"If you wish to make an apple pie from scratch, you must first invent the universe."

Carl Sagan, opening episode 9 ("The Lives of Stars") of *Cosmos: A Personal Voyage*, 1980

Hacking has many different forms and flavours, so naturally the products of these exercises run the gamut. Therefore, to make identification slightly easier, the projects have general labels applied to designate the overall context of which they exist within:

- *Coding / Software*
- *Electrical Engineering*
- *Fabrication (Digital / Analogue)*
- *Recycle / Upcycle*
- *Open-source[1] / Shanzhai*

The first three categories are rather straightforward and physically evident in most hackerspaces. The standard activity of coding, engineering and making is what brings each of these projects to life, and thus hopefully those who attempt these projects will have some basic understanding of each, to a certain degree. This assumes that if one were to tackle a *Fabrication* project, there would be an inherent technician who could further demonstrate the intricacies of woodworking, 3D printing, laser cutting and what not far better than it could in here.

The last two categories are more conceptual, in that their purpose frames the context of which these ideas were seeded—*Recycle / Upcycle* focuses on repurposing *found* objects beyond its original intent (emphasis on "found"). *Shanzhai* (山寨) is within the notion of *hacking*, though within the Chinese cultural context whereby most positively could be described as the rapid and flexible ecosystem of reiteration and negatively described as knock-off clones. So to conjoin the term into the category of *Open-source / Shanzhai*, this refers to the concept of democratising innovation, or opening up access to particular technologies that are unnecessarily bound to certain statuses.

In general, the projects documented within this book are personal endeavours that were pursued for the sake of curiosity and exploration and as such were governed by rather sporadic work schedules, leading to the point where documentation itself has become, at times, another project in itself. These works by various engineers, designers, artists and scientists—active in the Dim Sum Labs and surrounding community—are intended to serve as a representative overview on the subject of hacking and a source of inspiration. So for the sake of simplicity, projects that require additional software will be noted, along with the requisite libraries, but will assume you have done a local install.

They consist of instructional projects, anecdotal narratives, incomplete explorations and divergent discussions—the variety of experiences that you would normally encounter in our community space.

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1 There can be an extended debate on the usage of this term versus "FOSS" (free and open-source software), just as much as "hackerspace" can be debated with "makerspace", but for the purpose of this particular label, "open-source" merely refers to "opening the source of something" and not inclusive of all the political nuances. To that extent, technology also refers to a broad field which includes general equipment and knowledge, rather than simply "computing".

§ Each project in this book begins with an introductory circular image; also indicated here with a coloured label on the right side (explained on the opposite page). The **bold text** below indicate essay chapters, which serve as interludes between different project themes, setting the tone for: general electronics, artworks, recyclables, inclusivity, science, and unfinished business. They also serve as brief respite for those who wish to learn more about hacking, but not necessarily in the physical, empirical way.

Stay tuned to this symbol for more thematic meta-text!

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