared, along with women and un-free men. The particular voice that Steven Shapin calls the *modest witness* will have been created<sup>1</sup>. The devices of *disenchantment* will be shakily in place, with the self-effacing, indeed self-denying apparatuses that secure the possibility of ‘rational discrimination’.

So Raffles’ book is on insects, but it is also an essay on disenchantment. More correctly, it may also be understood as an experiment in re-enchantment and how this relates about what it is to know.

### Erotics

There’s a section in the book on a particular form of sexual erotics. I mentioned it already. Some men are aroused by watching insects (or fruit or snails or other small creatures) being crushed by the feet of giant women. Such crush freaks take the part of the insect and come to orgasm with the thought of being squashed flat, with that moment of imagined pressure when the body explodes from every orifice. There’s a whole genre of crush movies, with attendant UK and US legal and political manoeuvres that seek to outlaw – or alternatively to justify – them. But why? What’s the *source* of the pleasure?

After some reflection Raffles suggests that they, the men, don’t actually identify with the insects. The practice, he muses, isn’t best thought of as a case of trans-species melding, because insects don’t count as animals. They don’t matter. So rather than thinking of themselves *as* bugs, the crush-

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<sup>1</sup> Shapin (1984).

freaks imagine themselves to be *like* bugs. That is, they imagine that they're worthless. So what's the source of the pleasure? Raffles guesses that this rests on the fact that "[t]he insect is the dark place that sucks up society's disgust." (280). Though he finds he cannot take the thought entirely seriously ("[i]t does not seem wholly serious when you write it down .."), this leads him to play with the idea that crush-freakery is a version of fetishistic repetition.

"Like a baby throwing its bottle to the ground again and again, every time it's picked up again and again, trying to figure out something that's all at once obscure and vacant. Again and again. Nothing more." (280)

So perhaps crush freaks are revisiting a moment in childhood that juxtaposed "mother, insect, foot", a moment that then got fixed and lost for ever.

So far, so good. But Raffles is about to throw a spanner into the explanatory works. The question he asks is: does it actually *matter* that there's an explanatory story available? And he is going to tell us that it doesn't:

"Are you feeling it? That's what counts here. Don't worry about why they're doing this, even though the crush freaks themselves – cursed with the explanatory burden of a "minority sexuality" – have little choice but to fret about that all the time." (280)

Are you *feeling* it? That's the erotic question. Thinking isn't at a premium here, and explanation counts, he's suggesting, for even less.

But perhaps this lesson is contagious. Perhaps it isn't just a matter of genital pleasure. Perhaps it isn't even confined to polymorphous sex. Perhaps it may also be applied to the business of knowing. If explanation is a burden for crush freaks and seekers after other un-normalised pleasures, then perhaps it's a weight, too, for those who would like to *know* in un-normalised ways. Perhaps non-standard knowers also have to fret about the *explanatory burden* that they have to carry. It's like an overhead that has to be paid and never goes away. Epistemological protection money.

Is what's happening here a version of re-enchantment? Or is it simply another exhibit in the cabinet of curiosities, another wonder, another way of wondering?

### Fault-Line

It is going to be important to mind the gap.

### Gap

A possible inconvenience of Raffles' conceit is that the standard English alphabet has twenty-six letters. More stringently still, those letters arrive in an orderly, not to say conventional, succession. If you want to use a dictionary this has its merits, but it's constraining too.

Mind you, we shouldn't allow ourselves to get *too* precious. Much the same is true for a cabinet of curiosities. Here there might not be an order, but the design was intended to bring together wondrous objects. *Objects* in a room with cabinets. Immediately we can see that everything and anything simply could not fit. Too large? Too small? Too evanescent? Too immaterial? Too putrid? Or simply too mundane? Most things didn't fit and simply never made it in. To put it differently, the most heterogeneous collection (think of Borges' list quoted by Michel Foucault in *The Order of*

*Things*) is also, somehow or other, collected, juxtaposed, and held together in a way that is simultaneously productive and exclusive. Such was precisely Foucault's point when, wrestling with a combination of laughter and unease, he asked, "But what is it impossible to think, and what kind of impossibility are we faced with here?"<sup>2</sup>) Here's the point: to collect is *both* to generate *and* to miss out. But what of *Insectopedia*?

First there's an order which, like a concertina file, is indefinitely extensible. 'D' stands for 'Death' in the *Insectopedia*, but within 'Death' Raffles takes us startlingly and productively: first to 'Diligence' (and disgust in the face of a floor writhing with maggots that will die when he cleans that floor); second to 'Doubt' (do insects die? It's in doubt); third to 'Difference' (the distance between the dead insects collected in the Montreal Insectarium and the people looking at them); and then fourth to 'Defeat' (after the fire-bombing of Hamburg there came a plague of flies that fed on the bodies of the dead). This isn't in alphabetical order, but it doesn't matter because the juxtaposition is doing its own productive work. And especially it is doing work about *difference*. For instance, on the Insectarium Raffles writes:

"So much about insects is obscure to us, yet our capacity to condition their existence is so vast. Look closely at these walls. Even the most beautiful butterfly, observed Primo Levi, has a "diabolical, mask-like face." Unease has a stubborn source, unfamiliar and unsettling. We simply cannot find ourselves in these creatures. The more we look the less we know. They are not like us. They do not respond to acts of love or mercy or remorse. It is worse than indifference. It is a deep, dead space without reciprocity, recognition, or redemption." (44)

This is a version of the gap between people and insects, a version of their otherness, an uneasy betwixt and between that teems with possibilities. But I've gone off track here. I wanted to write about another kind of gap. This is the gap of sparsities and incompletenesses that opens up in any attempt to order knowledges. The blank cells in the table. So, for instance, I pictured Raffles desperately trying to populate the sparser letters of the *Insectopedia*, the Scrabble letters with the high values. The 'X' for example. How would *you* populate the 'X'?

But I've not just *gone* off track. I've been *pushed* off it. When I looked at the 'X's I discovered that Raffles creates another extraordinary concertina file. The entry (which, with a bit of a sleight of hand that I will need to mimic, is called 'Ex Libris, Exempla') talks us through another four 'Ex's: 'Excess', where Surrealist Caillois is seeking "a form of the marvellous that does not fear knowledge but, on the contrary, thrives on it" (333); 'Exaction', where the Aztecs are extracting taxes in the form of lice; 'Exile' in which Tang dynasty poet, Liu Zongyuan, author of *My First Excursion to the West Mountain*, helps to fill his exile with ruminations on owlfly larvae and the indifference of insects; and finally 'Extermination' which returns us to Karl von Frisch and his popular text *Ten Little Housemates*, in which (read this carefully) he "explores the extremes of their existence, explains their extravagances, examines their exuberances, and excluding exaggeration, exalts in their extravagations." (340-341). (And that's just the first sentence of a truly virtuoso paragraph.)

So the gap in the table, in the alphabet isn't a gap. It's a fecund and teeming place, buzzing with both wonder and unease. It's, yes, excessive.

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<sup>2</sup> Foucault (1970, xv).

## Gaps

Mind the gaps. Don't fear them. *Mind* them. Recollect them. Attend to them. Care for them. Cultivate them. Treat them for what they are: places in between; places of unknown potential. Okay, I agree, they're uneasy places too.

## Heterogeneity

First there are the *materialities*. Some are *physical or instrumental*. We have Jean-Henri Fabre lying flat on the ground with his magnifying glass peering into the world of *Ammophilia* wasps, Thomas Hunt Morgan's Fly Room with its genetic-standard *Drosophila*, and Karl von Frisch's honeybee feeding stations. We have aircraft with sticky insect traps, biosecurity measures in Shanghai's cricket casinos, and earphones for listening to beetles inside trees in northern New Mexico. It's a physical world, the world of practices in which people and insects intersect. So, and next to the materials and the instruments, there are *people*, a list as long as your arm, all of them working with insects or knowing them in one way or another: Kawasaki Mitsuya who sells beetles in Wakayama City near Osaka, Jacob von Uexküll, Chinua Achebe, and Dorothy Spicer, these are just a few of the hundreds we meet. But then, alongside the materials and the people, there are *representations* as well. Von Frisch's meticulous diagrams which chart the language of honeybees, Cornelia Hesse-Honneger's austere and beautiful paintings of leaf bugs, Anton van Leeuwenhoek's letter to the Royal Society, and Jeff Vilencia's (distorted) crush-freak video tapes, these are some of the representations that find themselves in the world of insect practices.

That's one kind of heterogeneity, the heterogeneity of materialities. But alongside the materialities there is what one might think of as the heterogeneity of the *practices themselves*. I don't know where to begin, there are so many of them, and listing them (as opposed to learning about them) makes them boring anyway. But let's just say that there are academic practices, artistic practices, sporting practices, state taxation practices, market practices, erotic practices, household practices and agricultural practices jostling together here in a much larger crowd. They're all *different*. They all do different *things*. They imply different kinds of emotions and attachments. And they do different *kinds* of things as well. If I were a Foucauldian I might say that we're in the presence of a hundred different discourses; that we're confronted by *discursive heterogeneity*.

So that's two versions of heterogeneity, the material and the discursive. And since the discursive is an elastic category providing for limitless variation in subjectivities and objectivities, perhaps I should stop there. But I want to say one thing more even so. I want to say that there's heterogeneity in *intentions* too:

“But let's not forget: just as there are forms of the marvellous that thrive on knowledges, there is knowledge that despite itself adds to the marvellous.” (342)

So there are knowledges and then there are marvels; another version of the heterogeneous. They don't have to be other to each other. It's just that they often are.

## Interferences

Imitation is the sincerest form of flattery. But since there *is* no perfect imitation, this might mean that there is no perfect flattery. Perhaps we should be grateful. The arguments against communion (see 'Love Affair') apply just as much to the imitations of flattery. But then we might want to challenge ourselves by thinking about the successor projects to flattery.

Here's one possibility. We might replace *similarity* with *difference*. Donna Haraway plays seriously with the metaphors of diffraction. Diffractions are *interferences* that don't try to reflect what's there already, don't mimic it, don't try to reproduce it, but get bent round it as they pass by<sup>3</sup>. The result is a pattern that has moved on, a close encounter that has generated something different.

That sounds better.

### Juxtaposition

So perhaps what I really need to say is that in this book the conventional Encyclopaedia is being twisted and turned in an experiment in juxtaposition.

Perhaps normative Encyclopaedias, like a putative Noah's Ark, try to include everything. (Aardvark. Adder. Adouri. Alligator. Alpaca. Anaconda. Angora. Ant. Anteater. Antelope. Ape.) It might be, too, that dictionaries seek to cover every word. (A. An. Aardvark. Aardwolf. Aaron's beard. Aaron's rod.) But this isn't the game in *Insectopedia*. Whatever it's covering, it doesn't pretend to completeness, and its entries are heterogeneous. The *ethnographies* include beautifully-researched accounts of locusts in the Sahel, beetle-collecting in Japan, and the work of biologist and sound scientist David Dunn who listens to the destructive sounds of piñon engravers boring tunnels in the pines from which they take their name. The *histories* include accounts of the holocaust, a narrative of Jews, Nazis, lice and public health; they tell of Karl von Frisch (in which the Nazis also feature), and, in a meticulous recounting, of Jean-Henri Fabre and his work. But then, and alongside these, there are more or less heterogeneous *vignettes*. There's an account of a barely remembered trip to Nepal ("Fried bread and salted buttered tea. Broad stony valleys. Strings of flapping Tibetan prayer flags." (206)) There's a series of small ruminations on queer sex. ("... I have my own unscientific hunch: I suspect that if good sex hasn't been found among the insects, it's because no-one ... has been out there looking for it." (261)). And there's a list of nightmares of insects; hundreds of one-sentence nightmares.

It's an experiment in juxtaposition then. Parts belong to anthropology, history or STS. And parts don't. Parts belong to reality, and parts to fantasy, fear and the uncanny. By the standards of normal practice the different parts don't belong together. But there they are anyway, next to one another. Which means, this is the productive point of juxtaposition, that there are lots of unusual diffractions going on. New difficulties. Discoveries. New forms of unease.

### Knowledge Practices

If we talk of *knowledge* practices the metaphor already assumes too much about something more permissive such as *appreciation*. But let's play with the phrase anyway. Let's imagine knowledge practices to be somewhat repeating patterns or arrays that enact knowledges of one kind or another. So what is being *done* in knowledge practices? Here's a suggestion.

First, there are *descriptions*. If page 171 of *Insectopedia* tells us that "Karl von Frisch won a Nobel Prize in 1973 for his discovery of "the language of bees"", then we're reading a description.

Second there are the *explicit realities* being described and characterised in descriptions. Here the realities being conjured up have to do with Karl von Frisch, events in 1973, and the Nobel Prize.

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<sup>3</sup> Haraway (1992).

Third, there are *authorities* that do the describing, authorities that include authors. This is a way of talking about the *location* of knowledge. It's a way of bringing space – and time – to knowledge practices. So though I haven't checked, I'm working on the assumption that Raffles isn't talking through his hat when he writes about Karl von Frisch; that he's made himself into an authority.

And then, fourth there's a bunch of more or less backstage assumptions that I want to call *collateral realities*<sup>4</sup>. These get caught up in knowledge practices, they're implied by them, but they don't get made explicit. Perhaps these fall into two piles. On the one hand there's a heap of *practicalities* including publishers, readers, and the book trade; this reaches out, I don't know, to paper manufacturers and the credit system: the list of is endless. On the other hand there's a heap of *metaphysical assumptions*. You can't read Raffles' book without making some fairly hefty assumptions about the nature of being. Well, perhaps you can, but I guess most of those reading it don't. So what would these be? Near the beginning of the queue we'd find assumptions that: there's a world out there; that that world is populated with objects, events and people; that there are relations, perhaps relations of cause and effect, between the members of that population; and that all this happens in something that approximates to a time-space box. But this list goes on endlessly too.

Having said all this, it might useful to think of knowledge practices as more or less successful attempts to choreograph *descriptions*, *explicit realities*, *authorities* and *collateral realities* all together. If this isn't achieved the knowledge practice in question falters. Marvellous *descriptions* may be understood as false, inaccurate, the products of delusion or wishful thinking. *Explicit realities* may dissolve and turn into things that don't exist. *Authorities* may be transmuted into charlatans, quacks, zealots or party hacks. Finally, *collateral realities* such as publishers and referees may refuse manuscripts, or the paper trade may fail to deliver. In principle these forms of choreography are always tense: failure in one arena immediately affects the whole. But, of course, this doesn't happen a lot of the time. We're buried, instead, in avalanches of specialist academic journals, learned monographs, popular histories and self-help manuals.

All this means that it is easiest and safest to follow form, and stick with a version of standard practice. Of course, as I've just implied, standard practice itself comes in a variety of forms, but for many academics this is the peer-reviewed academic article, full stop. For others, including anthropologists, it extends to the peer-reviewed academic monograph, the public interest report, and the working paper. So there's room for manoeuvre. Nevertheless, though the standard forms are starting to fray around the edges, stepping outside the standard patterns is risky for anyone seeking tenure.

Now note that *Insectopedia* also *describes* an endless variety of knowledge practices. Many are orthodox, but it's not by chance that Raffles' cabinet of curiosities collects some rather unusual specimens. The 'Chernobyl' essay on Cornelia Hesse-Honneger is particularly striking. Hesse-Honneger is a Swiss artist and scientific illustrator who became concerned with the effects of low-level radiation leaks from nuclear plants on the surrounding environment and especially on its insects. Her's is a risky knowledge practice. She has created hundreds of paintings and drawings that explore and express deformities in insects collected near such plants. The art is extraordinary, and Raffles shows how some of it ends up being published in high-status peer-reviewed journals. But it's

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<sup>4</sup> I've tried playing with this term in Law (2011, forthcoming).

an uphill struggle for several reasons. First, she's pushing an hypothesis that's controversial. Her claims about low-level radiation damage are well-received by activists, and the Swiss newspaper *Tages-Anzeiger* publishes her work, but it runs up bang against scientific orthodoxy which mostly knows that they are wrong. Shown some of her illustrations, her ex-Professor:

"admits that he has never seen this kind of deformity before but dismisses its significance and scolds her like a child for the articles in the *Tages-Anzeiger*. Don't think you are a scientist just because you have drawn pictures for me and my colleagues, he tells her." (27)

(It needs to be said that this orthodoxy has shifted.) And then, second, her *methods* are unusual. She creates meticulous and almost obsessive paintings of *parts* of individual, insects, often in arrays, which (I quote Raffles) are like Cubist "composites of several angles." (29):

"she offers the insect not as a being or subject but as its antithesis: the insect as aesthetic logic, as coalescence of form, angle and color." (30)

Raffles traces this to the traditions of concrete art. It's a precise method, he concludes. "All is geometric, the insects located on a grid that she systematically completes." (31) The method (I'm almost quoting Raffles again) detaches her both from environmental politics and her sympathies for the animal. So we see the deformed eyes of *drosophila melanogaster* or the distorted antennae of leaf bugs, to the general scepticism of both scientists and, it needs to be said, artists as well.

"Painting, she insists ... is research, not merely documentation. It is a way of achieving multidimensional knowledge of the subject, a way to see it in its biological, phenomenological and political fullness." (18-19)

Hesse-Honneger has taken a risky route. The *descriptions* (if that is what they are), the *explicit realities*, the notion of *authority*, and the institutional and metaphysical *collateral realities* implied and denied in her knowledge practices, all of these have been on the move. Here's the extraordinary achievement. Somehow or other she's worked within the gaps and with the possibilities offered by different knowledge practices. In her work she's diffracted versions of experimental science, high art, and environmental activism to move all of these on. To make a difference to what it is to know. Raffles doesn't want to tell a story of heroism, but it's a little difficult to avoid this (27).

A coda about Raffles' own experiment.

Treated as a knowledge practice itself, *Insectopedia* is both profoundly conservative, and at the same time utterly experimental. The conservatism is given, *inter alia*, in its bookness. I've already noted some of the collateral realities implied in 'the book'. But is this an *academic* book? The answer has to be, yes, and no. There are forty pages of references. If you want to go upstream and check the sources, they're there. So yes, in a strong sense this book belongs to anthropology, to STS, and to the history of science. Already, then, it counts a considerable feat of academic choreography. But then again, anthropologists mostly don't get published by Pantheon at Random House. They're more likely to appear with Duke, or Berg, or in the pages of *Cultural Anthropology*. This tells us that *Insectopedia* participates in and enacts another knowledge practice, that of the '*grande publique*'. If you read the *New Yorker* or *The London Review of Books*, you may be tempted to read *Insectopedia*. In the UK, with its crazy focus on academic knowledge-practice metrics, publishing a book like this might even count as 'impact'. But the analogy cheapens Raffles' achievement. *Insectopedia* is

intended – and crafted – for anyone with, say, a college education interested, yes, in insects and how they intersect with people. But also in what *counts* as knowledge. And the author appears in its pages as a figure who wears his learning lightly and gracefully. There aren't any lectures here. We're invited, instead, to peer into the cases in Raffles' cabinet of curiosities. Indeed we're seduced into doing so.

From one kind of knowledge practice, then, to another, telling stories about other knowledge practices, *Insectopedia* puts such practices into interference with one another. If I say that this is a fairly conservative strategy compared, say, with that of Cornelia Hesse-Honneger, then I don't intend to belittle the achievement. On the contrary, it's extraordinary.

### Love Affair

Is it possible to imagine a love affair with a book?

Professor C.E.M Joad, panellist on the BBC's wartime 'Brains' Trust' programme, might have said that 'It all depends on what you mean by 'a love affair'.' If love is about collapse into singularity, communion, if it is about lack, about trying to fill gaps, then the answer is certainly not. People cannot join together with books. If, on the other hand, love is about movement, tension, extension, appreciation, uncertainty, puzzlement, partial connection, and operations that work with the possibly creative character of difference, then the answer is, just possibly.

Of course there's a snag. There doesn't seem to be much possibility of *mutual* regard here. Books are significantly other to people. They don't look back. Like insects, they're indifferent. No doubt, then, the whole idea is a bit far-fetched. But then again, so is the idea of communion. Distribution, pleasurable and knowledgeable or otherwise, seems more plausible. But how might we do such juxtapositions well?

### Missing

Simply missing.

### Non-coherence

Let's drive a wedge between *incoherence* on the one hand, and *non-coherence* on the other. Perhaps the measure of both is coherence, but the two terms lead us into different worlds. If incoherence is the normative other to coherence, if it's a bad, then non-coherence takes us to descriptive places where relations aren't judged in terms of a single metric. *Insectopedia* may or may not be incoherent, but it is definitely non-coherent. And that's not a complaint.

### Oversight

**“oversight ...** *n.* supervision; omission to notice; mistake due to inadvertence.” (*The Concise Oxford Dictionary*)

I hadn't thought about it before, but I see now that an oversight is both an overview and the *failure* to achieve that overview. But then we might play with the following question. What would replace successes and failures in the successor projects to the overview?

### Performativity

Looked at in one way the problem with knowledge practices is that they are performative. How to build that argument is a matter of debate. However, in a quick version we might say, as I have

above, that descriptions, the realities described by those descriptions, status or authority to describe, and a whole lot of taken-for-granted collateral realities are all being done together. Or not, as the case may be, because (here's the point) if you strike out on your own it's a pretty tall order to choreograph all these into being in some kind of novel configuration that actually holds for more than the original moment of heady creativity.

This suggests, as Bruno Latour and Steve Woolgar long ago argued in STS, that there's something like an *economics of performativity* at work<sup>5</sup>. Yes, every practice enacts descriptions, realities (explicit and otherwise) and forms of authority, but it's a whole lot less expensive to try to know in the standard ways than it is to strike out in some radical direction. It also suggests, however, that realities aren't immutable but that they're enacted into being, and that the realities that hold are those that get done, and done again, and done again. Those that fail are those that *don't* get converted into rituals, thereby missing out on the benediction of repetition.

But there are other ways of thinking about this. For instance, there are *different kinds* of knowledge practices. Annemarie Mol makes a version of this point (though she's also interested in practices that don't necessarily have much to do with knowledge directly). She says that since there are multiple practices it follows that multiple *realities* are also being enacted<sup>6</sup>. But then again, sometimes these overlap. The result is *interference*. (I'm running through STS here and I've got back to Donna Haraway.) So now I can say what I didn't quite say earlier. In this way of thinking, it's different enacted *realities* that are interfering with one another, and not simply different points of view. And that's what's happening in *Insectopedia*. It's performative itself, setting up inferences between knowledge practices and their realities. And then, often enough, its *individual* stories can also be understood as interferences too.

It's time, then, to nuance Latour and Woolgar's economics of performativity with a move that is more political. The issue is this: if realities are multiple but they're also imbricated, then what kind of freedom of manoeuvre does this multiplicity afford? What kinds of realities might be hardened up when they intersect with one another, and which might be softened? Of course it's not the case that anything is possible. The economics of performativity are real enough. But sometimes it might be possible to make a difference. Mol calls this *ontological politics*, and in one reading this is what *Insectopedia* is doing. It's enacting insect-human realities in ways that make more space for wonders.

### Quality

If our knowledge practices start to shift then we're left with a whole lot of questions together with a shortage of guarantees. For it's one of the attributes of the standard packages that they solve the problem of authority – which at least in science, is also the problem of method. So what is method? And what counts as a good method?

In the past, rules have been important. However, epistemology has been in decline since the 1960s, eroded not least by the efforts of historians of science who went to look at what scientists actually do, as opposed to what they (or their philosophical apologists) say that they do. Iconic here was

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<sup>5</sup> Latour and Woolgar (1986).

<sup>6</sup> Mol (2002).

Kuhn's *Structure of Scientific Revolutions*<sup>7</sup>. Knowing well, he suggested, is a pragmatic matter. It's also community attribute. That is, it's social and cognitive and material and logical, all at the same time. If we were so minded we could rework what he says into the terminology I've used above. *Descriptions, explicit realities, the problem of authority, and collateral realities*, they're all there. But it's no longer the rules that stand on guard. Kuhn was committed to science but, he told us, there aren't any guarantees.

Does this open the floodgates? Do we now live in a relativist world? Does anything go? Raffles cites Feyerabend<sup>8</sup>, though the latter opened the gates for a very particular purpose. His anarchism was more like a free market in explanation, theories red in tooth and claw. Kuhn insisted not: everything *doesn't* go. His alternative to epistemology is expertise embedded in specialist community structures. The sociology of scientific knowledge has played variations on this theme ever since. But then the next set of questions slowly begins to take shape. What *counts* as an expert? Should we *believe* our experts? And for some, what Timothy Mitchell calls the 'rule of experts' is also contested<sup>9</sup>. Indeed Raffles' book is a collection of such practices. Cornelia Hesse-Honneger's work is just one example. It turns out that there are too many experts, too many versions of expertise, and too many lay experts. There are too many kinds of knowledge practices. The cacophony of their juxtaposition, their interference, has worked to erode their authority.

So how to think about quality? It's tempting, isn't it, to start re-erecting rules. Improbably there are attempts to do just this in that most practice-oriented and empirically grounded discipline, STS. Stipulations are on the rise. So what's the problem here? The answer is that normative answers simply don't work. Of course to say that 'rules are wrong' might count as just another stipulation. But hang on. It's possible to parse that phrase *descriptively* rather than normatively. To say that 'rules are wrong' might simply be a way of saying that they (the rules) don't get it, they don't work, or that they only extend so far. Which, or so I suggest, might be a good way to go. Not as a rule, but as a sensibility. Descriptively and matter-of-factly. For whatever the fundamentalists might claim, even the most all-embracing rules work only *within* particular knowledge practices. Or (let's be cautious) that's how it looks from within my knowledge practices<sup>10</sup>.

Raffles doesn't address the issue in quite this way, but I think it's implicit in what he's trying to do. If one observes the erosion of the monopoly of expertise and starts to play more or less descriptively with the idea that knowledge practices are multiple, then it becomes interesting and important to go round collecting them. Then, and just as important, it becomes illuminating to explore their differences, and consider how they interact with one another. To play with the *possibilities*.

How does this solve the problem of quality? In one way it doesn't at all. But I think it's like this. We are where we are, as a matter of fact, located in and around a series of knowledge practices. These shift, and they also come and go. But that's the best we've got, any of us. And it's those that define our standards. So Raffles is located in the intersections between a range of academic practices and a US version of the '*grande publique*'. And where else? Heaven knows. How long is a piece of string? One could speculate about the importance or otherwise of being an expatriate, or the role of

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<sup>7</sup> Kuhn (1970).

<sup>8</sup> Feyerabend (1975).

<sup>9</sup> Mitchell (2002), but see also Callon, Lascoumes and Barthe (2009).

<sup>10</sup> Law (2004).

religion and the spiritual, but it doesn't really matter. Because what we see in *Insectopedia* is an utterly rigorous practice of an unusual kind.

Perhaps, then, it would be best to say that a *sensibility* to wonder and difference is being combined and articulated, first with a whole set of intellectual resources, and second with a grounded commitment to the empirical. I said earlier that all the scholarly apparatus is there. The theory's there too, worn lightly. Raffles has crafted these together and put them into the service of his sensibility to difference, to generate a book that is rigorous both in content and in form. It's rigorous not because it comes with guarantees. It's rigorous because it asks us to wonder at the character of insects. It's rigorous because it asks a whole variety of academic and non-academic readers to wonder at wonder itself and how this intersects with knowledge. If we are to engage with this properly it will take work, care, commitment and indeed a kind of love.

### Romanticism

In one version, Romanticism is a substantially German, nineteenth century reaction to the rationalism imposed by the French at the point of a bayonet in the Napoleonic wars. Detachment, analytical separation, and the search for rule-based general explanations were out. Instead knowing became contextual, specific, cultural, holistic, and was to be achieved in embodied immersion and tacit experience. Breaking things down into pieces in the hope of understanding them was simply beside the point. That's what I was taught, at any rate, when I started to learn sociology. The latter, I also learned, was necessarily left struggling in the space between rationalism and Romanticism. After all, on the one hand people have culture, meanings and language, whereas physical, chemical and biological systems and entities do not. On the other hand, this was the problem, in sociology we still needed to look for more or less general explanations.

At the time I learned all this, it wasn't clear to me that reaction is more or less framed by whatever it's reacting against. Taking this lesson on board makes a difference. It becomes clearer that Romanticism also carries a series of commitments over from rationalism. Though they tackle the problem in different ways, both, for instance, prefer to view the world as a *whole*. They take it for granted that it, the world, is a *single reality*. They both offer sets of techniques for grappling with and *knowing that whole*. And they share the assumption that there is a potentially knowable *higher order*. All this poses the question: what might an alternative look like?

To pose the question is to fall straight into the same trap: any response is immediately suborned by what we're trying to escape from. But if we accept the compromises of collaboration, what do we discover? In principle there are many responses, but there's a well-beaten minority path that leads to practices and sensibilities that predate Romanticism and the long European triumph of rationalism, a path that leads to *the baroque*.

To enumerate the features of the baroque is precisely to lose the baroque plot and fall into Romanticism. But here goes anyway. In the baroque and its knowing, allegory and indirection replace the explicit and the formalised. Parables replace concepts. A sensibility to the teeming sensuousness of the world replaces the search for principles. Embedded appreciation replaces more or less transportable abstraction. Decentred subjectivities replace unified knowing locations. And then a series of Romantically naturalised divisions are also swept away. Big and small or (as sociologists like to say) macro and micro, these no longer belong to the order of things. Inside and outside, they disappear too. Everything is already within, creeping, crawling and countlessly teeming

away, the big things as well as those we usually take to be small. All of which means that what Romantics think of as *details* (details are small bits and pieces that are more or less illustrative, diverting, or contributory but ultimately to be sneered at because they divert us from the big picture) are converted into *specificities*. Things in their own right, neither big nor small.<sup>11</sup>

This is where the baroque starts to imagine knowing. Then it becomes possible to tell philosophical stories that take us to Leibniz, Whitehead and Deleuze. Probably to Walter Benjamin too. And there are fractures in those stories, different versions of the baroque. Tip-toeing round the limits of my competence and choosing to avoid the language of monadology, I quickly observe that one of these has to do with compossibility. Here's the question. Are all the worlds of the knowers consistent or not? Their knowledges, their apprehensions and their parables? Yes, says Leibniz, in principle yes. Some know better than others, and some know different things, but God designed the world, He knows it all, and it fits together. But when, in a different and less monotheistic era, Whitehead poses the question again, his answer is different. No says Whitehead, *it doesn't all fit together*.

Now I've reached the place I needed to be in order to suggest that when we read *Insectopedia* what we are seeing, what we are *experiencing*, is the baroque at work in a non-compossible version. There are realities – and accounts of realities – here. They overlap and interfere with one another, but they don't add up. And you wouldn't expect them to either

But then I want to add something about Romanticism. I want to say that *Insectopedia* can be understood as a series of small Romanticisms. Indeed, I want to propose that that's what knowing is for, or within, the baroque: it's a *series of small Romanticisms* combined with an apprehension and appreciation of the places *between* those Romanticisms. It's a whole lot of small clarifications and specific enunciations that also count as parables. And a set of uncertain joins. In Raffles' book this is a form of knowing that turns itself into descriptions of *small versions* of the definitive that parade past the reader as horrors, pleasures, meticulousnesses, genocides, curiosities, resistances, revulsions, obsessions, addictions, refusals and experiments. Non-compossibly. In ways that don't add up to make a whole.

### Senses

We *see* it. After all, it's a text, and with a lot of pictures. We *touch* it because we hold it. Perhaps (it seems unlikely) we *smell* it too. But we don't *hear* it until the spine starts cracking. And I doubt whether we *taste* it either. And what about *proprioception*? What's *happening*, then, in a book that introduces us to ways of knowing insects that take in so many more of the senses? In such a *book*?

### Transportability

Two questions. How does knowledge *transport*? And does it matter *whether* it transports?

I've already played with an answer to the first of these questions. Knowledges move to the extent that knowledge practices hold the same in different places. There's an STS literature on this which tells us that scientific truths are true in laboratories that have been choreographed in the same way. If the descriptions, the realities and the authorities hold stable, then those truths reappear each time like magic: they're what Bruno Latour calls *immutable mobiles*. If the choreography shifts, then they, the truths, disappear instead. Then there's a revisionist STS literature that's less impressed by

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<sup>11</sup> I derive this list from Kwa (2002). For discussion in the context of the history of art, see Hills (2007).

standardisation. Assuming that imitation really isn't on, it says that since knowledge practices vary, more or less, so knowledges tend to shift too as they move around. If the shifts are radical then whatever's being transported falls apart. The knowledge in question disappears. If the shifts are gentle, then there's a kind of alchemy and 'the same knowledge' turns up in different forms. Mobiles become *mutable*. They're fluid, not solid<sup>12</sup>.

This short detour on transportability helps to explain why a book is a pretty good way of moving knowledge around. So long, of course, as its surrounding physical, social, economic and linguistic ecology is also being choreographed in the right way too. Though, here's the rub, text-based as it is, *Insectopedia* can also be treated as an essay in the *limitations* of book knowledge, its transportability, and the practices within which it is located. Raffles' writing moves quite beautifully from his desk to our eyes. We wouldn't sense those limitations so well if it didn't. But if what's being transported isn't really transportable in this way, then perhaps the book also needs to be understood as an exercise in *frustration*.

In his previous *In Amazonia* Raffles wrote:

"I arrived in Igarapé Guariba in 1994 looking for oral histories. I was in the northern Brazilian state of Amapá and was captured by the landscape, its blatant physicality and its enduring imaginaries."<sup>13</sup>

He's still captured by that Amazonian landscape. In a short essay on 'Beauty' close to the beginning of *Insectopedia* he writes:

"A hundred yards away on the far bank, under the heavy trees, which just yesterday had sheltered a broken wooden house, the poorest on the river, was a shimmering jewel, a glittering vision of fluttering yes, canary yellow, corn silk yellow, golden yellow. Flecks of gold were spinning from it like cinders high into the dark forest. Sparkling sunbursts were spiraling out from it over the river." (13)

What is it, he asks. His guide laughs at him. It's "the *borboletas de verão*, the butterflies of summer," he says. "They're back. You've never seen them?" As we read on, Raffles muses on a photograph of the butterflies outside the house where he lived. "Sometimes now," he writes, "it seems like a dream, someone else's story." He touches on the sleeping dog, the palms, the vegetable patch, and then he writes:

"See the *borboletas de verão* caught in time and space like mini UFOs, just visiting, just stopping by, entering our lives, transforming everything just for a moment, showing us a glimmer of a different world, then passing on?" (14)

The essay's beautiful. It's poetry. As I just said, Raffles writes beautifully. For a moment we're with him. We're enchanted. But the photo is in black and white. No sparkling sunbursts for the reader. But even if it were, would this help? I don't know, that's the honest answer. But here's the point, it's *someone else's story*. Which is why I'm tempted to say that the book is both a marvel and an essay in

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<sup>12</sup> Mol and Law (1994).

<sup>13</sup> Raffles (2002).

frustration. If it's about the need for wonder, then it can *tell* of wonders. But how well does wonderment travel between the covers of a book?

The answer is, I don't know. So perhaps what's really travelling here is an *argument for* wonder, even though wonder itself cannot be transported. Perhaps, then, knowing is also about immutable *immobility*. About practices that simply don't move. And about the importance of appreciating them.

### Uncertainty and Unease

It's more than uncertainty. I've hinted at this already. There's a subtext that also has to do with unease, the uncanny, the unhomely *Unheimliche*. There is the familiar that also swarms beyond the margins of clarity. That lurks behind the skirting boards. That erupts at just that teeming moment when you turn the stone over. Or maybe it's better not to turn the stone over at all. We know we need to mind the gaps. So Raffles' book is also an essay on unease. He met the latter (I cited him) in the Montreal Insectarium, just as Foucault met it when he discovered Borges' list. It's that fleeting moment when the unknowable is known. Indeed for just a moment.

### Violence

And then there is the violence. The plagues of locusts. The cricket fighting. The paralysis of the grub. The insect crushed by the foot. The radiation-induced deformities. The impulse to lash out. The delousing. The dissections.

Uncertainty, unease, indifference. And violence.

### When Species Meet

"There are so many insects, uncountable numbers, more all the time. And they are so busy, so indifferent, and so powerful. They'll almost never do what we tell them to do. They'll rarely be where we want them to be. They won't keep still. In every respect, they are really very complicated creatures." (4)

This is the last paragraph from the brief Preface to the *Insectopedia*. We're at the point when we've bought the entrance ticket and the cabinet of curiosities is open for visiting. But now I've done the tour, I've peered at the exhibits, and I want to write something in the visitors' book.

I want say to Raffles: you've shown us what you promised to show us, and you've done it quite beautifully in your baroque/Romantic allegories; you've shown that you can keep insects still, sometimes, and just for a moment; you've shown us their power and their indifference; and (again for a moment) you've shown us that you can sometimes count their countlessness ("[t]hirty-six million little animals flying unseen above one square mile of countryside?" (7)). You've done all this, and it is beautiful. You've shown us that insects are *wondrous*. I respond to the tour not just intellectually but emotionally too. I'm left buzzing, which is surely how it should be if we are in the business of undoing some of the divides embedded in the knowledge practices of the contemporary academy.

But then I have a little question. Don't you think it's a bit misleading, a bit of a let-down, to announce the start of the tour by telling us that insects are *really very complicated*? No doubt you're right. No doubt they're complicated. But that's not really the point, not in the way that you've assembled and displayed the curiosities that we've just been visiting. For the insects are all the *other*

things that you say. They are *indifferent, powerful, uncountable, busy, wondrous, monstrous, terrifying*, and all the rest. So no, and all in all, the word *complicated* doesn't catch it. What's most important is that insects are *other*. Sometimes they are *significantly* other. Indeed many of your grimmest exhibits precisely depend on that *significance*:

“On the third day the locusts left. There was no more millet. They'd taken it all. But they'd left something of their own. Two weeks later, the eggs hatched, and the hoppers emerged from the ground. This time it was far worse than before.” (236)

We need to put the accent on both words here. *Significance*. And *otherness*. It is difficult to imagine significant otherness writ any larger. The locusts “...are so busy, so indifferent, and so powerful.” So where is this? The answer is: it's in the Sahel, in a village called Dan mata Sohousa not too far from Niamey. This (it's called 'On January 8, 2008, Abdou Mahamane ...') is a gruelling exhibit, painful in a dozen different ways. Terrifying.

Then again, if we attend to the otherness many of the exhibits suggest that much of the time our insect co-habitees simply pass us by. They are *other* whilst being barely significant. There's a nice literature in STS which shows that some things are almost undetectable and it takes an inordinate degree of effort to notice them at all. For instance, solar neutrinos simply pass through the earth. The latter (along with its six billion people) is almost transparent to them<sup>14</sup>. The lesson is that things only *matter* when they are materialised in interaction. It's only when somehow or other they resist or make a difference, that they become noticeable. We learn, perhaps unsurprisingly, that mattering is relational and that it may take quite a lot of effort.

Perhaps, then, we might think of *Insectopedia* as a companion volume to Donna Haraway's *When Species Meet*<sup>15</sup> but as a corrective too. Haraway talks of dogs and people, though she extends her scope to other mammals including laboratory rats. So (I stick with dogs and people) she shows that we may be well understood as companion species. (*Cum panis*. We sit at the same table and break bread together.) To put it differently, dogs and their people interact. They shape one another in layers of practices that extend from the cohabitations of the Stone Age through the vicissitudes and politics of selective breeding, to the training that leads to the split-second gestural interactions demanded in agility. Here's the point. Dogs and people matter to one another a lot of the time. That's the *significance*. Haraway is insistent, however, that dogs and people are also significantly *other* to one another. Dogs, as she memorably observes, aren't furry children. The relationship, then, is one that demands respect to difference both ways round.

So what's the point in saying that *Insectopedia* is both a companion volume and a corrective to *When Species Meet*? The answer is that dogs lie somewhere in the middle. They are *fairly* other to people, and *fairly* significant. Whereas insects? Well, they may be crushingly significant in the Sahel or, and differently, in the betting parlours of Shanghai. Or they may be as insignificant as solar neutrinos, in which case they scarcely matter because they do not register. But while their *significance* is utterly variable, their *otherness* is a constant. And it's total. That's *Insectopedia's* real corrective. It's not a matter of doubting Haraway's stories about people and dogs. The danger is in

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<sup>14</sup> Pinch (1981).

<sup>15</sup> Haraway (2007).

generalising it to interactions with other living beings. There's no mutual regard between insects and people. It might be a love affair. It might be a chamber of horrors. But whatever it is, it's all one way.

### eXperiment

Experiment. A mode of learning. Hold everything stable and steady apart from the variable you want to explore. Isolate. Isolate and replicate. That's what they taught me in school. And then I unlearned it when STS came along.

We've visited experiments, many of them, along the way. T.H Morgan's *drosophila*. Cornelia Hesse-Honegger's arrays of body parts. Eyes. Antennae. Malformed legs or wing casings. Karl von Frisch on bees and language. And Raffles' own experiments in juxtaposition. All of them so different. So what do we learn?

Isn't it like this? We're back to knowledge practices. Experimental practices get themselves tuned up to learn in *particular* ways. Certain kinds of differences register. Which means, and necessarily, that they tune out of learning in *other* ways. And this is neither a problem nor a complaint. That's how it is. Raffles' cabinet of curiosities included. The problem arises when the claims get out of hand. When particular knowledge practices claim hegemony. Citation: the experience of Cornelia Hesse-Honegger. That's one of the things we learn from this conservative and utterly unconventional book.

### Yelling

Annemarie Mol writes about how to face suffering<sup>16</sup>. "In the late seventies I was a student of medicine," she writes, "and gradually got angry at the way suffering is handled in the caring professions. I realised that, basically, I wanted to react by yelling. By screaming out a revolting, inarticulate, harsh yell."<sup>17</sup> *Inarticulate*. There's the problem. Yelling is loud but it doesn't carry. But what to do instead of yelling?

She finds that in health care there's *rationalism*, which doesn't deny suffering but tries to counter it. Then there's *empathy*. In the hospital this works by holding a patient's hand; in writing the author professes to 'understand' and sympathises. And there's a *clinical response* too. Accept the suffering, acknowledge it, but don't try to take it on board: it cannot be assimilated.

All of these responses have their uses and their limits too. Rationalism may help to normalise. It may *efface* suffering. But if this doesn't work then it isn't helpful. Empathy may *soothe* suffering and ease it. But in pretending to a commonality that isn't there it provokes another kind of pain. The clinical approach grants *space* to suffering. It's allowed to exist. But being clinical in relation to one's own suffering makes little sense. So what to do? Mol rehearses other possibilities.

For instance, there's *description*. Indeed, there are lots of modes of describing. There's *enactment*, again in various forms. "There are," says Mol, "poems, novels, letters to the editor..." There are denunciations. Fits of rage. And then there is *evocation*. Authors may write in a way that provokes pain in the reader: "Stefan Hirschauer wrote about surgeons operating on genitals: quite a few of his readers felt this in their own private parts." Is this a way of bridging the gap between those who suffer and those who stand and stare?

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<sup>16</sup> Mol (2001).

<sup>17</sup> Mol (2001).

Here's the issue. How to face that which is bad? How to know it? How not to silence it? How to avoid pretending that it can be shared? How to respect it? How to appreciate its specificity, its otherness? I don't quite know how this works in *Insectopedia*. There's something about the book's authorial voice here that I don't really understand. But *Insectopedia* doesn't yell. Instead it takes us to some terrible places in a calm, quiet and slightly detached voice. Perhaps there are traces of clinic here. But there's something else too:

“Alfred Nossig, the sculptor ..., was seventy-nine when he was arrested in the Warsaw Ghetto by the ZOB, the Jewish Fighting Organization, the underground group that would lead the iconic uprising. It was February 1943, one of those dead days of terror between the Gestapo's January incursion and the April revolt.....” (146)

The something else? Here's my hunch. It's about the attention to *specificity*. After all, this is a narrative that could scarcely be more grim. But/and it is also very *precise*. The Jewish parasite – a figure that merges “modern anti-semitism, populist anti-capitalism, and the new social sciences” (148) – is refracted through the story of Alfred Nossig. Nossig the sculptor, Nossig the Zionist, Nossig the writer, Nossig the journalist, Nossig the diplomat, Nossig the collaborator, and Nossig, the political criminal executed by the ZOB shortly after his arrest in the winter of 1943.

It's the *precision* of the story that strikes me. Pathos and redemption spread themselves ever so thin across the specificities. The materialities, there are so many of them, press themselves forward. When Hannah Arendt wrote of Eichmann and the banality of evil she demonstrated the relevance of attending to the small specificities of the bad. And this is happening here. Destruction is conveyed by attending meticulously to its details. With, I think, something else as well. This is the added refusal to subsume those specificities to one large story or another. It's as if we were being summoned into the presence of the *banality of ambivalent small things*.

## Zero

Brian Rotman makes the argument. It's about *signified non-presence*<sup>18</sup>. He's talking about the invention of zero, the number, but also of the vanishing point in linear perspective, and the creation of imaginary money.

“... zero points to the absence of certain signs either by connoting the origin of quantity, the empty plurality, or by connoting the origin of ordering, the position which excludes the possibility of predecessors.”<sup>19</sup>

It is both a number, and not a number, both within and outside. It is just like the vanishing point in linear perspective. It's this that makes perspective possible, it's the origin, and yet it lies outside the picture. And imaginary money too: making it possible to trade in money, it's both money and it isn't. So all of these are double. They are signs among other signs. But they are generative as well: they are meta-signs. They organise the other signs into coherence. And this isn't all, for they also generate a particular form of subjectivity. For now you can stand outside and see the whole. That's the generative importance of the zero, of the vanishing point, and of imaginary money, all inventions of the Mediterranean world, Arab and Christian, on either side of 1000 CE.

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<sup>18</sup> Rotman (1987, 4).

<sup>19</sup> Rotman (1987, 13).

Perhaps, then, *Insectopedia* is about the *loss* of signified non-presence. Or perhaps it's about the *multiplication* of versions of signified non-presence. Or perhaps it's a reaction to, and an argument against, how it is that signs that double as meta-signs got to be overambitious and tried to displace other kinds of signifying regimes. In which case it's an essay about the excesses of a particular explanatory burden, and how we might generate other and more generous knowing practices.

## References

Callon, Michel, Pierre Lascoumes, and Yannick Barthe (2009), Acting in an Uncertain World: an Essay on Technical Democracy, Cambridge, Mass., and London: MIT Press.

Feyerabend, Paul K. (1975), Against Method: Outline of an Anarchistic Theory of Knowledge, London: New Left Books.

Foucault, Michel (1970), The Order of Things: an Archaeology of the Human Sciences, London: Tavistock.

Haraway, Donna J. (1992), 'The Promises of Monsters: a Regenerative Politics for Inappropriate/d Others', pages 295-337 in Lawrence Grossberg, Cary Nelson, and Paul Treichler (eds), Cultural Studies, New York and London: Routledge, also available at <http://www.stanford.edu/dept/HPS/Haraway/monsters.html>.

Haraway, Donna J. (2007), When Species Meet, Minneapolis and London: University of Minnesota Press.

Hills, Helen (2007), 'The Baroque: Beads in a Rosary or Folds in Time', Fabrications: The Journal of the Society of Architectural Historians, Australia and New Zealand, 17: (2), 48-71.

Kuhn, Thomas S. (1970), The Structure of Scientific Revolutions, Chicago: Chicago University Press.

Kwa, Chunglin (2002), 'Romantic and Baroque Conceptions of Complex Wholes in the Sciences', pages 23-52 in John Law and Annemarie Mol (eds), Complexities: Social Studies of Knowledge Practices, Durham, N.Ca and London: Duke University Press.

Latour, Bruno, and Steve Woolgar (1986), Laboratory Life: the Construction of Scientific Facts, Second Edition, Princeton, New Jersey: Princeton University Press.

Law, John (2004), After Method: Mess in Social Science Research, London: Routledge.

Law, John (2011, forthcoming), 'Collateral Realities', in Fernando Domínguez Rubio and Patrick Baert (eds), The Politics of Knowledge, London: Routledge.

Mitchell, Timothy (2002), Rule of Experts: Egypt, Techno-Politics, Modernity, Berkeley: University of California Press.

Mol, Annemarie (2001), 'Instead of Yelling', EASST Review, 20: (2), also available at <http://www.easst.net/review/june2001/mol.shtml>.

Mol, Annemarie (2002), The Body Multiple: Ontology in Medical Practice, Durham, N. Ca., and London: Duke University Press.

Mol, Annemarie, and John Law (1994), 'Regions, Networks and Fluids: Anaemia and Social Topology', Social Studies of Science, 24, 641-671.

Pinch, Trevor J. (1981), 'The Sun Set: the Presentation of Certainty in Scientific Life', Social Studies of Science, 11: (1981), 131-158.

Raffles, Hugh (2002), In Amazonia: a Natural History, Princeton and Woodstock: Princeton University Press.

Rotman, Brian (1987), Signifying Nothing: the Semiotics of Zero, Stanford: Stanford University Press.

Shapin, Steven (1984), 'Pump and Circumstance: Robert Boyle's Literary Technology', Social Studies of Science, 14, 481-520.