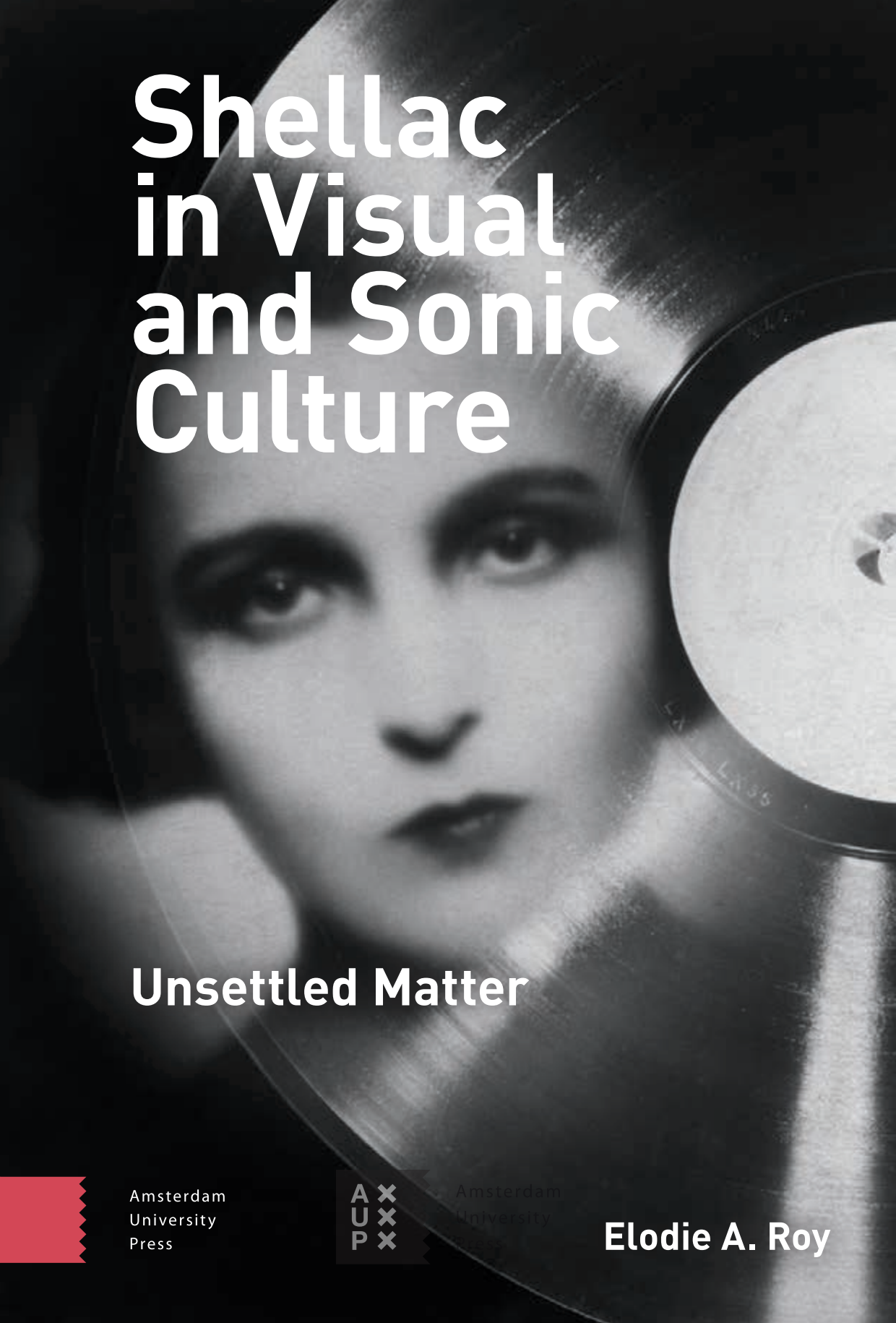

Shellac in Visual and Sonic Culture

Unsettled Matter

Elodie A. Roy

Amsterdam University Press

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For Brigitte, William and Benjamin Roy

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Introduction: From material culture to the materials of culture

Abstract:
The introductory chapter surveys the main theoretical concerns and themes underpinning the book as well as giving a brief historical overview of what shellac is. It gives insights into the chosen methodological framework, surveying what the implications of following the mutable materials – and stories – of media cultures are. Rather than focusing on finite media objects and practices of consumption, the introduction highlights what an emphasis on materials and processes might mean for the study of media cultures.

Keywords: media archaeology, materiality, ecology, narrativity, shellac

In the Spring of 1936, the London Shellac Research Bureau celebrated shellac at its India House headquarters in Central London.[1] One of the windows of India House offered a modest yet carefully curated display of shellac-based artefacts (see Figure 1 below). The material, a thermoplastic of insect origin imported from British India, appeared in its various sizes and guises, ranging from tiny soluble flakes held in fragile glass vials to finished commodities such as bowls and hats.[2] Among the everyday objects featured in the window display, gramophone discs – perhaps the most iconic and best-known of all shellac-based artefacts – occupied a prominent position. Emile Berliner's shellac discs had been introduced in the second half of the 1890s. By the 1930s, as is still the case today, shellac was principally and most spontaneously

1 The London Shellac Research Bureau, which was attached to the British Government, worked in close connection with the Indian Lac Research Institute in Ranchi (at the heart of the lac-production area) and the Shellac Research Bureau in New York. In London, India House hosted the Bureau from 1934 to 1940, when the Bureau was transferred to the University of Edinburgh for fear of German bombings.

2 It is the only known plastic of animal origin.

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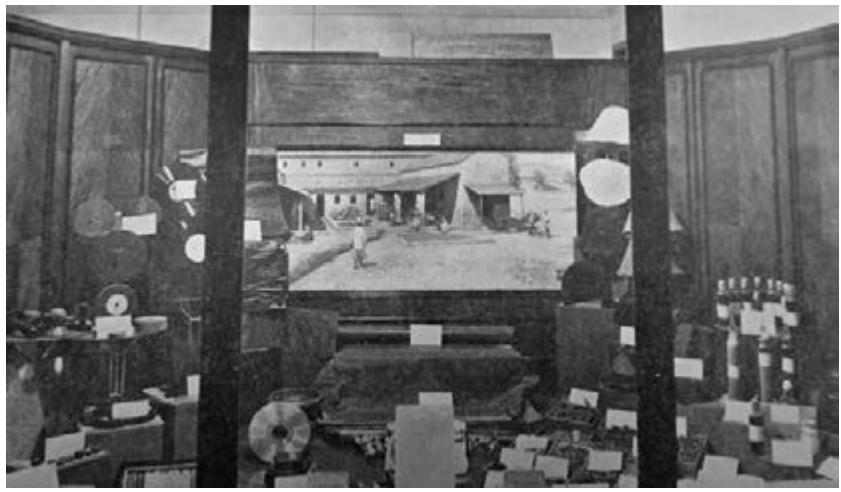

Figure 1: Shellac window display, India House, London, 1936. Author's picture. National Archives, UK.

associated with audiophilic pleasures and the enticing black sheen of records, more closely relating to the realm of sound rather than to vision. In 1935, half of the shellac that England imported was to manufacture gramophone records and the material, which had previously been consumed by 'the highly industrialised countries of Europe and America', now attracted new clients such as Japan and Russia.[3] India was the first – and almost sole – worldwide producer of shellac before the Second World War, providing 90% of the global supply and processing the remainder.[4] At the time, the multinational gramophone industry represented the main single consumer of shellac in the world, absorbing over one third of the annual output.[5] Shellac cultivation was almost exclusively concentrated in the region of Bihar, with smaller production areas in the United Provinces, Bengal and the Central Provinces.[6]

3 See Parry (1935), 170, and Adarkar (1945), 2. Russia had a developing record industry and production programme: the country, which produced 700,000 records a year in 1934, planned to manufacture 40,000,000 records annually by 1937 (the equivalent of 2,000 tonnes of shellac a year).

4 Spate (1964 [1954]), 233. In addition to this, lac products alone constituted almost half of the total value of Indian forest products (Ibid.).

5 Adarkar (1945), 1. The early record industry constituted one of the first truly transnational business. The Gramophone Company (to become EMI in the 1930s) was established in 1898. In the first decade of the twentieth century, a number of commercial recording expeditions were undertaken in India, Japan and China, to sonically capture – and ultimately commoditise – colonial and subaltern subjects. See Jones (1985).

6 Bihar was also, incidentally, the centre of mica production – another strategic material for the electrical and radiophonic industries. See Adarkar (1945), 3.

Rather than concealing it, the exhibit at India House celebrated the longer and larger history of the British Empire. A large photograph showing a small, whitewashed Indian shellac workshop was hung in the background, hovering about the familiar assemblage of everyday objects. The uncaptioned photograph pointed to the often-ignored origins of shellac production, visually connecting the early record-making industry to a long, global quest for resources. The name 'India House' itself concretely evoked the powerful East India Company of the early seventeenth century which had first imported shellac into England. The original India House, located in the Leadenhall area of London, had been the place where colonial goods such as shellac, but also tea, cotton, silk, tin and spices, had been auctioned off to be disseminated across Britain from the seventeenth to the nineteenth century. The 1936 shellac exhibit at India House was one of many events organised to promote shellac-based commodities throughout the 1930s. The polyvalent natural plastic was also exhibited by the British Government on a number of much larger national and international events. These included the 1934 Birmingham Trade Exhibition, the 1934 Canadian National Exhibition (in Toronto), or yet again the 1935 Universal and International Exhibition (in Brussels) – as well as the 1939 British International Fair (held jointly in Birmingham and London).

With its dense and heterogeneous array of objects, the window display shared affinities with the inventories of the everyday so minutely assembled by Georges Perec in his 1960s and 1970s novels (including the monumental *Life: A User's Manual*, published in 1978). Perec attempted to completely 'exhaust' everyday spaces – from streets, buildings, flats, and rooms to office drawers – by indexing and describing every item they contained.[7] Perec's inventories proposed a different mode of storytelling – operating in space rather than in time, and fusing description with narration, still life with movement. His forays into the ordinary surfaces, affects, and objects of everyday life were later theorised in his literary hybrid *L'Infra-ordinaire* ('The Infra-ordinary'). The book, posthumously published in 1989, encouraged readers:

> to question what seems to be so obvious that we have forgotten its provenance. To recover something of the puzzled sensation that Jules

7 Visual artist Daniel Spoerri, in his three-dimensional collages or 'picture-traps' spanning the same period, would similarly draw cartographies of the everyday by gluing together collections of vernacular objects. In the early hours of the morning on October 17, 1961, Spoerri resolutely traced the objects cluttering his studio table, making a map of them. In the months to come, every artefact would be numbered, captioned and described by the artist, its history tentatively retraced, its meaning momentarily circumscribed yet never fully suspended or exhausted. See Schwenger (2006), 101.

> Verne or his readers felt in front of a device that could reproduce and transport sounds. […] We must question bricks, concrete, glass, table manners, devices, tools, timetables, rhythms. Question that which has now ceased to puzzle us. […] How? Where? When? Why?[8]

Perec's prompts remain useful. Drawing on his insights, I would like to suggest that a similar attempt can be made at unpacking the composite materialities, histories, temporalities and socialities of the artefacts photographically frozen behind the glass panels of India House. Taken together, the exhibited objects provided a deceptively arrested image of the everyday (or a version of it); on an individual level, each of them discretely indexed the ambiguous history of a single yet mutable material of culture.

Plastic stories and processes

This book is not only concerned with discrete (media) cultural objects – such as the ordinary gramophone records displayed at India House in 1936 – but also with the material or 'stuff' of which such everyday objects are more invisibly made. It argues that the investigation of processes and materials themselves – which are often dismissed as being mundane, secondary or indifferent – yields important insights into the understanding of cultural practices and epochs. Contrary to rare and luxurious materials – including metals such as gold and silver –, shellac cannot be taxonomically described as a noble substance: as such, it has never been pursued or construed as a singular 'object of desire' (to adopt Adrian Forty's formula) in and of itself, though it gradually became valued across centuries for its visual, plastic and sonic properties, as they were revealed when it was combined with other substances.

The story of shellac appears as a story of displacements, mutations and interruptions – it is also an open-ended story of intersensory recycling and rewriting. As the India House display didactically showed, the 'exotic' thermoplastic substance lent itself to myriad processes of transformation and reinterpretation – whilst fashioning and transforming, at the same time, the heterogeneous subjects who handled it (from shellac factory workers to record listeners). As we will see throughout the book, shellac results from numerous manual, machinic as well as symbolic and cultural processes of association and transformation. It is not magically given in

8 Perec (1989), 12; my translation.

or by nature: as such, there is no 'natural' or 'raw' material to speak about. The production of shellac is driven by intense patterns of technical and social processing. As well as relying on extensive human labour, its global circulation up until the mid-twentieth century would not have been possible without the endurance of significant historical, material and ideological infrastructures – most notably the maritime trade routes between India, Europe and North America –, directly inherited from the colonial expansionism of the seventeenth century. Reflecting upon the circulation of art materials, art historians Christy Anderson, Anne Dunlop and Pamela H. Smith suggest that

> [m]aterials are enmeshed with the physical as well as the societal structures of any age, and constantly in motion. Materials have a history that may be charted over the short and long term. The story of materials begins with the story of matter and matter is a product of the earth with its geological time frame. One way to think about the cultural logics of materials, therefore, is to see them as part of historical epochs and central to the social structures with which they engage. This dynamic approach links human institutions such as cities, trade networks and linguistic systems with a slowly evolving material world.[9]

While one of the aims of the book is to defamiliarise media objects by addressing their material substrates and surfaces, my intention is not to desocialise or autonomise artefacts but to assess how materiality may function as a 'substrum of the social' while being irreducible to it.[10] The total defamiliarisation of everyday artefacts – a project which was most strikingly undertaken in the early twentieth century by the Surrealists – may never be realistically achieved, for it may be that 'once we ourselves have become socialized, we can no longer see objects in their raw and unprocessed state'.[11] Indeed, while the Surrealists – including writers such as Robert Desnos, André Breton, Louis Aragon and Philippe Soupault – sought to defamiliarise the everyday through the medium of the imagination, Georges Perec hyperbolised the real through his intensive and exhaustive scrutinisation of the surfaces of everyday life. His meticulous, hyper-real descriptions paradoxically contributed to derealising lived spaces – opening up myriad of hidden worlds within the deceptively stable world of objects.

9 Anderson, Dunlop, Smith (2015), 12.
10 Ibid., 4.
11 We may ask whether such a state exists. See Thompson (1979), 77.

This study therefore acknowledges that scholarly writing, too, by reclaiming apparently innocuous materials as well as recovering seemingly anodyne gestures, overlooked processes and buried discourses, may achieve a certain degree of defamiliarisation and distanciation. For the present purposes, defamiliarisation should be understood as an attempt to defamiliarise our gaze, and an invitation to momentarily leave aside ossified discourses and beliefs to draw together fresh sets of connections.

What follows provides a conceptual and methodological framework for the book, introducing the main themes and concepts informing it (including ideas of plasticity, narrativity, intersensoriality, and the everyday). It contextualises *Shellac in Visual and Sonic Culture* within the existing literature on media and material culture theory – while also signalling breaks from existing theories and introducing alternative patterns and points of departure. This book is part of a much larger continuum of works addressing issues of (eco)materiality. There are many reasons why contemporary scholars – across a wide range of disciplines – should be so preoccupied with the question of materials and media supply chains: the global environmental crisis, the exhaustion of resources, the pursuit of ecologically and economically sustainable alternatives may all be seen as significant factors in fuelling this (frequently anguished) interest in the material world. On an everyday level, the disquieting feeling of 'losing touch' with the real may prompt individuals to reconnect with tangible objects and physically reconnect with ritualised practices of engaging with the world (such as record-listening). It may be that material artefacts help mitigate feelings of alienation and distance – they help slow down, stabilise, and perhaps even organise everyday life. There is a comfort in familiar things, a physical immediacy which is often lacking in digital mediations. Yet digital culture and its ubiquitous totem – the smartphone – is as much a culture of distance as it is a culture of touch, connectivity and hyper-tactility (though it is rarely, as is becoming increasingly and painfully apparent, a culture of contact). Our so-called dematerialised environment is overwhelmingly tangible, with the distribution of data relying on large-scale and very concrete logistical networks.[12]

While ecomaterial thinking tends to focus on (and depart from) the present moment, this book engages with a historical media material. I believe that historical colonial resources such as shellac prompt us to reconsider the imperialistic and extractive underpinnings of contemporary media supply chains. However, while shellac is a politically charged subject matter,

12 See Schmidgen (2022); Hockenberry, Starosielski and Zieger, eds. (2021).

I also believe that reducing it to a political symbol or mere synecdoche of the colonial regime is far too restrictive. This is why this book, combining empirical and theoretical elements, adopts a wider angle. It interweaves – without systematically hierarchising them – a range of perspectives and moments in the long history of the medium. It addresses the undeniably repressive ideology informing the shellac trade network, its toxicity and effective destructivity *alongside* the intersensory culture of expressivity and creativity it gave rise to. It must be noted that there is something at once timely and irreparably anachronistic about shellac. On the one hand, it clearly is an obsolete mediatic resource – one which apparently bears no direct relevance to the digital present. In everyday conversations, the word itself is more likely to refer to the cosmopolitan world of nail salons and beauty parlours than to the commercial speculations of the East India Company or the patient experiments of Emile Berliner. On the other hand, while shellac indisputably became a devalued mediatic resource in the aftermath of the Second World War, I believe it remains a particularly potent resource for reactivating (and transmitting) stories about past and contemporary media networks – allowing us to return to the present moment with refreshed insights and a heightened sensitivity to its issues. Eventually, I see this study as an invitation to listen differently (in the wider sense of the term) and a means of opening a different reflective space – if only for a moment. It also constitutes a deliberately anachronistic move, with shellac and its histories (some of them long discarded) providing an oblique entry point into contemporary media culture.

Plasticity and ecology

Throughout the book, I am interested in what remains too often unacknowledged in media theory: the productive materiality of mediating substrates, and the ways in which this materiality itself complicates, transforms (or even defeats) the possibility of mediation. The discrete cultural logics of materials cannot be dissociated from the dynamic *politics* of materials – what Jane Bennett terms their 'vibrancy' or 'vitality'–, that is to say from the larger social and symbolic networks into which they enter and which, conversely, alter them.[13] For Bennett and theorists of vibrant matter, no primacy of form over meaning may be assumed. Rather than a definitive account of shellac production or an exhaustive inventory of its uses, what interests me most is

13 See Bennett (2010).

precisely its capacity to become something else or contribute to new media assemblages and, by extension, networks of meaning – across extended stretches of time and space. Shellac is literally plastic, in the full sense of the adjective. The term 'plasticity' (from the Greek *plassein*, 'to model' or 'to mould') both evokes the (passive) 'capacity to receive form', and the active 'ability to give form to something' – or to annihilate form (as in the case of plastic explosives).[14] It follows that what we call 'shellac' – a deceptively homogenising term – both covers and generates a variety of material realities across eras. Rather than suggesting that materials are strictly timeless or transhistorical – as implied in the traditional distinction between the 'brute intransigence of matter, everywhere and always the same' and the 'plasticity of meaning, bound to specific times and places'[15]–, the present book argues that matter itself may be historical, historicised, and mutable. No hard boundaries are posited between 'matter' and 'meaning'. Rather, bearing in mind Karen Barad's definition of 'mattering' as 'simultaneously a matter of substance and significance', symbolic and material practices are understood as co-emergent.[16]

Throughout, shellac is understood ecologically –, where '[e]cology is a science of relations and mediations, in which innumerable interactions must constantly re-create the end points "environment" and "inhabitant"'.[17] It follows that media can further be 'defined as assembled of various bodies interacting, of intensive relations. Media can be seen as an assemblage of various forces, from human potential to technological interactions and powers to economic forces at play, experimental aesthetic forces, conceptual philosophical modulations'.[18] What Parikka highlights here, in a passage inspired by Deleuze and Guattari's assemblage theory, is the open, unstable nature of (media) assemblages which are continuously forming, unfolding, and falling apart. Bodies, here, are widely understood as being physical, institutional, personal, collective, industrial, scientific, and so on. Assemblages, to the extent that they are 'constituted by a relationality',

14 Crockett (2010), xiii. In recent years, the terms 'plastic' and 'plasticity' have been redeemed in the field of philosophy, particularly through the extensive work of Catherine Malabou (2010, 2012). Malabou uses a very specific concept of 'plasticity' (first theorised in the preface of Hegel's *Phenomenology of Spirit*) in relation to the continuous forming and annihilation of human subjectivity: plasticity, she writes, 'can signify both the achievement of presence and its deflagration, its emergence and its explosion' (Malabou 2010, 8).

15 Daston (2004), 17.

16 Barad (2017), 3.

17 Cubitt (2017), 9. On media ecologies, see also Fuller (2005) and Herzogenrath (2015).

18 Parikka (2010), xxvi.

are always already precarious, situated and temporary.[19] The present study takes up this focus on ecology and co-dependency, in anticipating a more holistic and intersensory approach to media objects. As such, it leads to a politically aware approach to the concept of recorded sound, positing the building of phonographic cultures at the turn of the twentieth century as a horizontal and transnational process, relying on a wealth of frequently anonymous intermediaries and materialities. My understanding of phonography therefore bears in mind the localised historical practices, ideologies, and techniques involved in the production of musical commodities.

Importantly, the ecological perspective regards materials as extensive, temporal, changing and agential rather than eternally immutable. Material culture scholar Fernando Domínguez Rubio further argues that to think ecologically may first and foremost mean to recognise the precariousness of the material world as well as the continuous processes of care and maintenance by which it is physically and symbolically stabilised.[20] Cultural objects, in order to retain their legibility as cultural inscriptions, must be incessantly repaired – both in the physical sense of the term and, we may add, in the sense of a symbolic reinterpretation or reactivation. Conservation is therefore predicated upon transformation, where the latter retrospectively and continuously 're-creates' (or re-forms) the appearance of the past.

Narrative assemblages

Materiality cannot be separated from narrativity and processes of storytelling, conceived of as a three-dimensional practice akin to weaving or sewing together heterogeneous elements – though not in a random manner. Indeed, we may only understand materials when we begin 'tell[ing] their histories – […] what they do and what happens to them when treated in particular ways – in the very practice of working with them'.[21] To some extent, storytelling – and the telling of histories – may therefore be conceived of as a reparative mode – one which doesn't seek to create a totalising whole or unity, but which paradoxically combats fragmentation by magnifying and incorporating it (as it draws attention to visible stitches, sutures, disparities and disconnections). Media theorist Sean Cubitt productively suggests that stories and anecdotes can be recuperated as a heuristic method and terrain

19 Ibid., xxv.
20 See Domínguez Rubio (2016).
21 Ingold (2012), 434.

of experimentation – forming a ground which *precedes* theory but without which the work of theorisation would not be possible.[22] In my reading, Cubitt's plea for the recognition of 'anecdotal evidence' is less an invitation to uncritically 'incorporate' the anecdote into an otherwise stereotypical narrative form than an invitation to revise – or, at least, re-examine – the conditions and structures of knowledge transmission itself. As such, the study of anecdotes also anticipates an active interrogation and revaluation of modes of (historiographical) writing.

In his 1979 book *Rubbish Theory: The Creation and Destruction of Value,* surveying the cultural and economic revaluation of outmoded artefacts, Michael Thompson already proposed that a rhapsodic mode of writing may help us represent and better understand processes of symbolic and physical transformation (within what he calls the field of 'rubbish theory'). He urged scholars of the material world 'to deal in different forms of discourse simultaneously. And since they cannot be mixed they must be juxtaposed. The joke, the paradox, the shock technique and the journalistic style, far from being unscholarly devices to be avoided at all costs, become rubbish theory's inseparable accompaniments'.[23] The present book combines various (and sometimes jarring) voices and modes of writing – it includes sources as diverse as extracts from seventeenth-century treatises and travel diaries, excerpts from twentieth-century sound recording manuals, anecdotes and mythical accounts. I believe that stories may be understood as a form of waste or unassimilable surplus, pointing to the 'malleable multiplicities of the world' and its open-ended becoming.[24] The rich, embodied plasticity of anecdotes may be opposed to the decontextualised rigidity of data, with the former being 'not things but actions, which is why they appear so often in the form of stories'.[25] Within Cubitt's larger ecocritical project of pursuing the 'good life', the anecdote is strategically mobilised as 'the unique instance that reveals the forces operating and the possibility of their working otherwise'.[26] While this book is not a strict ecocritique in Cubitt's sense, it embraces the plastic heterogeneity of stories and their potential to '[unpick] the stability of the given, the fait accompli'.[27] I argue that the anecdotal methodology becomes especially relevant when it is used in relation to the composite media cultures of the early modern world, as it

22 See Cubitt (2013); Cubitt (2020).
23 Thompson (1979), 5.
24 Cubitt (2020), 35.
25 Ibid., 2.
26 Ibid., 5.
27 Ibid., 14.

allows us to address and better understand their built-in heterogeneity and unfinishedness.

An apparently narrow starting point such as 'shellac' (or any other material) therefore invites to a process of expansion or unfolding which could be compared to a diffractive or reticular approach. How does one engage with the multi-sited and multi-temporal, fragmented 'histories of materials'? A complementary question would be: How is it possible to shift from a logic of rigid, linear representation to one which embraces the unsettled and performative nature of materials? How does one study materials and their vibrant processuality? Art historian James Elkins once gloomily suggested that, since no coherent theorisation of materials was possible, art history should be content with giving us a general theorisation of 'materiality'.[28] Yet I believe no unique or unifying theory is quite able to accommodate the fluidity of materials: perhaps this calls for a flexible or modular theory, a theory of materials in motion which doesn't flatten, detemporalise or dehistoricise materialities (as Actor–Network Theory often does for instance), but which acknowledges the differential materialities and temporalities of things.

The question of writing – and especially of writing about what keeps changing – is intimately linked with the genesis of material culture studies and continues to represent a key question in the field. For material culture theorists, the study of materiality cannot be divorced from a close examination of what it means to narrate materiality – and, on a practical level, to 'translate' matter into language. In a seminal essay first published in 1964, John A. Kouwenhoven, studying early American material culture, sought to coin a new mode of writing to accommodate sensory affects, anticipating the methodological issues which would be central to the field of sensory studies at the turn of the twenty-first century – and particularly in multisensory and multidimensional approaches to film and media.[29] Like Kouwenhoven, I believe that there exists an intermediary zone between the deceptively 'raw' material and the 'polished' theory or historical narrative – and I'm interested in storytelling as a material practice. Accordingly, the present study is concerned with shellac – and media objects more broadly – in their full intersensory and embodied (or carnal) dimension. It is also concerned with experimental ways of writing about (and understanding) them – and with the work of communities (particularly, but not only, creative practitioners) engaged in physically

28 Elkins in Lehmann (2015), 25.

29 Kouwenhoven (1982), 88. See also Marks (2000); Sobchack (2004); Schmidgen (2022).

reworking and transforming the material and its meaning (as explored in Chapter 5).

My interest in shellac lies with the plasticity of representation as much as it does with the physical plasticity of the material itself. It may be suggested that writing about the materiality of shellac can become an experiment with the materiality of writing, where matter gets transformed in the act of retelling. Reciprocally, stories can be understood as heterogeneous material artefacts: they are incessantly crafted and assembled, passed on, discarded, and recast – though never in a strictly linear way. Rather, the 'shape' of a story may precisely be the story of its deformations, the synchronous record of its scars. Much like the actual shape of a house, which records the passage of those who have inhabited it, the story bears the imprints of the hands it has passed through – in Benjamin's poetic words, 'the handprints of the potter cling to the clay vessel'.[30] The marked, marred surface of the story thus appears to be inseparably bound with its symbolic contents; surface and depth coincide. It is no surprise that the potter, intimately working with and through the grainy resistance or compliance of clay, should be so central to Walter Benjamin's understanding of storytelling as a three-dimensional, nonlinear and nomadic practice. The image of the weaver, too, would be equally appropriate to describe the storyteller. There is an itinerant, repetitive quality inherent to the art of telling stories, which presupposes a discipline and a routine – yet the repeated gesture of the storyteller, leaning as she does on familiar, time-worn images and narrative devices, never excludes an unforeseen flight of fantasy, or a spontaneous leap into unchartered and uncanvassed territory. On the contrary, it may be proposed that discipline and repetition patiently prepare and authorise departures from the known grid of the narrative. In storytelling as well as in weaving, the entwinement of patterns cumulatively composes the familiar backdrop against which novel knots of meanings may be fastened.

The present book engages in a process of remediation, understood in the broadest sense of the term as a reparative mode.[31] Such a practice of

30 Benjamin (1973), 92. Benjamin, writing in the aftermath of the First World War, was concerned with the disappearing craft of storytelling in industrial modernity, characterised by novel and (for Benjamin) often impoverished modes of communication. He notably saw this decline as related to the devaluation of experience and the rise of merely instrumental, ephemeral, mass-produced information whose meaning, he wrote, could 'not survive the moment in which it was new' (Ibid., 90). Paradoxically, as he lamented the passing of the storytelling age, Benjamin became in turn a storyteller, a mediator and a redeemer of history in its vertiginous, ever-generative fullness (opposing the empty temporal shell of the 'now' and the 'new').

31 See Bolter and Grusin (1999).

re-mediating media 'stories' and 'anecdotes' differs from an automatic and empty retelling of what media archaeologist Wolfgang Ernst calls 'media-historical narratives', with their false linearity, consistency and stability.[32] It may be briefly recalled here that Ernst's aim is not simply to deconstruct the grand narrative of media-historical writing: more radically, his is an attempt to go *beyond* (or overcome) 'alphabetic' writing itself, by focusing on discrete machinic temporalities and adopting alternative modes of description (mostly mathematical) stemming from (digital) technologies themselves. Thus, he invites us to dispassionately 'count' rather than 'recount', and to become machine-like, whilst gently conceding that 'the two methods [*counting and recounting*] will continue to supplement each other without effacing their differences in *parallel lines*'.[33] As it seeks to achieve a non-phenomenological and non-narrative mode of understanding media predicated upon emotional suspension and withdrawal, radical media archaeology continues to profess a deeply rooted suspicion of human subjectivity. The difficult non-narrative (or anti-narrative) methodological path outlined by its proponents – liberated from the compulsion of historical retelling or projection –, effectively sheds a different, colder light upon media artefacts. For the point is to understand media *from* '*the perspective of the media themselves*', and learn their own mathematical language.[34] The allure of radical media archaeology may lie precisely in its efforts to attain the impossible.

My method here is much closer to the human logic of recounting rather than that of machinic counting. I do not equate storytelling with the totalising, seamless linearity typically associated with the term 'grand narrative'. As such, rather than a masking or homogenising operation – where homogeneity may only betray an alienated form of discourse –, I would like to propose that storytelling may constitute an essentially disrupting and decentring mode of (re)presenting and producing knowledge, as it draws attention to (rather than concealing) the links which exist between disparate elements of the narrative whole. Of course, the links themselves are never 'given' or *sui generis*: they are partially – and always cautiously – produced by the act (and actuality) of juxtaposition. Juxtaposition mimetically retains the literal grain – or archival quality – of material culture research, characterised by ruptures and contingencies. In this respect, the experimental, nonlinear story-telling approach closely resonates – in a roundabout way – with media

32 Ernst (2013), 55.
33 Ibid., 71; 54.
34 Ernst (2011), 240; emphasis is mine.

archaeology's core concerns with epistemic, spatiotemporal, and material discontinuities. It also aligns with the discipline's habit of self-scrutiny (or energetic re-tracing of one's steps).

Everyday materials

Design historian Henry Petroski famously charted a whole history of writing through a study of the pencil, suggesting that 'to scrutinize the trivial can be to discover the monumental. Almost any object can serve to unveil the mysteries of engineering and its relation to art, business, and all other aspects of our culture'.[35] There are similarities to be found between the material-driven approach of media archaeology – and its commitment to practices of retro-engineering – and some strands of material culture studies embracing a multi-scalar approach encompassing the infinitely small and the incommensurable, the miniature and the monument.[36] It follows that discrete and apparently trivial everyday objects such as gramophone records may become composite gates into global infrastructures – helping us navigate the myriad scales and materialities of capitalism.[37] Moreover, it may be that the focus on (dynamic) materials of culture allows us to draw a finer, differentiated model attuned to both the evential and the repetitive (or the cyclical), the local and the global, the short and the long term, the seasonal and the historical.[38] On a practical level, this means that at least two main narrative modes – the seasonal and the historical (with their distinct registers, rhythms and paces) – must be woven together. It is because of its seemingly amorphous elusiveness, as Henri Lefebvre suggests, that the everyday cannot be easily written about or archived, thus escaping processes of historical mediation and recuperation. However, the materiality of the everyday – and its intimate reliance on objects and infrastructures – is precisely that which may allow us to reflectively 're-historicise' it. And yet such recuperation is not straightforward or total: to historicise the everyday also means, paradoxically, to embrace its shapelessness and recognise its indefatigable state of becoming. Accordingly, to look at materials in motion may be a means of defetishising

35 Petroski (1989), 27.

36 See Petroski (1989); Asendorf (1993); Stewart (2007 [1993]).

37 Esther Leslie's recent theoretical forays into the micromateriality of dust, for instance, reconnect it to the building (and crumbling) of historical epochs. See Leslie (2020).

38 See Lefebvre (2013 [1992]), 18. See also Kubler (1962) on the interrelation of different 'shapes of time'.

mainstream material culture studies and their typical fixation on singular or iconic media-cultural objects and practices of consumption.[39] In such an endeavour, we must remain careful not to replace the cult of objects with a cult of materials – or to fashion new totems out of discarded materialities. It is precisely the emphasis on processes of cross-cultural and media-material transformation which may allow us to avoid the dangers of petrifying the subject matter, and to better attend to the incessant transformations and deformations of media cultures.

In addition to this, modest materials, though they are not objects per se, constitute artefacts in their own right: crucially, they are able to mix with other materials and to become something else in the process of association. Throughout, I consider shellac as an 'informed material' which is 'transformed through [its] changing associations'[40] – by analogy with the chemical realm where atoms and molecules ceaselessly acquire different properties and identities depending on their environments. A focus on changing materials, forms of labour and processes allows us to ask different questions about media-material environments – bringing to light their pre-mediatic life as well as their afterlives. To think about materials is always already to think about matters of heterogeneity, transformability and temporality. A focus on discrete media materials such as mica, steel or shellac dissolves the 'hard' or stable objects of technological history. In media archaeology, the enquiry shifts from machines and models to discrete materials and processes. When media history gets broken apart, it is reassembled and recycled as 'one big story of experimenting with different materials from glass plates to chemicals, from selenium to coltan, from dilute sulphuric acid to shellac, silk and gutta percha, to processes such as crystallization, ionization, and so forth'.[41] The large-scale, interconnected 'big story' does not replicate (and should not be confused with) the 'grand narrative' of media history: it is best understood as a story of multitudes, a swarming or a 'relational whole' which can never be fully resolved as a unified, or uniform, entity.[42] As such, it only ever assumes a provisional shape. However, I would argue that rhapsodic practices of assembling media knowledge are not antithetical to narrative logic but, rather, generate their own mode of narrativity and of heuristic efficiency.

39 This is what Ingold calls the 'stopped-up objects' of mainstream material culture as opposed to the 'leaky things' embraced by ecomaterial approaches; Ingold (2012), 438.

40 Barry (2005), 57. See also Westermann (2013), 81.

41 Parikka (2012), 97.

42 Parikka (2010), 47.

Decentring media

An emphasis on materials and processes ultimately invites us to return to cultural objects (rather than completely abandoning them) – including artworks and media artefacts – in relation to '[their] conditions of production, their physical creation out of the materials of the earth'.[43] A narrow focus on finished media objects, machines and commodities often leads to overemphasise their industrial histories and histories of consumption (such as record-listening), therefore drastically limiting or silencing what can be said about their conditions of emergence. While it is not possible to minimise Emile Berliner's crucial contribution to the development of the gramophone disc (of which Chapter 2 gives an account), it may be argued that the story of the gramophone starts long before Berliner's discovery of the sonic properties of shellac in the mid-1890s – and does not stop with the invention and commercial dissemination of the artefact. In Parikka's words, the 'materiality of media starts much *before media become media*', urging us to '[find] strains of media materialism outside the usual definition of media' in order to address the hidden substrate of media cultures (notably matters of labour).[44]

In the case of phonography, studies of the social life of the gramophone record tend to be restricted to the consumers and producers of recorded sound (including performers and recording engineers), thus obscuring the wider range of human beings who were closely and quotidianly involved in the global phonographic network (including the anonymous women and children ruining their health in Indian shellac workshops, or the prematurely aged female workforce employed in record-pressing plants around the globe). Opening up the physical 'black boxes' of media cultures (as recommended by media archaeology), rather than a merely formal procedure, may therefore also enable us to retrieve what Marx described as 'the congealed forms of past knowledge and skills ossified in the form of machinery'.[45] The moment of disclosing may allow for a very partial posthumous reparation and acknowledgement to take place. For Cubitt, '[t]he dead are not remote, buried or lost: they are right under our hands, the concentrated dead labour in every tool and technology we handle'.[46] Yet, it is obvious that 'the voices of the dead cannot heal us by being ventriloquised: any attempt to let them speak is in fact a way of speaking on their behalf, so betraying the specificity of their

43 Anderson, Dunlop and Smith (2015), 4.
44 Parikka (2015), 37; 4.
45 As rephrased in Cubitt (2020), 30.
46 Ibid., 30–31.

lives'.[47] While the dead cannot be artificially re-called, something of their anonymous labour persistently resurface in artefacts so that the material present becomes both the medium and the site of a return. Whilst recognising unbridgeable differences between past and present technological realms, the transversal media-material approach thereby invites us to listen for effects of recurrence, interference, latency, and spectrality across temporal eras. In such an archaeological perspective, history is topographically understood as 'a *superimposition* of layers, which were successively sedimented but work in synchronous partnership'.[48] Archaeological regression may ultimately constitute the only means of accessing the present where the past reveals itself not as a repetition but as a beginning or a co-presence.[49] If the past becomes the medium of the present, the reciprocal is true. It follows that archaeology may liberate a past that 'has never been' or 'was never willed', releasing as it were its unlived futures.[50] Once revealed in the actuality of the present, the potentials of the past cannot be ignored, enclosed, or safely poured back into a fantasised historical bottle. Rather, they become urgently contemporary and must be counted with. Similarly, there is no going back after the black box has been opened.

The undisciplined, methodologically daring field of media archaeology has been key in fostering a range of new approaches to media technologies – and in particular to sound recording devices – in recent years. Many of these studies have been facilitated by the availability and digital (retro-) circulation of previously inaccessible archival material and the development of digital tools to unlock their contents. For instance, in 2008, the 'First Sounds' scientific team at the Lawrence Berkeley National Laboratory in California succeeded in visually recovering audio signals from one of Edouard-Léon Scott de Martinville's pre-Edison phonautograms, relying on 'painstaking optical imaging, conversion, and reconstruction'.[51] In the past decade, the study of phonography has increasingly been characterised by its commitment to interdisciplinary thinking and the pursuit of singular case studies as opposed to the 'projection of generalized theories'.[52] In these combinatory studies, the emphasis is – expectedly – placed on in-betweens and moments of encounters, co-presence and co-dependency. Recent studies have drawn attention to the material infrastructures which have made the

47 Ibid., 34.
48 Citton (2017), 216; my translation.
49 What Gumbrecht calls an 'origin of the present' (2013) and Agamben a 'source' (2009).
50 Agamben (2009), 103.
51 Altergott (2021), 20.
52 Ernst (2013), 44.

circulation of recorded sound possible, to processes of colonial extractivism, to the diverse sites, actors, objects and knowledge practices involved in the transnational development of early phonographic networks, or yet again to the environmental cost of recorded sound in the wake of the Anthropocene.[53] What they offer is not so much a radically alternative history of the early recording industry than a complementary interpretation – which is inevitably and openly coloured by contemporary concerns (through the detour of the past). These studies, because they frequently emphasise the 'deep time of the media', can undermine some deep-rooted assertions and implicit biases of media history.[54] In addition to proposing an extended time frame, a geographical rescaling – or decentring – is also important for it may unsettle what Shannon Mattern calls media archaeology's 'prevailing Western orientation, its occasional "orientalist" treatment of curious devices from other cultures and times, its mostly male bibliographies'.[55] Embracing a broader chronological and geographical scope therefore appears as a politically-motivated gesture, stemming from the desire to critically understand the transnational, unequal and slow geopolitical formation of media cultures – long before a global 'mediarchy' crystallised.[56]

In her inspiring media archaeology of urban mediation, Mattern productively opens up the field of media archaeological thinking by expanding both the geographical and temporal focus of her enquiry. Her patient exploration of ancient and modern networked cities allows her to reveal the spatially diffuse pre-history of the modern digital megalopolis. In the process, she encounters and examines an extended constellation of media such as mud, electricity, clay, print, concrete, and the human voice. Here, the understanding of what constitutes a medium is deliberately elastic – the medium is understood in its modest, most accommodating form of *mediating object*.[57] Similarly, my approach to the media-material cultures of shellac posits media and matter as mutually and concretely bound together, though not equivalent. It is no surprise that such sticky, malleable substances as clay and mud should be so central to Mattern's enquiry. Indeed, mediation may be theorised as a spatio-material process and quasi-fusional practice of linking, binding or assembling disparate elements together. It is worth noting here that India is an ancient 'clay culture' and clay artefacts, manufactured for

53 See Devine (2019a); Devine and Boudreault-Fournier (2021); Denning (2015); Radano and Olaniyan (2016); Roy (2021a); Silva (2016); Roy and Rodríguez (2021); Smith (2015).

54 See Zielinski (2006).

55 Mattern (2017), xxiii.

56 See Citton (2017).

57 Dant (1999), 154.

millennia, came to be regarded as both containing and celebrating 'nature's primordial energies and growth processes'.[58]

Just like clay, a material sometimes described as the first plastic,[59] shellac is a natural and ancient binding medium, present across the everyday cultures of India (particularly northern and central India). It is an adhesive or binding material which invisibly cements together disparate physical and symbolic elements. As such, it ambiguously wavers *between* materiality and mediality, thus occupying an intermediary category (that of adhesive) that media theory has yet to fully reckon with. Accordingly, the present study highlights what I call the 'adhesive' dimension of mediation, drawing attention to media cultures as concretely and dynamically bound together on a physical as well as symbolic level. In this context, it is worth keeping in mind media and literary theorist Samuel Weber's definition of medium as that which simultaneously binds and separates – both materially and symbolically: 'The medium is [...] distinguished on the one hand from a simple emptiness, on the other hand from the impenetrability of matter: it divides and connects at the same time, more precisely*: it only makes the connection possible as division*'.[60] I will return to these interdependent notions of separateness and connectedness throughout the book. We will see that shellac could serve, for instance, as a binding substance (in the case of gramophone records) or as an insulant (in the case of grenades, and munitions) – bringing disparate elements (and people) together or, on the contrary, keeping them hermetically separated from one another.

Though not a strict media archaeology of shellac, the present book offers a contribution to the expanding field of media-material theory. And though its subject matter is limited to one specific material, I hope that this study may be furthered and challenged by supplementary research into other materials of culture. Existing studies of phonographic materials notably include cultural analyses of polyvinyl chloride (PVC), of Carnauba wax, or yet again of mica – an incomplete and rapidly expanding list.[61] Social geographers Chris

58 Bussabarger and Robins (1968), 7.

59 See Bell (1936), xi. It must be noted that clay is to be found in abundance in the river valleys of the Ganges. On the invention of clay modelling, see Pliny's anecdote, as related in Dillard (1976 [1974]), 64.

60 Weber quoted in Ernst (2013), 105; emphasis is mine.

61 See Westermann (2013) and Devine (2019a) on PVC; Silvers (2018) on carnauba wax; Bronfman (2021) on mica. A 2021 research workshop entitled 'Sound Supplies: Raw Materials and the Political Economy of Instrument Building' (organised remotely by Fanny Gribenski, Viktoria Tkaczyk and David Pantalony at the IRCAM in Paris) further engaged participants to reflect on 'the neglected history of the supply chains that made modern music cultures and audio communication possible' (as stated in the workshop's programme). As part of the event, participants contributed

Gibson and Andrew Warren have further chronicled the material history of the guitar 'by physically following the wood': their ethnographical journey took them 'from guitar to factory, factory to sawmill, sawmill to forests, and eventually to the trees'.[62] In the academic field, most notably within media and music studies, the close examination and rehabilitation of materials – as well as the acknowledgement of the violence inherent to their cultivation, extraction and circulation – therefore seems to be well under way. A number of recent studies – notably in musicology – have precisely taken shellac as a case-study as part of larger attempts to excavate the material, ideological and perhaps even mythical infrastructures underpinning the global circulation of recorded sound in the early twentieth century, while artists themselves have started reengaging with discarded materials of culture (see Chapter 5).[63] Moreover, after decades of cultural latency and obsolescence, it must be noted that commercial interest in shellac has been revived in recent years, as part of industrial research into sustainable bioplastics: its renewable, biodegradable, and non-toxic properties make it a valuable component in the contemporary food, pharmaceutical and cosmetic industries.

Sources and transdisciplinary crossings

Media archaeologists, art historians and material culture theorists have long engaged with the materiality of making, grappling as they do with the 'cultural logics of materials' and their concrete, intricate messiness and resistance.[64] This book draws from heterogeneous primary and secondary

networked histories of musical substances ranging from carbon black, ivory, paper, and steel to rubber and wood. The year before, a symposium on latex and the logic of extractivism was organised at ICI Berlin, examining the 'ruinous consequences' which rubber extraction had on the Amazon Forest and its populations. The symposium was entitled 'Latex. Critical Inflections on (Neo)Extractivism in Latin America'.

62 Gibson and Warren (2021), 5; 4.

63 On phonographic networks, see Smith (2015); Devine (2019a); Roy (2021); Williams (2021). In 2017, the Bauhaus Dessau Foundation held a design exhibition devoted to 'smart materials' – a term typically associated with digital culture but which included, in a retro-futuristic twist, a number of premodern materials including shellac, repositioning it as a material for the digital age and inscribing it within contemporary debates on eco-materials. The exhibition, entitled *smart materials satellites. Material als Experiment* (*smart materials satellites. Material as Experiment*), notably displayed the works of German designer duo Lapatsch|Unger (see Chapter 5). Shellac was also used in Berlin's Staatsoper opera house as part of a 2017 refurbishment aimed at improving its acoustic properties. I am grateful to Karsten Lichau for pointing this out to me and excavating an article on the topic published in the *Berliner Morgenpost*.

64 Anderson, Dunlop, Smith (2015), 12.

sources, in keeping with the belief that meaning may emerge dialogically from the encounter and confrontation of a variety of texts and objects (understood in the broadest possible sense). Beside archival material, a wide range of scholarly texts including those of cultural history, media theory, music studies and art history have been consulted. The transdisciplinary lines of enquiry which are developed throughout the book – and across each individual chapter – have stemmed from the material itself: taking Tim Ingold's invitation to 'follow the materials' of culture as a heuristic prompt, I have been 'following' shellac in its several guises and shapes – interrogating objects and practices as well as the stories which are told about them –, so as to attend to its always emerging material history.[65] This produces a methodically 'unsettled' or dynamic study that 'remain[s] ever alert to visual and other sensory cues in an ever changing environment'.[66] The book therefore makes room for accidents and chance encounters: to some extent, it is also partially produced by such encounters.

Ingold's proposal to follow the materials resonates with psychosocial theorist Lisa Baraitser's reflection on 'the kind of freedom of movement that allows untethered concepts, texts, ideas, objects, practices or methods to cross disciplinary domains' – yet such a movement, she notes, is never fully untethered or historically autonomous.[67] Baraitser's ambition is not to liquidate or dismiss disciplinary traditions but to tentatively reveal (or liberate) the epistemic potentials and values to be found in the (experiential) moment of 'discovery' itself, before experience becomes sedimented and classified. For Baraitser, the point of interdisciplinary practices is not to provide definitive statements, close systems, replicable models or syntheses but rather to realise the open-ended, precarious and emergent quality of thinking. While not fully operating outside disciplinary fields, an object-driven methodological reorientation or recalibration may therefore lead to the formation of thought-provoking disciplinary hybrids. Baraitser compares the 'trans-' of transdisciplinary studies to what is known, in chemistry, as a 'free radical':

> Here an atom has an open electronic shell, making free radicals chemically promiscuous with others, and also with themselves, highly reactive, transformational. The bonds are suggestively described by chemists as 'dangling', somehow available for polymerisation as they move. So, as a

65 Ingold's approach expands upon geographer Ian Cook's recommendation to 'follow' everyday objects (2004).

66 Ingold (2010), 94.

67 Baraitser (2017), 30.

> concept departs from one disciplinary domain and inserts itself in another, it may both underscore the distinction between those domains, whilst at the same time, through its anomalous presence, bring about some kind of change or re-formation.[68]

Guided by Baraitser and Ingold, I am therefore interested in asking what a methodological shift of emphasis – from the study of well-defined and familiar cultural objects to the study of materials themselves – might allow us to 'do' (and undo) from a theoretical viewpoint, across material culture studies and media theory. More than a linguistic game, the apparently simple displacement from 'material culture' to 'materials of culture' therefore yields larger and deeper implications for the understanding of past and contemporary media realms.

Chapter overviews

This book embraces some of the unstable stories, histories and materialities of shellac. It focuses on various moments in turn, moving through various shapes and mediatic uses of the material, across the visual and the sonic realm. Every chapter provides a different perspective on one single (yet mutable and polysemic) substance which came to bear different meanings and values in different contexts. Every time, the particular emphasis contributes to shedding light on one broad techno-cultural era, while drawing attention to the deeper relation of interdependence – or synchronicity – which may exist between very different moments in time and space. As such, no rigid distinction is posited between the premodern and the modern, but the latter is understood – in Hartmut Böhme's terms – as 'embody[ing] the presence of all previous historical periods'.[69] Reciprocally, it may be that 'modernity can only begin to understand itself if it makes use of cognitive resources from epochs considered to be premodern':[70] understanding the present moment may only be (partially) possible through a movement of recursion.

The chapters follow a roughly chronological order, describing five specific (and interdependent) moments in the long history of the material. While the sites I describe function together and sometimes overlap, they can also be approached as self-contained, but necessarily incomplete, fragments. The point

68 Ibid.
69 Böhme (2014), 14.
70 Ibid.

here is not to create fractions or divisions, rather to engage with the episodic, discrete, cumulative formation of what cannot – and should not – be seen as a unified narrative or as a deceptively coherent aggregate.[71] Accordingly, each chapter functions as a temporary and tentative container, which also contributes to shaping the material. These shapes, however, are not mutually exclusive, definitive or 'finished' but mutually and cumulatively transform one another.

Long before Emile Berliner actualised its potentials for sound reproduction in the mid-1890s, shellac (as well as lac dye) played a significant role in a number of cultural visual practices in South Asia and in Europe. Chapter 1 investigates the early uses, cultural understandings and traditional applications of lac and shellac as visual media in India (where it was notably used to decorate the body in practices of self-inscription). It retraces how the resources were imported by Dutch merchants and the British East India Company in the early 1600s, paying attention to the geopolitical infrastructure which authorised their circulation. The chapter describes how shellac was speculatively translated, transformed and reinterpreted in the European context. In particular, attention is paid to the reflective and imitative properties of the medium – and to the intuition of its sonic properties (when Italian violin makers began using it to varnish musical instruments). The chapter shows how the devaluation of lac dyes in the mid-nineteenth century led to the reconsideration of shellac, paying attention to the discovery and commercial exploitation of its plasticity in the second half of the nineteenth century.

Chapter 2 retraces how shellac progressively and predominantly became a medium of sound in the late nineteenth century, focusing on Emile Berliner's discovery of its sonic properties. The chapter especially focuses on the US where the resource was progressively domesticated and 'Americanised', to the point of erasing its provenance and pre-mediatic histories. Yet I suggest that the novel media artefact of the disc remediated some of the earlier shapes of shellac, emphasising in particular its material and symbolic affinities with seals, masks and statues, and discussing the relation between antiquity and modernity (notably in connection with Emile Berliner and Jean Cocteau, who both highlighted the correspondences between sound reproduction and previous techniques of memorialisation). The chapter also shows that the culturally standardised gramophone record was not materially standardised, stressing how ideals of sonic perfection were predicated upon the imperfect grain of the record. An important aspect of this chapter is that it makes visible the forms of labour entombed in the

71 Beyond the critique of 'flat ontology'.

commodity of the record. It offers a parallel between shellac production in Indian workshops and the work carried out in western pressing plants, notably insisting on the crucial contribution of female labourers in the early phonographic industry. Mapping out the relationship between shellac workshops and gramophone factories – and their belonging to the same ideological continuum – allows me to partially expose the implicit colonial infrastructure underpinning the early recording industry.

While Chapter 2 insists on the sonicity of shellac, Chapter 3 surveys the intersensory position of recorded sound in the interwar period – also conceived of as a 'golden age' of shellac. It notably does so through recovering the largely forgotten – yet significant – trope of the 'mirror of the voice' and surveying how it was materially and discursively interpreted by groups as diverse as theorists, artists and home recordists. The first section of this chapter discusses the visual phono-fetishism of the interwar period and critically reengages with Adorno's essays on phonography (where he notably explored the relation between identity, recorded sound and self-alienation). As a counterpoint, the second part of the chapter attends to the defetishising discourse offered by interwar art and design practices (notably those carried out at the Bauhaus in Weimar), exploring how they contributed to creating a new, intermedial understanding of phonography – between sound and vision. The chapter also proposes that a theoretical shift from the hauntological (or spectral) to the specular – and from reproducibility to reflectivity – may yield important insights for the understanding of interwar phonographic cultures.

Chapter 4 attends to the toxic transformation of shellac in the two World Wars, when it became a key substance in the manufacture of detonating compositions, hand grenades, and bombs and was rationed by Western governments (thus curtailing record-making operations and intensifying research into substitutes, including PVC). Drawing from Malabou's radical theses on 'destructive plasticity', it theorises the material and ideological instability of shellac as well as its recycling, exploring the dominant discourses associated with recorded sound.[72] In particular, it draws attention to the trope of phonographic listening as a means to repair both individual and social bodies broken down by war, showing how this discourse was recuperated by governmental bodies. Parallel phonographic practices – such as the recording sessions which took place in German prisoner-of-war camps (such as the 'Halfmoon Camp' in Wünsdorf) – are also discussed.

Chapter 5 explores the recurrence and persistence of shellac in contemporary art and design, describing its visual and material remediation

72 See Malabou (2012).

by contemporary practitioners based in Germany, France, Britain and the US. Their creative works are notably discussed in relation to the *Broken Music* exhibition (1988–1989), first shown in Berlin, which marked a critical turning point in what could be called 'gramophone art'. Throughout, the chapter discusses the importance of embodied modes of knowing for the exploration of materiality – and revives Dagognet's invigorating plea for an ontology of (neglected) materials.

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