

## ANTONIONI'S CINEMATIC POETICS OF CLIMATE CHANGE

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I

The question of cinematic representation has surfaced urgently with regard to global climate change. Climate change sceptics, although probably few in number, are often granted equal time in the media's claims to a *par condicio*.<sup>1</sup> Sceptics may call for empirical evidence to support a 'theory' of warming. For the general public, at least, such evidence could or should come in cinematic forms; ideally forms that could narrativise, arouse empathy and, by necessity, encapsulate geological change – which occurs normally over unfathomable scales of time – into a format that can be absorbed by the human eye and brain. As opposed to pollution in a generic sense, climate change is essentially a temporal problem: greenhouse gases (primarily carbon dioxide) are released into the atmosphere naturally, but in the past several hundred years the rate of release has reached unprecedented velocity. Greenhouse gases are both invisible (posing a peculiar challenge to cinematic representation) and global, in the sense that their effects are felt everywhere and not just in the areas of intense production. How is cinema to respond authentically to the imperceptible, dispersive, global nature of climate change?<sup>2</sup>

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Climate science needs cinema as uncinematic, in the sense that Kracauer means when he writes that a genuine cinema is made of images that do not corroborate but instead 'question our notions of the physical world'.<sup>3</sup> Given the urgency of swaying public opinion, could we say that cinema must suspend its essence – for now – and take on a more instrumental role to serve a greater good, perhaps to resume its authenticity in less chaotic times? Or can cinema retain its essential qualities and help us think climate change in its profound complexity?<sup>4</sup> These are questions that Antonioni addresses better than any other cineaste even if the particular term, with all of its present nuances, was not available to him.

Let us begin then with the potential of cinema to represent climate change taken in its specificity, and as opposed to a more generic sense of environmental degradation that is so prominent in the broad panorama of the history of cinema from

experimental science-fiction dystopias to mainstream Hollywood comedies. Inasmuch as cinema itself stands for 'technology' or 'progress' it is always already opposed to Nature, understood as what is outside of or untouched by the human. Even early cinema reflects the anxiety of a medium that necessarily involves a difference from the natural, whether this is understood in positive or negative terms. And again, this essay wishes to think in particular about climate change, a phenomenon that is, *per se*, entirely natural.

In recent years a number of films have addressed climate change with various degrees of specificity. *The Day After Tomorrow* (Roland Emmerich, 2004) was criticised and even censored by the right for its 'liberal views'; and by scientists for its lack of accuracy, for its failure as 'corroboration' especially with regard to the temporality of 'climate shift'.<sup>5</sup> So while the potential effects of increased greenhouse gas emissions on ice sheets, ocean currents, hurricanes and extreme weather patterns in the film may have been informed by accepted science, Emmerich had to contain and constrict change within an absurdly brief period to satisfy narrative demands. In the film the passage of time is indicated with editing of the most conventional sort. Spielberg's *A.I.* (2001) also uses traditional editing techniques, voice-over and music to indicate that an immense period has elapsed between the last presence on camera of a human being and the discovery/reanimation of David and Teddy by aliens. Moreover, the aliens confirm the time lapse through (subtitled) dialogue. Interestingly, though, the aliens grant David's wish to return to the space-time of his Oedipal bonding with 'his mother'. In other words, the film moves back in time through what is clearly posited as simulation, putting into question the scientific legitimacy of the 'present' as prophetic fulfilment of anthropogenic climate change.

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Outside of narrative film, time-lapse documentary (melting glaciers, rising sea level, and on) provides an interesting response to the call for representation. Time-lapse is essentially a formalist project that refers back to the very earliest moments of (pre)cinema. A series of what are essentially photogrammes are linked together to form a sophisticated flipbook. That this effect can be achieved by the most advanced digital technologies does not negate the fact that the viewer is confronted with two still images taken by a static camera as a means of juxtaposing two different temporal states of the same spatial coordinates.

Along these lines, a number of recent overviews of climate change refer to paintings as visual representations or documents of change. Pieter Brueghel's painting *Hunters in the Snow* (1565) is cited as an example of the 'little ice age' (c. 1450–1850) in Europe since the landscape appears quite snowy compared with the average winter in the present.<sup>6</sup> Canaletto's paintings show water levels in the Venice lagoon that can be viewed next to photographs taken beginning in the nineteenth century. In both cases, the paintings were made before modern scientific measuring equipment. As images they are static, and compared with other more recent images or measurements they function qualitatively as evidence in the same way as the

photogrammes of time-lapse documentary, except that the intervals between images are rather long.

This essay puts forward Michelangelo Antonioni as the cinematic poet of ‘climate change’. A good deal of scholarly work has been devoted to exploring Antonioni’s relation to architecture, space, landscape, ecology and ‘the environment’. This latter term deserves some analysis before we proceed.<sup>7</sup> The Italian word *ambiente* refers simultaneously to both interior/set design and the *Umwelt* – what is ‘out there’ beyond the human, perhaps Nature itself in the most reified and clichéd sense. This web of meanings is especially intense in Antonioni where a film’s *ambiente* may refer to the locations scouted so carefully, the sets designed/alterd by an architect or art director (Antonioni worked often with Piero Poletto) and the ‘natural landscape’ inhabited by his characters.<sup>8</sup>

It bears mention here that ‘landscape’ (*paesaggio*) was indeed the subject of debate in the context of policies and politics of cinema during the fascist period. On the one hand, landscape understood in the most basic sense as location shooting might seem to imply an apolitical realism. On the other hand, the Regime undertook the creation of an agrarian or rural cinema – in part or at times as propaganda to support undertakings such as land reclamation; in part as a means of exalting peasant life. The various positions towards landscape are too complex to summarise in a single position and indeed ‘landscape’ is a mobile signifier during fascism that can be deployed in multiple directions. For instance, Bolognese journalist Leo Longanesi, a strong supporter of fascist ideology particularly in its early, revolutionary phase, as well as of the aesthetic movement known as *strapaese* (super-country), called for a ‘natural and logical Italian film’, developed from attentive observation of peasants and their dwelling on the land.<sup>9</sup> In this context ‘*strapaese* cinema’ sounds strangely like something that would emerge in the distinctly anti-fascist project of neo-realism. On the pages of his magazine, *L’italiano*, Longanesi imagined an Italian filmic landscape distinctly different from American landscapes, too dominated by spectacle and serving as mere backdrop to the foregrounding of stars framed in close-ups. *Strapaese*, in painting (and in an ideal cinema), would employ natural, atmospheric details to promote rural life over industrialisation and international modernism. To be clear, then, *strapaese* was not so much an official policy (especially since it opposed much of the imperialist and rationalist imagery of public monuments and architecture supported by the Regime) as it was a reactionary aesthetic movement that coincided, at times, with Regime goals.

Emily Braun’s work on Giorgio Morandi is crucial in underscoring the complex and contradictory position of *strapaese* or landscape more generally as potentially politicised. Morandi (not unlike Antonioni in certain critical traditions) is usually considered a formalist whose still lives and landscapes exist in idealised spaces. Yet the Bolognese artist was supported by and supportive of key proponents of *strapaese*, including Longanesi. As Braun notes, it is difficult to read any

The Po as 'landscape' in Visconti's *Ossessione* (1943). It is only at the end of the film that the environment and actors merge



overt rhetorical statements into his muted scenes of hillsides or bottles. Yet his work is characterised by a 'conservative position of intransigent sameness' and the same terms could be applied to the ideal of an unchanging, pure Italian landscape.<sup>10</sup>

'Landscape' was also in circulation in the *Cinema* group with whom Antonioni was associated for a brief period in the early 1940s, and it is often mentioned in the coincidence of Visconti's *Ossessione* (*Obsession*) and Antonioni's *People of the Po* (*Gente del Po*), both shot around Ferrara in the Po River Valley in 1943. Giuseppe de Santis, who collaborated with Visconti, wrote a well-known essay in *Cinema*, 'For an Italian Landscape' ('Per un paesaggio italiano').<sup>11</sup> Here he posited a psychophysical correspondence between landscape and cinematic characters that seems to hold the seeds of a neo-realist (and hence anti-fascist) approach to film-making.

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From a broader perspective, the very idea of landscape implies a flattened backdrop that pre-exists the arrival of the cinematic *équipe* – it is thus static, codified, contained and mastered space.<sup>12</sup> For de Santis landscape and human presence are two fixed elements that must come together for genuine cinema. He laments the fact that while such interaction has been successful in other national cinemas, the problem 'is never resolved in Italy'.<sup>13</sup> It would seem that an authentic cinema would situate characters in the landscape, and thus bring out the genuine national characteristics of both. In his photo-essay, 'For a Film on the River Po', also published in *Cinema*, Antonioni is much more interested in the possibilities of cinema (and photography) to actually shape not landscape in de Santis's sense so much as the *ambiente*. And, as his film career develops, Antonioni increasingly embraces the aleatory in location shooting. He explains:

I arrive on location in a fixed state of 'virginity.' I do this because I believe the best results are obtained by the 'collision' that takes place between the environment [*ambiente*] in which the scene is to be shot and my own particular state of mind at that specific moment. I don't like to study or even think about a scene the night before, or even a few

days before I actually start shooting. And when I arrive there, I like to be completely alone, by myself, so that I can get to feel the environment without having anybody around me. The most direct way to recreate a scene is to enter into a rapport with the environment itself; it's the simplest way to let the environment suggest something to us.<sup>14</sup>

In the broadest sense, then, one cannot distinguish in the statement above between landscape, location, meteorological conditions and even the film's themes or content inasmuch as for Antonioni these develop in relation with *ambiente*. Ambience (*ambiente*) comes from the Latin root *ambo*, meaning both (of something), as in ambidextrous or ambivalent.<sup>15</sup> Yet the idea of 'both' is elided in common usage of 'ambience'. 'Both' loses any specificity and comes to signify 'around' (which is, in fact, the root of 'environment') as when we speak of 'ambient poetics'. For Timothy Morton,

ambient poetics could apply as easily to music, sculpture, or performance art as it could to writing. Ambience, that which surrounds on both sides, can refer to the margins of a page, the silence before and after music, the frame and walls around a picture, the decorative spaces of a building [*parergon*], including niches for sculpture.<sup>16</sup>

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In particular, Morton notes, rendering, the making consistent of an atmosphere, is important in cinema. Ambience is 'more or less palpable, yet ethereal and subtle',<sup>17</sup> invisible and yet material. Ideally, rendering leads to an audience's direct immersion in a film's environment. This is certainly the case with Antonioni's *Il deserto rosso* (*Red Desert*, 1964): as soon as we are pulled in we become almost simultaneously disoriented.

Films – and here Antonioni appears again exemplary – may express or be expressed by a certain atmosphere (*atmosfera*) but this term is rarely used to describe the physical location of shooting in either Italian or English. Film sets may be characterised by a particular 'climate' but this term is clearly not used in the geological or meteorological sense.<sup>18</sup> So while this is not the place to develop a detailed philological analysis of the very terms above, not to mention, for instance, *milieu*, it is essential to realise that Italian uses the same word in common speech to refer to both a film set and 'Nature' as an object.<sup>19</sup>

## II

Early in his career, in 1940, Antonioni wrote a response to an essay by writer and journalist Guido Piovene published in the authoritative daily newspaper, *Corriere della sera*. Piovene's essay consisted of notes for a possible novel (or a film) about a change in the climate of Greenland due to a shift in the Gulf Stream. He had read

of a persistent, long-term freezing that forced most residents of a particular village to relocate, but the details of this event are vague in his mind.<sup>20</sup> Antonioni's response reproduces Piovene's notes (whose realisation 'should be imagined ... in Technicolor') followed by his own embryonic treatment for an imaginary film – 'Green Land'.<sup>21</sup> The piece is extraordinary for several reasons: the 'translation' from prose notes for a piece that carried the potential to be either literary or cinematic to prose notes for a film (unrealised); the insistence on colour more than twenty years before his first colour film, *Il deserto rosso*; and the crystalline sensitivity to the limits and potential for cinematic narration of climate change. As Antonioni puts it: 'The subject matter itself had led me to think that film might be the idiom in which the piece could find its most faithful and effective representation ... to express the subtle transition of countries and peoples'.<sup>22</sup>

Piovene begins his notes with the conditional tense characteristic of an outline ('My farmers *would* live above the sand dunes ...' and so on [my emphasis]). About a third of the way through he switches to a narrative present: 'Now one day, someone from this homestead [the seaside settlement of the displaced], grazing his horses, stops with a jerk.' The author frequently inserts his own presence ('I imagine ...'; and at one point 'I cannot forget ...') as if he were an eyewitness to the events. The change takes place over a long time but is documented in one generation of inhabitants. At the end the townspeople leave Greenland by sea. Piovene uses the prose of a *récit* or tale, and even Antonioni ends his piece with the fragment: 'Once upon a time, there was a green land ...'.<sup>23</sup>

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Following Piovene, Antonioni proposes observing episodes in the lives in the people from a village who are forced towards the sea (and eventually, off the land) by ever-increasing glaciers. The villagers experience moments of revelation followed by periods in which they appear unaware of any shifts in the environment. Indeed, Antonioni affirms:

The writer [Piovene] doesn't say how much time elapses between the first symptoms of the freeze and the departure of the population. A lot, one presumes, if 'the days of past wealth' are able to emerge 'from the memories of the living' and become a 'heroic mythology': reality doesn't become myth that quickly ... But I think that in a film you would have to speed things up, in order to make it more dramatic.<sup>24</sup>

Another possibility, he admits, would be to film several generations by using different actors for the same role. In any case, we are still here within the realm of human memory and action, of 'humanism'.

In his treatment Antonioni is acutely aware of colour: 'not to be flamboyant or as mere decoration but as an integral part of the story'.<sup>25</sup> In fact, colours are precisely what indicate change rather than, say, special effects, editing or voice-over. Are they psychophysical correspondences?<sup>26</sup> This is what Antonioni implies when

he writes that colour will ‘represent psychological developments, the drama itself – visually’.<sup>27</sup> He uses the terms the ‘current state of colour technology’,<sup>28</sup> implying that it will inevitably advance, progress.

Piovene’s notes are not based on research. On the contrary, he explicitly refuses to look up ‘Greenland’ in any reference source or to learn facts about the climatic cooling since he is only interested in images. And in a footnote to his piece, Antonioni notes:

As for historical background – to which it would be as well not to attribute too much importance – the following quote should provide enough information ... ‘In the history of inhabited countries, they say that the east coast of Greenland was once dotted with towns, villages, and vegetation. They also say that a ‘sudden change’ in the Gulf Stream which gives life to these northern lands was responsible for its death.’<sup>29</sup>

Antonioni readily admits: ‘I do not know the North, even less how it was in those days.’<sup>30</sup> It is almost as if any data concerning the dates, timeframe, or specific geological phenomena associated with change would actually impede the director’s eventual ability to represent it on film. Facticity and filmic representation seem paradoxically incompatible.

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In imagining how he would convince a producer to make this film Antonioni engages in some rather clichéd prose about the fearsome forces of Nature and ‘the eternal myth of man engaged in a struggle with the elements’.<sup>31</sup> Such writing is not only uncharacteristically banal, it suggests a banal film; one in which Nature (or climate change) is only thinkable through its impact on characters (‘like all Nordic people she [a character he imagines] is deeply attached to Nature’<sup>32</sup>). Perhaps the reification of Nature is a tactic to pitch the film and as such it is precisely driven by the very conditions of compromise that the director would not, ultimately, wish to make. In other words, Antonioni’s ‘Green Land’ can be read as a piece of writing about what Kracauer might call ‘genuine cinematic content’ confronting the economic reality of the market. It is a wish (here, reader, are my notes for a film, jotted down in the most preliminary way, like a dream) fulfilled (I have produced my film, here, on paper).

### III

Antonioni again addressed cinema’s privileged relation to (climatic) time first in a preparatory photo-essay published in *Cinema*, ‘For a Film on the River Po’, and then in his short documentary *People of the Po Valley*. As is well known, the director filmed in 1943, but he was forced to abandon the project until after the war. By this time much of the footage had been ruined, lost or sabotaged and the nine-minute

film released in 1947 is severely truncated with respect to the original plan. It is clear that the Po, with all of its particular nuances for Antonioni, provided an ideal locale for the director to explore the special relation of cinema to (environmental) change and human adaptability.<sup>33</sup> According to Noa Steimatsky, even before he began shooting, Antonioni's essay on the proposed film 'raises questions on the ways in which location shooting complicates the relation of fiction to documentary'.<sup>34</sup> Focusing on the photographs (presumably taken by Antonioni himself), she notes that film emerges as particularly suitable for measuring change. At the same time, any documentary risks indulging in clichés about nature and the (changing) landscape. A documentary on the Po risks positing the Po as the essence of a people and solidifying place in some mystified form of a pathetic fallacy. Of course stills such as those included with the *Cinema* essay can show change if positioned in sequence, in a way that film cannot except through techniques like superimposition, captioning, fades, sepia-toned stock and so forth. How can Antonioni document change in the context of a tension between the fascist domination of space implied by the aerial photograph and the emerging neo-realist vernacular?

Steimatsky rightly points out that while Antonioni's (photo-)essay suggests that the world around the Po has become modern and industrialised, he does not call for a return a pre-industrial past. Rather, he advocates for adaptation, just as he will do in *Il deserto rosso* many years later. More specifically, in Antonioni 'cinema is instrumental in this process of adjustment' by its unique ability to mediate between 'modern environment and human perception'.<sup>35</sup> Perhaps this resonates with a Heideggerian habituation, or dwelling in the environment, vulnerable to a critique of radical passivity in the face of devastation. In some sense, the author anthropomorphises the river (as the despot of the valley). Yet there is something in Antonioni's films that pushes beyond simple human(ist) resignation. What?

Perhaps the auditory can provide a way into thinking about this question. Obviously, in the case of *Gente del Po* Antonioni was limited by the footage he had (unless he wanted to reshoot scenes after the war), but the soundtrack could be altered and imposed later and its relation with the images serves as an index of difference, temporal and otherwise. Moreover, the soundtrack itself is not unified. We could classify the sound in *Gente del Po* into several types. First, for the most part the music for the film is rather traditional and orchestral (except for a brief interlude in which an accordion is heard playing a 'folk' tune – a tune of the people). Second, the voice-over is the only 'human' sound heard during the film. We see the people's lips moving as in a silent film, but we never hear them. Only once does the voice directly address us: 'Look at that young man!' But there is a delay – we don't see any young man. Soon he enters the frame and there was no need to tell us to watch him. We have no choice, and we fully understand what he is doing without help. If we know something of the history of the war's interruption we could speculate that the voice-over is disjointed from the images and that the silently moving lips speak to a

pathos of loss and separation and even without ‘historical knowledge’ we might perceive something strange about the documentary’s auditory component.

Third, the soundtrack includes diegetic sounds. Of this type, some are unmediated – we see a barge blowing smoke and hear, at the same time, a barge whistle. However, as with the voice that announces a young man who enters the frame after a slight delay, other sounds pre-announce a visual event. That is, we hear a train whistle and then see a train (Antonioni will use the same technique in his next documentary, *N.U.* [1948]), and the ambiguity of the temporal discordance between sound and visuals will surface in a particularly dramatic scene in *Il deserto rosso*, as we will see). Or we may be asked to make a leap of faith: we hear church bells and see a church, but we have no reason to assume that this church, at this precise moment, produces the sound of bells ringing.

Similarly, Antonioni imposes onto his footage ‘natural’ sounds such as thunder or wind. The visuals on screen suggest that a storm is at hand but the sounds we here cannot be verified as originating from a particular source or locale. And it is precisely this unverifiability – even the director himself is not in control of all sensory elements – that I suggest opens to a kind of humility that transcends cynical acceptance. While we hear ambient wind, we see footage in which water blotches break down the borders that we would expect to separate the inside and outside of a film, the film from its ‘environment’ in the most unthought or generic sense.

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Ultimately, however, *Gente del Po*, as its title suggests and like ‘Green Land’, was meant to be a film about people.<sup>36</sup> In fact, the director admitted that while he may have set out to make a film about the river, ‘I was completely taken with those people.’<sup>37</sup> To depict on film the conditions of the climate was itself risky in the context of fascism since then, as now, adaptation to what is ‘external’ was considered a question of national strength. The director noted: ‘Our cinema had carefully avoided representing those situations [flooding, mudslides], as the fascist government had prohibited them.’<sup>38</sup> Ironically, because of the loss of footage (due to



Water blotches.  
The interpenetration of  
inside and outside of  
the film stock in *Gente  
del Po* (1947)

flooding and excessive humidity in Venice where the film was stored), or because the scenes of meteorological violence were sabotaged by fascist censors the narrative thread is lost and the film emerges as rather abstract.<sup>39</sup> *Gente del Po*, beyond any considerations of its form and content or (self-)censorship, is also a film about the materiality of film and its subjection to the *ambiente*.

#### IV

*Il deserto rosso*, Antonioni's first colour film, is about ecological devastation. This is the film's subject, in other words, its manifest content. Yet the director proleptically anticipates climate change in all of its radical specificity, linking it with colour and sound, and positing cinema as the medium best equipped to capture its peculiar temporality. In other words, although he did not have access to the 'science' that has now verified the devastating effects of sped-up release of carbon dioxide and other anthropogenically produced greenhouse gases, Antonioni thinks about the strange time and space of climate change – profoundly.

Let us begin with a few words about the director's views on technology and progress so that we can move beyond to the film itself. Antonioni was no Luddite, as he consistently makes clear in various writings and interviews. 'Factories are extremely beautiful,' he says in what sounds like a quasi-Marinetian outpouring:

So much so that in many architecture competitions the first prize often goes to factories, probably because they are places that offer the imagination a chance to show itself off. For example, they can profit from colours more than normal houses can. They profit from them in a functional way. If a pipe is painted green or yellow it is because it is necessary to know what it contains and to identify it in any part of the factory.<sup>40</sup>

And as Gilles Deleuze concurs:

Antonioni does not criticise the modern world, in whose possibilities he profoundly 'believes': he criticises the coexistence in the world of a modern brain and a tired worn-out neurotic body. So that his work, in a fundamental sense passes through a dualism which corresponds to the two aspects of the time-image: a cinema of the body, which puts all of the weight of the past into the body, all the tiredness of the world and modern neurosis; but also a cinema of the brain, which reveals the creativity of the world, its colours aroused by a new space-time, its powers multiplied by artificial brains.<sup>41</sup>

Giuliana's exhaustion in *Il deserto rosso* is clearly contrasted with her son's fascination for robots and erector sets; and with the technophilic pans through the factory interiors. For Deleuze it is precisely through colour that Antonioni celebrates

the positive potential of modernity. The director himself noted that the objects produced by an industrial society are in colour and therefore colour film stock is appropriate for a film about such a society. Moreover, because, as I have noted, film itself represents technological progress regardless of subject matter, to make a film (about ecological devastation) is already to adapt to and avow human participation in change.

It is unclear – and perhaps impossible to gauge – if the ‘background’ of the industrial zone around Ravenna suggested the film, or if Antonioni had an idea for a film and happened across an ideal ‘background’.<sup>42</sup> Rather, it might be more accurate to speak of an organic, developing interaction. In interviews, he spoke of two worlds coming into conflict. There are some characters that adapt well to a ‘new “way” of life’<sup>43</sup> and others, like Giuliana, who do not. ‘And thus we witness a sort of process of natural selection: the ones who survive are those who manage to keep up with progress, while the others disappear.’<sup>44</sup> Moreover, he notes that the only scene in which he did not manipulate colour is the fairytale Giuliana tells her son (filmed in Sardinia) because this is a world that has not (yet) been transformed by industry. In essence, then, we are still talking about a rather fixed view of nature as something static, a background to cinematic action.

In fact, the landscape around Ravenna which Antonioni chose as the background for his film and/or which suggested the film to him serves a rather instrumental purpose given its peculiar multiple cultural signifiers of energy and nationalism. As background, it is important to note that Mussolini had attempted – without success – to search for oil in Italy and its colonies. Petrol marketed during the Regime – under the AGIP (Agenzia Generale Italiana Petroli – the state oil company) banner, for instance – as ‘autarchic’ or ‘national’ was, in fact, imported.<sup>45</sup> Enrico Mattei was named President of the newly formed ENI (Ente Nazionale degli Idrocarburi – the state holding company for research, production and transportation of hydrocarbons in the Po valley) a decade prior to the film. Mattei, supported by the leftwing of the Christian Democrats encouraged prospecting in Northern Italy (where natural gas and methane were discovered, beginning in the 1940s) as part of a strategy of ‘defense of the interests of the collective against the interests of capital’.<sup>46</sup> When a large field of methane was discovered near Ravenna, Mattei set up a series of petrochemical plants – those seen in the film – primarily for plastics, synthetic rubber, carbon black (used in tyres) and fertilisers. These products were exported to the Soviet Union, China and other countries. In a speech given in Urbino in 1962 (several months before his still-mysterious death in a plane crash), Mattei spoke of hydrocarbons as a means of promoting industry in underdeveloped areas:

It is sufficient to recall the immense constructive force that Eni has and continues to realise with the petrochemical plants in Ravenna ... In the depressed area around

Ravenna, the Anic plant has had a propulsive effect on the economic recovery. Remember that industrial and economic activity in the province of Ravenna has more than doubled between 1951 and 1961, significantly more than any other Italian province.<sup>47</sup>

This is the political background against which Antonioni films. Early viewers of *Il deserto rosso* might not have been aware of the precise use of the factories in the film, but they would certainly read them as symbols of the economic boom, the Christian Democrat compromise between state and private capital; and as symptoms of the deleterious after-effects of (rapid) industrialisation. For our purposes, moreover, the petrochemical factory, electric plant and even the AGIP hotel where Corrado stays are tied to fossil fuels and greenhouse gases.<sup>48</sup> Even if Antonioni was not aware of the ways in which these were contributing to a change in the climate, the film reflects proleptically on (invisible) gases and energy in significant ways.

Still, the mere indication of this broad context would fall into the realm of landscape-as-theme, were it not for the film's developments of an ambient poetics. To begin, then, the plants in the film were not only noisy, they also produced an unbearable stench that the film crew must have been subjected to during shooting. Synaesthesia penetrates and even saturates the film stock itself.

*Il deserto rosso*, like all of Antonioni's earlier works, including, of course, *Gente del Po*, was shot on (analogue) film stock. Yet the director both predicted and celebrated the fact that video would soon supplant film as the future of cinema, mostly because it offered the potential to manipulate colour 'electronically' and not just in developing. He also felt that videotape, while vulnerable in certain respects, would have a longer shelf life than film.<sup>49</sup> In 1980 he noted:

Magnetic tape has every advantage over traditional film. Less than a decade from now it will be the only medium available, and this for the economic and artistic benefit of all. In no other field more than the electronic do poetry and technology walk hand in hand.<sup>50</sup>

Of course, by 'electronic' in this context Antonioni does not mean 'digital' although he did look forward to new distribution channels such as cable television. Rather, he is speaking of a medium that was developing simultaneously to supplant the more expensive and physically limiting film stock as a means of capturing reality (capable of being manipulated, however, in the editing process) and as a means of manipulation (experimental, avant-garde) for its own sake. Leaving aside a series of debates about the sustainability of digital dematerialisation, magnetic tape (the backing is usually acetate, polyester, Mylar or polyvinyl chloride – petrochemical products!) is no more or less environmentally friendly than film stock. Tape, like film stock, is wound on a reel in quantity limited by the apparatus. It is coated on one side only with tiny magnetic particles that arrange themselves into what are

called ‘domains’ based on the light (or sound) waves by which they are bombarded. Tape is certainly not invulnerable – over time the particles can drift apart from the backing (although Antonioni was of a generation that did not have to face this issue) and depending on the reels and storage, particles can drift from one track to another (cross-talk) or seep through to contaminate what is stored behind a given piece of tape (print-through). Like film, tape is also subject to alteration by humidity. But Antonioni did not think of tape as a perfect replacement for film stock – he was indeed intrigued by the aleatory and creative possibilities it offered at various stages of film-making. In essence, however, the term ‘electronic’ does not adequately describe any sort of qualitative difference between film and tape: in both cases light waves hit the surface of the medium through a lens. Although film must be treated for the image to emerge in positive, in both cases the source (or signal) is an analogue one.

Magnetic tape is also the medium used to both generate and record ‘electronic music’ such as is heard (sparsely) throughout *Il deserto rosso*, composed by Vittorio Gelmetti. The term ‘electronic music’ in this context does not mean digital or even synthesis.<sup>51</sup> Rather it refers to sounds that are generated electronically (for instance, by an oscillator) and then ‘translated’ into sound waves by an amplifier. Even if ‘real’ or ‘acoustic’ sounds are captured and put to tape and then manipulated (through time variation, splicing, etc.) the source remains an electronic signal. In short, electronic music may have (had) recourse to acoustic sounds earlier in the conceptual process, but it derives from a signal that is electronic, and composers embrace this distinction rather than lamenting a diminished or lost original. Even the female voice that is imposed over Gelmetti’s music sounds rather electronic, like a Theremin.

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In a primer on composing electronic music Allen Strange notes: ‘It is often said that electronically generated sound lacks “life,” or is less “humanistic” than acoustically-produced sound.’<sup>52</sup> The latter can be said to differ from the former in its truly transient (or ambient) state, with many different variations that tend to make us hear sound as ‘live’. The use of an oscillator as the source of signal results in a greater degree of stability, less transience. To compensate for this, Strange explains, composers may use reverb, but ‘[t]rue reverberation is the result of variations in arrival time of a particular sound caused by multiple reflections from several surfaces’.<sup>53</sup> In the opening credit sequence, and indeed throughout *Il deserto rosso*, Gelmetti’s electronic sounds, which may or may not correspond to movement on-screen, are alternated with ‘live’ voices and sounds that move freely throughout the environment. The sound editing confuses any sense of space and time that we might associate with the factories and labour.

Electronic music is used for both ambient and diegetic sounds in *Il deserto rosso*. Over the credits we hear sounds – perhaps best described as pings, hums and blips – and view images of the factory. We do not, however, see any mechanical movements, only the smoke that emerges from the factory and blends with fog in the

The first moment of diegetic sound in *Il deserto rosso* (1964), corresponding to a belching smokestack



atmosphere. The ear may take in the sounds as electronic and link them, through an intellectual connection, with the factory but there is still a sense of disjuncture that is easily tolerated, perhaps, only because we are concentrating on the information in the credits. Yet the only movement on screen is supplied by the drifting smoke and the atmospheric fog (as well as very slight camera jerks). In a sense, then, the viewer, with varying degrees of consciousness, is left to link ambient sounds with smoke; or to exist in a state of disaggregation and confusion.<sup>54</sup> Immediately after the credits Antonioni brings us to diegesis through abstraction. We see a belching smokestack and hear a corresponding rhythmic pulse. Indeed, throughout the film the soundtrack will alternate between sounds that correspond to machinery, car or boat horns, human actions, or, on occasion birds or the sea; and ambient electronic sounds that emerge at moments of emotional intensity with no apparent motivation or source.

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In one scene, as Giuliana and Corrado leave her store, she collapses with exhaustion in a chair next to a produce cart. At this point, we share with her (and possibly with her alone) the experience of hearing electronic sounds. A series of over-the-shoulder shots/counter-shots helps to provide a context: they are on the deserted, grey street where Giuliana has her store and at least this is familiar, even if we may wonder why the *fruttivendolo* would choose this quintessentially metaphysical spot to sell his produce. Indeed, the produce is painted here so it appears as if covered with post-nuclear ash. The combination of ambient sounds, painted

Produce on cart appears as if covered by post-nuclear ash, *Il deserto rosso* (1964)



props and coloured stock take us to a realm of hypothesised disaster as in the suggestive ending of *L'eclisse* (1962). But just as we may feel some sense of locatedness – however unpleasant the scene – an abrupt cut takes us to a different location, one where colours are brighter and more ‘true’. The only continuity is that again the couple moves near a produce truck. As they pass by, we hear a ping as the seller places something on a scale. And although this lonely ping does not, logically, correspond to the sound we would expect from a scale, it is linked to a movement and, thus, potentially diegetic in a way that the blips of the previous scene are not. The ping is a sonic *hapax* – we will never again hear the same sound, in any context. It registers not only estrangement, but also a sense of loss, of the impossibility of turning back (the film).

The problem of sound, verification and temporal disjunction emerges at another moment in *Il deserto rosso* when Linda tries to match a quarantine flag with the cry (*il grido*, also the name of Antonioni’s own 1957 film shot in the Po valley) that she (and we) heard ‘a little while ago’. But her husband speaks condescendingly to her, saying that the boat has just arrived so it is impossible that she heard a cry emanating from it (*‘Chi vuoi che abbia gridato?’*). The ambiguity of the situation triggers a crisis in Giuliana as it also forces us to think back in the film – to a place we are, however, unable to access, assuming we are watching it on a movie screen and not on a home device. In *Il deserto rosso* ambient sounds and spaces are conceptually linked. Giuliana hears and reacts to sounds that other characters seem unaware of. Similarly, the short takes and lack of continuity in some of the editing make it difficult to locate oneself in space.

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The Northern Cross radio telescope that Giuliana and Corrado visit – under construction at the time of filming – is still active in Medicina. It is a parabolic radio receiver that is primarily meant to listen to very weak radio waves from the cosmos, another force, like greenhouse gases, that is both invisible and inaudible to humans. As Giuliana and Corrado walk towards the array we hear a persistent ambient hum. This noise could either stand for the sound of film scrolling through a projector (the kind of hum that we experience if we are watching the film in an intimate setting or *cinema d’essai*, but not in a modern theatre). However, this ‘theory’ is disproved quickly. The humming sound intensifies as the camera moves closer to the array itself. Perhaps, then, it emanates from some machine involved in the construction, which we never see (or, what is far less logical but certainly more poetical, from the sound of distant radio waves amplified). After Corrado finishes speaking with the worker and returns to Giuliana, the sound abruptly stops. We are supposed to pay attention to the dialogue of the actors, now in a medium shot, as in a traditional film. Our theories about the sound no longer matter as we are drawn into human drama. In fact, however, this most ‘electronic’ of constructions is meant to listen to acoustic sounds. The array is a found object in the landscape that Antonioni is able to exploit, and the sound without a given source first

Bodies emerge on film  
from behind a thick  
curtain of fog as if  
conjured up from  
nothing, *Il deserto rosso*  
(1964)

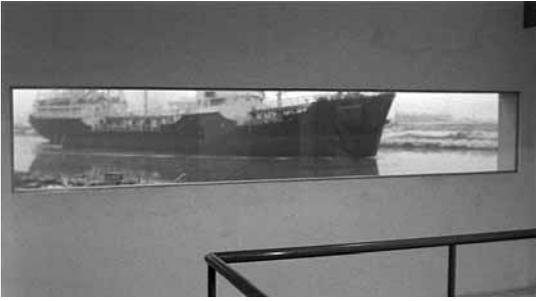


appears purely environmental, but then the film-maker can turn it off as quickly as he can cut to a new locale.

As with ambient sound, in *Il deserto rosso* the materiality of film is not incidental but rather crucial to meaning. At several points in the film ships pass through the canals, their prows appearing from off-screen and moving from left to right. These images are disconcerting because of the proximity of the ships to structures on land, but also because we do not see them coming – they emerge from the fog like the human figures so that we can no longer be certain we are watching a realist film. The human actors emerge from the fog as if from behind a thick curtain. Giuliana walks into the frame, her body contrasting with an abstract swathe of colour. The unfocused areas that highlight certain other parts of the photogrammes result from very short takes. Antonioni uses lenses and filters and he paints the ‘signals’ that he is going to ‘record’ but in the end they are still the equivalent of ‘acoustic’ signals hitting analogue film. Colours are bound to fade as analogue film degrades and it seems as if *Il deserto rosso* already anticipates loss of information – it is already nostalgic about such loss.<sup>55</sup> That is, Antonioni celebrates the immediate vibrancy of the colour process and at the same time, signals to the viewer that film is ephemeral and subject to wear – an idea that is clearly disavowed by Technicolor gems such as Hollywood musicals.

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Giuliana and Ugo’s house is located in what was planned to be a worker’s village for the Enel-Sade electric power station. The crew wanted to reproduce the sense of the houses on the small industrial canal as being open, yet they faced the obstacle that the equipment would not fit inside. By a happy coincidence, the village was going to be demolished, so Antonioni was able to tear down walls to gain the desired effect. As Flavio Nicolini writes, the director’s aim was to create an ‘environment that was cinematically equivalent to the existing one’.<sup>56</sup> We could read this statement to mean, simply, that Antonioni wanted to make a realist film, and that the reality he confronted around the port of Ravenna was itself so polluted as to be ambiently ambivalent. But it seems to me that this short-changes the impact of the film. Instead, Antonioni wanted to make an ambient film, one with the environment as its content but also as its form. By highlighting the temporal disjunctions through his use of sound and spatial disjunctions, by the embrace of fog in/on the film, he



Ship passing through the Enel-Sade canal filmed from inside Ugo and Giuliana's house, *Il deserto rosso* (1964)

undoes any sort of certainty about borders between the visible and invisible or outside and inside that would make us comfortable determining the film's *ambiente*. In *Il deserto rosso* we move far beyond debates about the politics of (national, region) landscape in the film journals. It is no longer possible to speak of a dialectical difference between the (false, spectacular) close-up and the (genuine, pure, quintessential) landscape. The face – Giuliana's face – is no longer an object that stands out from a ground. Likewise, to say that Antonioni takes us into a realm of the ineffable is not to say that he renounces action in the face of environmental problems. Rather, we realise, thinking with Antonioni, that there is no question of facing the environment since we are in it, of it.

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So if climate science, as calculating, measuring and 'enframing', might beg cinema to suspend its essence in order to make us face – definitively – the effects of human (as opposed to 'natural') actions in the atmosphere (or on the *ambiente* more generally), Antonioni refuses to do so precisely in order to make us truly see that there is no definitive boundary between the human and what surrounds the human. He refuses to choose between the landscape as unchanging, genuine or even nationalist backdrop for human interaction or even as the analogic embodiment of human emotions. Rather, his cinema is so thoroughly immersed in the environment or in the climate that it undoes any thought of the climate as an object that might be studied in order to arrive at particular solutions. It is in this regard that Antonioni can be retrospectively crowned the cinematic poet laureate of climate change.

## Notes

1. Robert Henson suggests that sceptics in the US currently number no more than a few dozen. Robert Henson, *The Rough Guide to Climate Change* (London: Penguin, 2009), p. 254.
2. Hollywood cinema certainly has means for separating different locales (think of the cuts and colouration in Soderbergh's *Traffic*) but the (geographical) temporal problem remains much more vexed.

3. Siegfried Kracauer, *Theory of Film: The Redemption of Physical Reality* (Princeton, NJ: Princeton University Press, 1997), p. 306.
4. The reader could note in these rhetorical questions echoes of Heidegger's 'question after technology'. Like technology (or technics) cinema has moved away from its essence towards a more instrumental mode, one that is widely accepted and hence 'technically correct' but not for that more essential and certainly less poetic. Heidegger seems a crucial thinker for Antonioni's films, even if the director apparently had only a superficial interest in the philosopher.
5. This is the term used by manly but humble scientist Jack (Dennis Quaid). Jack has no political agenda – he simply happens to observe a rapid 'shift' in the climate caused by trapped greenhouse gases from the past (a sign of what is to come if we continue our sins of emissions). This subtle terminological distinction allows the film to proceed as if climate 'change' has been a mere theory and as if there is still time for us to repent. That is, the film both posits climate change as a definite event to come, and yet disavows any particular 'political' position towards capitalist industry and consumerism that is the root cause.
6. See George Ochoa et al., *Climate: The Force That Shapes Our World and the Future of Life on Earth* (London: Rodale, 2005), p. 77; and Henson, *The Rough Guide to Climate Change*, p. 223.
7. I have discussed implications of the English word 'environment' in my essays: 'The Risks of Sustainability', in Paul Crosthwaite (ed.), *Criticism, Crisis, and Contemporary Narrative: Textual Horizons in an Age of Global Risk* (London: Routledge, 2010), pp. 62–78; and in 'Carbon Management: A Gift of Time?', *Oxford Literary Review*, no. 32 ed. by Timothy Clark (July 2010): 51–70. Also see Timothy Morton, *Ecology Without Nature* (Cambridge: Harvard University Press, 2007).
8. Antonioni's films may emerge not from character or story, but precisely from an *ambiente*, meant in the sense of a location, but also a certain ambiance, that is, a certain sense of being surrounded on both/all sides. For instance: 'A story can also be born by observing the environment [*ambiente*], which will then become the outline.' Cited in Giorgio Tinazzi, 'The Gaze and the Story', in Michelangelo Antonioni, *The Architecture of Vision: Writings and Interviews on Cinema*, ed. Carlo Di Carlo and Giorgio Tinazzi, trans. Marga Cottino-Jones (New York: Marsilio, 1996), pp. xxiii–xxvii (p. xxi).
9. Cited in Deborah Toschi, *Il paesaggio rurale. Cinema e cultura contadina nell'Italia fascista* (Milan: Vita e Pensiero, 2009), p. 3.
10. Emily Braun, 'Speaking Volumes: Giorgio Morandi's Still Lives and the Cultural Politics of *Strapaese*,' *Modernism/Modernity* vol. 2 no. 3 (1995), pp. 89–116 (p. 106).
11. Reprinted as 'Towards an Italian Landscape', in David Overbey (ed.), *Springtime in Italy: A Reader on Neo-Realism* (London: Talisman, 1978), pp. 125–9.
12. A brilliant essay that discusses such questions is: Nigel Clark, 'Ex-orbitant Globality', *Theory Culture Society* no. 22 (2005), pp. 165–85. In terms of *Ossessione* I would argue that the Po tends to serve as a flat backdrop to characters' interaction until the

penultimate scene when it immerses Gino and Giovanna. It is this moment when Gino declares that he is finally liberated and the viewer also has the sense that cinema itself has moved beyond the more traditional melodrama of the earlier scenes in the film; almost as if Gino's proclamation is an announcement of the birth of neo-realism, or of a new cinematic moment.

13. De Santis, 'Towards an Italian Landscape', p. 125.
14. Michelangelo Antonioni, 'A Talk with Michelangelo Antonioni on his Work', in *The Architecture of Vision*, pp. 21–47 (p. 27).
15. See my *Alchemical Mercury: A Theory of Ambivalence* (Stanford: Stanford University Press, 2009) for a discussion of the disappearance of the specificity of the 'ambo'-prefix in common uses of 'ambivalence'.
16. Morton, *Ecology Without Nature*, p. 34.
17. Ibid.
18. The term '*clima cinematografico*' was used by Leo Longanesi to express a 'poetry expressed in backgrounds and scenery – a series of images capable on their own of arousing emotion'. Cited in Toschi, *Il paesaggio rurale*, p. 9.
19. For the significance of *milieu* as both 'middle' and 'environment' see Gilles Deleuze, *Cinema 2. The Time-Image*, trans. Hugh Tomlinson and Robert Galeta (Minneapolis: University of Minnesota Press, 1989), p. 71.
20. In this context it is worth recalling that scientists predict not all areas of the globe will warm with climate change (hence, this term is preferred to 'global warming').
21. We should note that at one point he had considered *Light Blue and Green* as the title for *Il deserto rosso*. He apparently rejected the earlier title precisely as it placed too much emphasis on colour.
22. Michelangelo Antonioni, 'Green Land', *Bianco e nero* no. 10 (October 1940), pp. 959–72. Reprinted in Michelangelo Antonioni, *Unfinished Business: Screenplays, Scenarios, and Ideas*, ed. Carlo Di Carlo and Giorgio Tinazzi, trans. Andrew Taylor (New York and Venice: Marsilio, 1998), pp. 1–18 (p. 1).
23. Ibid., p. 17.
24. Ibid., p. 12.
25. Ibid.
26. Kracauer writes: 'Natural objects, then, are surrounded with a fringe of meanings liable to touch off various moods, emotions, runs of inarticulate thoughts; in other words, they have a theoretically unlimited number of psychological and mental correspondences.' Kracauer, *Theory of Film*, p. 68. Some of these meanings are phylogenetically inherited and can thus be explained by science. Others are culturally determined. And while I would argue that at some points Antonioni may force colours (or objects) to correspond to psychological states either through manipulation of the set, use of coloured filters or physically tinting film stock, at other points – in *Il deserto rosso* in particular – colour-effects break out of any such containment and begin to act on their own in uncontrollable and unexpected ways.

27. Antonioni, 'Green Land', p. 16.
28. *Ibid.*, p. 17.
29. *Ibid.*, p. 7.
30. *Ibid.*, p. 11.
31. *Ibid.*, p. 7.
32. *Ibid.*, p. 13.
33. For instance, Rohdie writes: 'The river not only had a social-populist interest for him, which he expressed in the article ['Per un film sul fiume Po'], but a visual and philosophical one ... Antonioni used the river and its mists and fogs to distort shapes and surfaces, to blur and alter perspectives, and to create an atmosphere of uncertainty and fragility.' And he continues, 'In part, the appeal of the Po for Antonioni in his article-treatment is the mutability of the river: full to the point of flood in winter, dry, emptied out, in late summer. His interest is in the visual possibilities offered by change rather than in their philosophical or social implications.' Sam Rohdie, *Antonioni* (London: BFI, 1990), p. 26.
34. Noa Steimatsky, *Italian Locations: Reinhabiting the Past in Postwar Cinema* (Minneapolis: University of Minnesota Press, 2008), p. 2.
35. *Ibid.*
36. 'Po di Volano belongs to the landscape of my early childhood. To the Po of my youth. The men who would pass on the levees, dragging along the barges with a rope at a slow, rhythmic pace; and later the same barges dragged along in a convoy by a tugboat, with the women intent on cooking, the men at the helm, the hens, the clothes hanging out – true wandering houses, touching. They were images of a world of which, little by little, I was becoming conscious. That landscape, which until then had been a landscape of things, motionless and solitary – the muddy water, full of whirlpools, the rows of poplars that would get lost in the fog, the Isola Bianca which, in the middle of the river at Pontelagoscuro, divided the current in two – that landscape was moving, it was filling up with people and regaining strength. The things themselves were claiming a different attention, acquiring a different significance. I looked at them in a new way, I was taking control of them. Beginning to understand the world through the image, I was understanding the image, its force, its mystery.' Michelangelo Antonioni, 'Preface to Six Films' [1964], in *The Architecture of Vision*, pp. 57–68 (p. 65). Tinazzi confirms that Antonioni's desire was to make a film about fishing and fishermen rather than a place or *ambiente*. Giorgio Tinazzi, *Michelangelo Antonioni* (Florence: La Nuova Italia, 1974) p. 11.
37. Michelangelo Antonioni, 'The History of Cinema is Made on Film' [1979], in *The Architecture of Vision*, pp. 193–216 (p. 193).
38. *Ibid.*, p. 194.
39. The director put forward the theory of sabotage in a 1985 interview. See Michelangelo Antonioni, 'Identification of a Filmmaker' [1985], in *The Architecture of Vision*, pp. 245–56 (p. 253).

40. Antonioni, 'The History of Cinema is Made on Film', p. 203.
41. Deleuze, *Cinema 2*, pp. 204–5.
42. A piece published in 1964 fails to help us determine if the setting, the desire to make a film in colour, or the desire to make this particular story came first: 'I always thought of *Il deserto rosso* in color. The idea for it came to me as I was going through the countryside around Ravenna ... The violent transformation of the countryside around the city has had a strong effect on me. Before, there were immense groves of pine trees, very beautiful, which today are completely dead. Soon even the few that have survived will die and give way to factories, artificial waterways, and docks. This is a reflection of what is happening in the rest of the world. It seemed to be the ideal background for the story I had in mind – naturally, a story in color.' Michelangelo Antonioni, 'The *Il deserto rosso*' [1964], in *The Architecture of Vision*, pp. 283–6 (p. 284). In an interview (in French) included on the Criterion DVD, Antonioni notes that the *milieu* rather than the character(s) were at the origin of the film.
43. Ibid.
44. Ibid., p. 285.
45. While France and England had established national oil companies earlier (CFP, with its own source of supply from the beginning, and BP, respectively), Mussolini did so only in 1926, the same year as the radical revaluation of the lira. AGIP (Agenzia Generale Italiana Petroli) had as its goals to conduct exploration for possible energy sources and develop refineries in Italy; and to market oil found elsewhere as 'national'. In its early years AGIP did manage to acquire a number of oil companies in Romania and Albania as well as Iraq. Some key discoveries of the postwar period include: a methane field in Caviaga (Milan), 1944; a natural gas field near Cremona, 1947; and one at Cortemaggiore, 1948. This latter field was so important that petrol sold in AGIP stations was called 'supercortemaggiore', even though most of it was imported.
46. Nico Perrone, *Enrico Mattei* (Bologna: Il Mulino, 2001), p. 46.
47. Cited in *ibid.*, p. 67.
48. Simultaneous with the developments of Eni, AGIP expands service stations and modernises services for consumers. Enrico Mattei assigned a great deal of importance to the standardisation of the AGIP brand. In a scene from Francesco Rosi's 1972 film, *Il caso Mattei* (*The Mattei Affair*), Gian Maria Volonté as Mattei goes ballistic after inspecting a dirty bathroom in an AGIP station in Sicily. According to Enrico Menduni, however, Mattei's modernist 'good design', while it may have helped establish the AGIP brand as perfectly uniform, also missed an opportunity to stimulate hyper-consumerism. Interestingly, the AGIP style is also Antonioni's style in various films – a cold modernism that frames characters in rectangles. Writing of the AGIP stations and roadside restaurants, Menduni notes: 'They exhibit a rationalist quality of enlightened architectures, modernist and a bit cold, good design ... the clean lines of Swedish furniture, but they are almost all the same. Perhaps the modernism of Eni was too catholic to understand the sinful excesses of food and consumables that could take

- place in a roadside restaurant.' Enrico Menduni, *L'autostrada del sole* (Bologna: Il Mulino, 1999), pp. 78–9. Thus we could say that Antonioni does not merely film against this 'found landscape'. Rather, he actively engages it in the formation of cinematic subjectivity.
49. Michelangelo Antonioni, 'The Director and Technology: "Take it From Me, This is the Future"' [1983], in *The Architecture of Vision*, pp. 352–5 (p. 355).
  50. Michelangelo Antonioni, *Il silenzio a colori*, ed. Enrica Antonioni (Rome: Campisano Editore, 2006), p. 104. Trans. KP.
  51. Robert Moog built his first synthesiser in Trumansburg, New York, the same year *Il deserto rosso* was made.
  52. Allen Strange, *Electronic Music. Systems, Techniques and Controls* (Dubuque, Iowa: William Brown and Co., 1972), p. 86.
  53. Ibid.
  54. Thus, it is especially ironic that the trailer (featured on the 2010 Criterion DVD) for *Il deserto rosso* featured up-tempo jazz (as one might expect in a Dino Risi comedy) that plays for only a few minutes of screen time during the 'orgy' scene.
  55. Carlo di Palma, Antonioni's director of photography who had worked on the colours of the original, helped restore the film in 1998. The BFI and Criterion DVDs are made from the restored print.
  56. In the original: 'un ambiente cinematograficamente equivalente a quello esistente'. Flavio Nicolini, 'Deserto Rosso,' *Cinema nuovo* no. 168 (March–April 1964), pp. 147–50 (p. 150).