# Part 5

## Shifting Rhythms

*The hotel air conditioning whirred and hummed, disturbing my sleep. It seemed to have a mind of its own. I had pushed some buttons earlier when I arrived from the airport at 2 in the morning, but nothing much seemed to happen. Nearly time to get up. The sun was starting to come through the curtains, the clock turned over, a newspaper dropped outside my door. The smell of breakfast drifting through the corridor, other people stirring, TVs coming on, showering and washing. Another day beginning. Another same old, same old for the hotel.*

The temporal orderings and patterns that make up the everyday, and that give rhythm both to how the social world rolls out and to how energy demand fluxes and flows, are at the core of the two chapters in this final part of the book. Both make clear that while temporal ordering is to some degree shared across societies, in terms of for example broadly shared weekly or seasonal rhythms, they are also grounded within particular settings and situations—those of hospitals and hotels in the cases these two chapters examine, but we could imagine many others. Rhythms of practices and those performing them interweave and interact in such settings. They are shaped by the ways that different activities interrelate and bundle together, and by the expectations and standards of performance that are intrinsic to performing well, for example as a hospital or as a hotel. The combined beats, pulses and patterns that are generated do not though

just stand still, in stasis. So we can also have an interest in understanding something about the movement of rhythms in time, both in terms of how they shift and transform and how they might be purposefully shifted around to particular ends. Such a phenomenon is increasingly sought after in the energy world. As explained in the introduction to the book, both peaks in demand that are putting pressure on the electricity grid and troughs in demand that are not using the available renewable energy supply on a very sunny or windy day, mean that forms of demand flexibility and responsiveness are increasingly aspired to by energy policy makers and grid managers. There is now money to be saved (or to be made), and carbon to be cut, by flexing energy use in response to such temporally structured energy system objectives. Both hospitals and hotels are settings where 'demand responsiveness' is being imagined as possible. But how much purposeful flexing to extant, continually reproduced rhythms of energy use can really be achieved, and what bounds and limits these possibilities, is another question.

While we can approach these two chapters through a common lens of rhythm and flexibility, in other ways they are very different, maybe more so in fact than any other two chapters in this book. One is strongly sociological engaged in theoretical development and application; the other is more pragmatically grounded in, for example, details of the characteristics of energy-using technologies and their 'load profiles'. One begins with the applied objectives of turning off and on energy-using technologies at particular times, tracking the actual performance of hotel-located technologies doing just that; the other addresses such possibilities only as an implication of the analysis of interrelated institutional and working rhythms that is the main theoretical concern, with the hospital an intriguing and productive empirical example. Such are the many different approaches through which a concern for investigating demanding energy can be pursued.

For Mitchell Curtis and colleagues then the hotel is primarily framed as a setting for energy-using technologies—lights, heating and ventilation systems, kitchen equipment—each of which can be characterised both in relation to how fast they can be powered down and back up again (which they term responsiveness) and how feasible it is in practice

to do so in response to 'signals' which come from the energy supply system (which they term flexibility). Responsiveness is to some degree a part of the temporal features of the technology itself, whereas they are clear that flexibility is a matter of what the energy-using technology is *for* in the hotel context—what service is being provided, how this relates to expected standards of customer experience, what temporal pattern this service needs to be available over and what the implications of 'powering down' are likely to be for the quality of service provision. The rhythms of 'doing business', of doing it well and of working with the temporal patterns and expectations of customers arriving, leaving, eating, sleeping and so on, strongly condition and differentiate the possibilities of turning things on and off. The rhythmic demands of the institutional setting, as well as the energy-using technologies that inhabit it, are vital to any realistic assessment of how much scope there is for demand flexibility.

Stanley Blue starts in a different place, but would have no problem agreeing that the situated institutional setting is important to investigate and understand. He conceptualises hospital life as being full of interconnected practices and as underpinned by a socio-temporal structure that shapes 'normal' and acceptable ways of working. The timing of a given practice is, he argues, a product of its connections to other practices—so testing comes before diagnosis, before treatment and so on—as well as of the temporal ordering of the hospital as a whole, and also of particular material arrangements and the configuration of professional and jurisdictional boundaries. All of these interconnections, he emphasises, need to be understood in terms of their historical formation and development. Hospitals, clearly, are complex, evolving and multifaceted settings for the making of energy demand. To find a way through this potentially overwhelming web of interrelations, he takes particular examples—such as changes to the organisation of breast cancer screening services—to show how there is sometimes flexibility and sometimes fixity in interconnections, and that these in turn present opportunities and obstacles to forms of temporal reorganisation. It follows in relation to energy demand that intervening in the organisation and timing of working arrangements is in principle an opportunity for achieving 'demand response' and reducing

demand overall; but realising this depends on there being sufficient flexibility in the various forms of connection that are holding the temporal arrangements of hospital life together.

Both chapters then provide much for others interested in the rhythms of energy demand to build upon, both within and beyond the institutional settings that they have selected as their empirical focus.