Suzanne Potjer
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From the possible

EXPERI-MENTAL

to the doable

GOVER-NANCE

to the new mainstream

No course is lit
By light that former burned
From darkness bit by bit
The present road is learned.

John Dewey, Truth's Torch

From the *possible*, to the *doable*, to the *new mainstream*

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PREFACE

The world is facing major issues that require immediate action. Climate change, the depletion of the earth's resources, and the need to transition to sustainable energy are just a few of the pressing challenges of this time. But while these problems are global, we need to address them at a range of spatial levels, from neighbourhoods to cities, from cities to provinces, from provinces to countries, and from countries to the globe. Such challenges require us to profoundly rethink our current practices, which, after all, brought us into this situation in the first place. To complicate matters further, we need to address these challenges in such a way that we can maintain a sense of common purpose, a sense of working together towards a better world.

How can we actually do this? More and more, we are forced to acknowledge the fact that simple sectoral decisions or solutions will not do. We need to rethink our systems of public policy making, the way in which governments relate to each other, and how governments relate to the wide variety of citizen initiatives we are currently witnessing all over the planet. The carefully orchestrated images of global consensus at 'summits', such as the one in Paris in 2015, still depend on a myriad of decisions and actions elsewhere to achieve the results needed to stay within – in this case – two degrees of global warming, let alone 1.5 degrees.

This book provides an alternative, or more specifically, it shows how important *alternatives* are to dealing with the challenges we collectively face. It's a book about 'experimental governance' and the idea that systematic experimentation and learning are instrumental to finding and disseminating the solutions of tomorrow. This book was originally published for a Dutch audience and, in various ways, can be seen as having a 'Dutch' signature. Nonetheless, we decided to also publish the book in English, because it has an important story to tell, one that is relevant well beyond the borders of the Netherlands. By so doing we also want to situate it within a wider, international body of literature on the topic.

This book is unique in its origin: it is itself also a product of collaboration. Rather than writing it from the sidelines, Urban Futures Studio author Suzanne Potjer engaged in 'transdisciplinary research', working closely with actors in various experimental practices and learning along the way. In particular, the Dutch Ministry of the Interior and Kingdom Relations (BZK), was a main partner in this research, and we recognize their financial support, without which this research project and this book would not have been possible.

In the pages that follow, Suzanne Potjer shows how we can interpret new scientific research to facilitate the necessary acceleration of local solutions to the world's most pressing challenges. I also see it as an expression of a search for a new relationship between government and science that the Urban Futures Studio is currently undertaking.

Maarten Hajer

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INTRODUCTION

Experimenting is hot. At least in the public sphere, there's no ignoring it. Calls to experiment ring out during conferences and meetings; proposals for experiments appear in policy documents and manifestos; and experiments themselves are popping up all around us. Whether they're taking place in *pilot programmes, urban labs* or *living labs*, local residents, companies, think tanks and governments are increasingly experimenting with subjects as diverse as sustainability, health care and neighbourhood revitalization. We're conducting so many experiments that they can even be seen as an emerging strategy of 'governance', or a new way of acting in the public sphere. Scholars Harriet Bulkeley and Vanessa Castán Broto call it 'governance by experiment'.[01]

But how thought out is this strategy actually? A lot of experiments are taking place, but not necessarily in a systematic way. Many experiments begin with the intention of working differently – more collaborative, more practice-oriented, more focused on learning – but often with no clear idea of how. More problematic still is how little thought is given to the afterlives of these experiments. As a result, experiments seldom extend beyond short-lived practices with limited societal impact, even though experiments could have the power to offer effective solutions to the most difficult societal challenges we face today.

To overcome these problems, this book introduces the philosophy of experimental governance. This philosophy offers a systematic way of looking at experimentation in the public sphere, based on the premise that while individual experiments are valuable, we must look beyond them and also consider the broader system: a system in which there are not one, but many experiments, and in which the 'normal' institutional world plays an important role in facilitating and utilizing the lessons of experiments. The philosophy of experimental governance demonstrates how experimentation and learning should take place at all levels: in experiments, between experiments, and between experiments and the surrounding institutional world. We call these the local, horizontal and vertical levels of experimental governance.

Experiments do exactly what is most needed today: they offer new solutions (the *possible*) to the most complex societal issues and put those solutions into practice (the *doable*). But if we want many small experiments to lead to major structural changes (the *new mainstream*), then we need to go further and investigate what else is needed to foster innovation. That is what experimental governance offers. That is what this book is about.

Note to the reader: the philosophy of experimental governance is defined on page 22 of this book. Beginning on page 39, the theory is then systematically explained using practical examples from the Netherlands and around the world, supported by insights taken from scientific literature. Three intermezzos give an in-depth look at ‘the system’, ‘experiments’ and ‘learning’, and these are interspersed with four interviews with experts. We begin, however, by answering two critical questions: Why is experimenting in the public sphere actually so important? And why does this approach call for ‘experimental governance’?

DEFINITIONS

Experimental governance = a philosophy of governing that emphasizes systematic experimentation and learning as a way to find solutions for complex societal issues.

Experiment = a demarcated local practice in which actors try out new ideas and solutions in a collaborative and learning-oriented fashion. Experiments come in different shapes and forms; see page 27 for more detail.

Experimentation = the act of ‘trying something out’ with the aim of learning. Experimentation in the public sphere involves more than just an ‘experiment’. For example, governance strategies that enable experiments or place multiple experiments alongside each other to reinforce learning can also be seen as forms of experimentation.

Governance = the act of governing. In this book, the term governance is used in relation to the public sphere. Today, governing in the public sphere is no longer done by governments alone; often it involves complex interactions between many different actors.

Institutions = in this book refers to public organizations such as government institutions, but also housing corporations or universities.

Institutional world = the umbrella term for all of the institutions present in the public sphere that can have an influence on experiments.

Learning = the goal of experimentation. ‘Experimental’ learning in the public sphere is multifaceted. In the context of a single experiment, it’s about ‘learning-by-doing’. But experimental learning is also about ‘learning-from-doing’: the institutional world should also learn from experiments, and experiments can equally learn from each other. Note: learning does not happen automatically! See page 79 for more detail.

Governance philosophy = a general perspective on approaches to governing in the public sphere.

Governance strategy = an intentional way of governing in the public sphere, developed for a specific context.

System = in essence, the word ‘system’ refers to how individual parts relate to a greater whole. The relevant system should be decided on a case-by-case basis, which is done on page 19 of this book.

Systematic = acting according to a certain system, in this case the system that is developed on page 19.

From the *possible*,

to the *doable*,

to the *new mainstream*

THE AMELAND ALTERNATIVE

Something special is happening on Ameland, a small Dutch island in the North Sea. While the very achievability of emission targets is heavily debated in the Netherlands, Ameland is raising the stakes. The local government, the energy provider Eneco and the local residents of the island are working together to ensure that they will be fully energy self-sufficient by 2020 – well ahead of the national target of 2050. To accomplish this, they are experimenting with heat pumps, solar parks and smart metres, all while making sure everyone benefits from the energy transition. For example, some of the residents are members of a new energy cooperative that shares profits with local residents, and the island is also being made sustainable to continue to attract tourism in the future. On Ameland, sustainability is not just about energy, but about creating a better future for everyone.

Community meeting, Ameland

The Ameland experiment is important for all of the Netherlands, as well as other places around the world. After all, the need to transition to sustainable energy is a global issue: we can only combat the disastrous consequences of climate change if the entire planet stops using fossil fuels. At the same time, climate change is also difficult to solve on the global level, because there are no clear-cut solutions and attractive alternatives are still missing. The big question: how can we limit climate change without also limiting prosperity? In countries such as the Netherlands, the fear of higher bills and the loss of luxuries (for example, foreign holidays and the daily consumption of meat) is greater than the perceived benefits that the sustainability transition might bring to society, because those potential benefits remain uncertain and unseen. That's why the example of Ameland is so valuable: it shows that we can begin to realize the energy transition in a way that actually feels like progress.

THE VALUE OF EXPERIMENTING

The term ‘experiment’ perhaps calls to mind images of sterile labs and people in white coats, but in the public sphere it refers to any testing of innovative ideas and solutions. Experiments come in many shapes and sizes, but they always share – or at least should share – three important characteristics: they are practice-oriented, collaborative and involve ‘learning-by-doing’. These characteristics give experiments the unique ability to incrementally find innovative solutions to complex societal issues, whether that be the energy transition, population decline or the future of work (to name only a few).

Sociologist Richard Sennett sums it up nicely: experiments are a “crooked path from the possible to the doable”.[02] This path is not easy and requires a great deal of work. Nevertheless, it is of great value, because experiments can turn what was once only thought possible into the achievable. This has implications not only for what happens locally, but also for the wider system. As scholars James Evans, Andrew Karvonen and Rob Raven put it in their book, *The Experimental City*, experiments let “people experience a different possible future”.[03]

FROM THE POSSIBLE TO THE DOABLE, AND THEN…?

And yet the doable is not the final objective. After all, one sustainable Ameland is but a fraction of a sustainable Netherlands, let alone a sustainable world. Sustainable practices of this kind must go beyond the merely doable and also become common practice; they need to lead to a ‘new mainstream’. This is where things tend to go wrong in the current situation. Despite all of this experimenting in the public sphere, very few experiments lead to widespread reform. But this has less to do with the experiments themselves than with the way experiments are carried out: too often focused on the one-off experiment with little regard for the larger system.

The way of thinking about experiments usually proceeds as follows: to undertake an experiment is challenging and may result in failure, but if an experiment succeeds, then you’ve got something valuable, an innovation. To create systematic change, the next step is then to ‘scale up’ and ‘roll out’ this innovation by reproducing it in as many places as possible or using it to shape policy or legislation so that everyone can benefit from it. Yet, as appealing as this logic is, it is also too simplistic: in practice, it is rarely that simple.

A ONE-SIDED DISCUSSION

The assumption underlying the ‘scaling up’ of a solution is that experiments develop autonomously and are capable of influencing the

← School project in Ameland

institutional world with little additional help. In reality it is the other way around: it is the institutions that promote or restrict experimenting. Take Reduzum, for example. In the 1990s, this Frisian village was one of the first in the Netherlands to build a communal windmill, the profits of which were used to install solar panels, perform upkeep on the community centre and purchase a school bus. Today the windmill is outdated, so the village wants to build a new, higher windmill. The province has a different plan, however: they want to build a large wind farm in a large adjacent lake called the 'IJsselmeer' and eliminate independent wind turbines on land. No exception can be made for Reduzum, where the windmill has proven its worth for twenty-five years. With that the village's sustainable renovation plans are brought to an abrupt halt.

Thus, while experiments are subject to institutional control, they are not able to influence institutions themselves. Experiments develop much faster than institutional procedures, and those involved with experimenting do not always have the time or energy to communicate with institutions. Sometimes they don't even get a chance. This is the case with the *Hof van Cartesius*. Located in Utrecht, this circular, experimental building project is very popular: large groups of people and several organizations have come to be inspired by this unique place, where entrepreneurs built their own circular co-working space. Many institutional partners have gotten involved, including the municipality, Utrecht University and the University of Applied Sciences. But their interest extends no further than coming to take a look at the building. The lack of influence on their local institutions frustrates the developers. "We are too often seen as objects of curiosity rather than as discussion partners or recognized authorities," says Bianca Ernst, one of the developers. The developers are not invited to help translate insights from their experimental workspace into policy or scholarship, even though their institutional partners could learn a lot from them.

Village windmill, Reduzum

IT'S THE CONTEXT, STUPID!

The slogan of Bill Clinton's 1992 presidential campaign was "It's the economy, stupid!" Though the message was hardly endearing, Clinton made it clear that he alone – and not his opponent Bush Sr. – would work for a stronger economy and prosperity for everyone.

Experiments may not be about economics, but they are about often overlooked contexts. The assumption underlying 'rolling out' a solution is that innovative experiments can be easily repeated in other places, even though experiments are dependent on context. Experiments rarely yield unambiguous and widely applicable results, and that is hardly a bad thing. The power of many experiments rests in their connection to a local context: by connecting with what is going on in a specific place and by working together with the people who are invested there, solutions can be developed that really work.

Holwerd on Sea

That's what's happening in Holwerd, where a solution inextricably linked to local contexts is being used to tackle the challenge of depopulation. This village on the Frisian coast is surrounded by polders (areas of reclaimed land), having been once situated directly on the sea. For a while now, the population has started to decline: jobs are disappearing, young people are moving away, services are being cut back. To reverse these trends, local authorities and residents are now working together to breach the dike, thereby reconnecting the village with the sea. The goal is to attract tourism, and with that jobs, optimism and long-term perspective. The initiative is an ingenious solution to a declining population, though it cannot be easily duplicated: the ambitious plan worked because of the particularities of that place.

People are also part of the context. Successful experiments depend not only on the quality of an idea, but also on whether or not there are people willing to advance an idea and break through barriers to reach their goals. An example of such a pioneer is Nynke Rixt Jukema, who

wants to bring night-time darkness back to the Northern Netherlands with the Dark Sky initiative. She's personally been going door-to-door, from the provincial government office to the military barracks, from the nature reserve to the harbour, to convince all these people and organizations to turn out the lights in the evening. Forty-five groups in the Northern Netherlands have already agreed to help bring back the darkness. Without Jukema's persistence, this initiative could never have come that far.

The darkness of Dark Sky

EXPERIMENTING AND LEARNING AT THE SYSTEM LEVEL

The examples of the *Hof van Cartesius*, the villages of Reduzum and Holwerd, and the Dark Sky initiative show how individual experiments do not always have the impact we might hope for. It is a mistake to believe that one successful experiment can simply be scaled up or rolled out in a broad, generalized way.

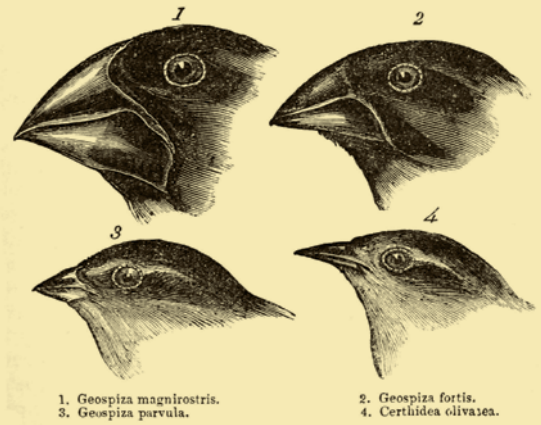
To achieve broad impact, we need to focus on the wider system in which experiments take place. In this system, several experiments run simultaneously, in all kinds of domains, on all kinds of subjects, in all shapes and sizes. All of these local experiments can learn from each other and work together.

In the wider system, experiments are also linked to the 'normal' institutional world, which to a significant degree creates – whether through legislation, regulation or financing – the conditions in which experiments can or cannot be successful. Equally, the institutional world can take advantage of what experiments have to teach, as regulations and policies can be adjusted to create broader change.

If we want innovative solutions to go from the *possible*, to the *doable*, to *new mainstream*, then we must look beyond individual experiments. We must experiment and learn at the system level.

INTERMEZZO I
THE SYSTEM

Experiments and
Darwin's Islands



"In the Galapagos Archipelago, many even of the birds, though so well adapted for flying from island to island, are distinct on each." – Charles Darwin, *On the Origin of Species* (1859)

When Charles Darwin visited the Galapagos Islands as part of his famous voyage aboard the brig-sloop *Beagle*, he observed that each island had its own kind of finch. Although the many finches looked alike, they were indeed slightly different: those that relied mostly on nuts and seeds had a large, strong beak, while the finches that ate insects had a pointed beak. Darwin concluded that the finches had all descended from the same ancestor but over several generations had adapted to their environment. The combination of genetic variation, heredity and natural selection created an enormous diversity of life forms, which Darwin noticed in the smallest differences between the Galapagos finches. The theory of evolution was born.

Now imagine that an experiment is like one of the Galapagos Islands in the Pacific Ocean. Then you see that each experiment constitutes its own delimited *ecosystem*, in which local residents, governments and any other parties must, just like Darwin's finches, adapt to local conditions in order to thrive. This is the *local* system of a single experiment.

But the island is not the only relevant ecosystem. The Galapagos consists of many islands, none of which are completely isolated from each other. Traveling between the islands is possible, and although the conditions are slightly different on each, there is always a chance of 'cross pollination'. This is the *horizontal system* of experiments, in which experiments are connected to each other.

The islands are also situated in a larger ocean, where they are subject to 'greater forces' such as air and sea currents, shifts in weather and climate and countless other influences that can have a major impact on the archipelago (how many finches would still be alive after a hurricane?). This is the *vertical system*, in which experiments are related to their institutional environment.

Thus, there are actually three systems surrounding any experiment simultaneously: a local system, a horizontal system, and a vertical system. Together they form the larger ecosystem that influences individual experiments. All of this must change if innovative solutions to complex societal issues are to create a new mainstream.

That is also the big difference between experiments in the public sphere and the natural ecosystem that Darwin observed on the Galapagos Islands. In nature, many variables can be influenced to only a limited extent. Significant changes in nature are rare and slow, the sum of countless minor changes. Much more can be done in the public sphere, however. Imagine actively engaging with experimentation in order to learn lessons for the entire system. What could that look like?

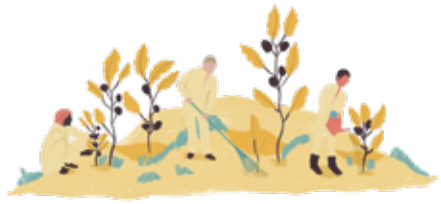
→ Holwerd on Sea

Experimental Governance

Experimental governance is a philosophy for anyone who is looking for solutions to complex societal issues and who believes in the power of trying. The philosophy emphasizes experimentation as a powerful tool to find innovative solutions. Yet, at the same time, it also shows how this power can only be used if the system as a whole is invested in experimentation and learning from the results.

THE ARCHITECTURE OF EXPERIMENTAL GOVERNANCE

The philosophy of experimental governance consists of a basic architecture and argues that systematic experimentation and learning must take place at three different levels:



– *Local:* On the local level, experiments can generate innovative ideas and solutions for complex societal issues.

– *Horizontal:* On the horizontal level, experiments can learn the most from each other if investments are made in a wide variety of experiments.

– *Vertical:* On the vertical level, institutions can create the ideal environment for experiments to thrive. The lessons learned from experiments are used for institutional change.

There are two important factors that need to be taken into account within this architecture.

First, experimental governance is not about what happens within an experiment, but about everything that takes places around it, everything that allows experiments to actually contribute to broad structural changes. The philosophy therefore complements all those insights and theories surrounding individual experiments. The intermezzo on experiments beginning on page 27 explains how this philosophy approaches individual experiments.

Second, the architecture of experimental governance focuses on experimenting *and* learning from the results. This may seem obvious: after all, we experiment in order to learn something. At the same time, in the current practice of experimentation the learning part of this process is often neglected, and too little is being learned from experiments. For this reason, an intermezzo on the learning process begins on page 79, outlining these problems and offering an example of how things might be improved.

FOUR QUESTIONS ABOUT EXPERIMENTAL GOVERNANCE

Who can ‘govern experimentally’?

Anyone – from governments to societal organizations, from companies to scientists, from developers to regular citizens. Everyone plays an important role in tackling societal problems. But although anyone can govern experimentally, what they do will differ: a citizen, for example, might contribute to an innovative local initiative, while governments and local authorities set the parameters in which experiments can or cannot be successful. In all cases, the philosophy helps to clarify what needs to be done at the system level in order to increase the effectiveness of experiments.

How does the philosophy work in practice?

Experimental governance is not a ready-made method that can be ‘taken off the shelf’ and implemented by one party. Precisely because so many players are involved in experimenting in the public sphere, experimental governance is about forging connections between initiatives, practices and networks. Crucially, everyone involved must be able to see the bigger picture.

Why are the three levels important together?

The three levels of experimental governance complement each other. The innovation of experiments is tied to the local level: through the cooperation of different players and local practices, new answers to society’s most pressing challenges are continually emerging.

The horizontal dimension creates acceleration: by investing in a diverse range of experiments and by ensuring that experiments can learn from each other, results and practices can build on each other to ensure that good solutions ‘travel’ swiftly throughout the whole system.

Finally, the vertical dimension ensures adaptation: by creating the optimal conditions for experiments at the institutional level and by learning from the results of those experiments, the institutional system incrementally adjusts itself. These three dimensions are complementary, but, more importantly, they also depend on each other: thanks to the power of acceleration and the ability to adapt, local innovations can lead to a new mainstream. Conversely, local innovation is the source of change: without it, nothing can be accelerated, nothing adapted.

What are the challenges?

Looking for connections between the different systems of experimental governance is important, but not always easy. The levels can also get in each other’s way. This particularly applies to the local and vertical levels, the classic tension between ‘bottom-up’ and ‘top-down’.

Local vs. vertical

The tension between the local and vertical levels can be illustrated by two contrasting examples. First, the ‘land-makers’, a network of local pioneers embracing innovation. A number of land-makers were discussed earlier in this book: sustainable Ameland (page 13), the village windmill of Reduzum (page 16), dike busting Holwerd (page 17), and the Dark Sky initiative (page 18). The network of land-makers is supported by the Dutch Ministry of the Interior (*Ministerie van Binnenlandse Zaken*), with the hope of promoting them and bringing the institutional world into contact with local innovations.[04]

The land-makers themselves also want institutional influence, having experienced first-hand how institutions can stand in the way of local practices. They often have clear ideas about how institutions can promote innovation, but the big challenge is how to set those ideas in motion. Take Reduzum, for example, where the provincial government of Friesland is blocking the replacement of the village windmill. In their fight for the windmill, the residents of Reduzum have been able to win the support of other levels of government: the Ministry of the Interior holds them up as an inspiring example, and the municipality of Leeuwarden, which oversees the village, even filed a lawsuit against the province to change the decision.[I] Despite all this, the province has refused to budge and is upholding its policy not to allow new solitary wind turbines in the Frisian landscape. The power difference is clear: the province might be influenced by Reduzum, but it certainly doesn’t have to be.

A contrasting example is the experimental ‘natural gas-free neighbourhoods’ programme. The Netherlands wants to be completely natural gas-free by 2050, with the Ministry of the Interior currently supporting large-scale experiments throughout the country. Municipalities can request a subsidy from the government in order to incorporate a district into this scheme, in which the national government hopes to implement the results of local experiments to achieve national objectives.[05] But what effect does this vertical approach have on the local dynamics of the experiments in neighbourhoods? And how far removed from the experience of local residents is this method of testing? Concerned residents from one of the designated neighbourhoods, Overvecht-Noord, spoke out in a daily newspaper. The headline above the article read “Overvecht-Noord does not want to be a guinea pig.”[06] Residents are

I At the time of writing, an appeal is still pending with the Council of State (Raad van State).

worried about the forthcoming changes and do not feel that their concerns are being heard: why does the government want to experiment in their neighbourhood? Why does it not first create more certainty before demanding large investments from citizens?

THE HORIZONTAL MEDIATOR

In the struggle between the local and vertical levels, the horizontal level is a potential mediator. This, at least, is the case with the network of land-makers. Because they are united, they have a stronger voice in discussions with the institutional world: it is no longer a question of a single windmill in Reduzum, but of patterns of problems encountered by all the land-makers. The government is therefore more inclined to listen and consider solutions. For this reason, the Ministry of the Interior is using insights from the land-makers to help draft an important national policy, the 'National Vision for the Environment' (*Nationale Omgevingsvisie* or NOVI).[07]

We see a similar dynamic with the 'Platform for Living Labs' ('platform proeftuinen'), an initiative of the city government of Utrecht, Utrecht University and the University of Applied Sciences to better implement the lessons learned from local experiments. The three organizations realized that they were all conducting a variety of different experiments in the Dutch city of Utrecht, but there was no unifying connection between them. Much like Darwin's islands, the different experiments were relatively isolated, even though they could actually learn a lot both from each other and from the whole. The platform therefore brings stakeholders involved in these experiments together for occasional meetings. But the potential is greater still: such a partnership can help to strengthen and institutionalize the use of these various urban labs.

The three examples just discussed – the land-makers, natural gas-free neighbourhoods and the 'platform for living labs' – can be considered this book's main case studies. They were the central focus of a year's long research project into experimental governance, the philosophy underpinning this publication. They are examples of experimental governance, in which the local, horizontal and vertical levels are represented (though in each case to a different degree). Together with numerous examples from both the Netherlands and many other places around the world, they demonstrate in the coming pages how experimental governance can work.

INTERMEZZO II
EXPERIMENTS

Understanding experiments in
preparation for experimental governance

Sometimes you can't see the forest for the trees. There are so many different kinds of experiments in the public sphere that it can be difficult to wrap your head around them.

The American conservationist and explorer John Muir (1838-1914) was frustrated by the limited view he had when standing amongst the trees, having once found himself in the forests of the California Sierra just as a strong storm was starting to brew. The sequoias and firs swayed around him, the ground shuddering from the strain put on the their vast network of roots; the wind howled and whistled throughout the forest. "I have to see this from above," Muir thought, before searching for the highest ridge and climbing his way to the top of the highest Douglas fir. He perched himself atop the tree while it rocked back and forth, looking over the forest and experiencing the storm in its sublime glory.[II] What would we see if we were to look at experiments from a higher vantage point?

[II] John Muir is perhaps best known for the creation of Yosemite National Park in the United States. This story was adapted from the Dutch translation of his essays, originally published in English as *Journeys in the Wilderness* (2009).

The forest of experiments

We can make out three main types of experiments in the forest. No giant sequoias, silver or Douglas firs, but rather controlled experiments, generative experiments and unintended experiments.[08] It is useful to be able to distinguish between these three types for experimental governance, because they are not always equally recognized as experiments, and they do not lead to the same results when put into practice. A brief overview is in order.

CONTROLLED EXPERIMENTS

These experiments mimic the scientific method of the laboratory. Experiments are, for example, called a 'living lab': they test a hypothesis, emphasize the collection of objective evidence or even conduct a formal randomized controlled trial (RCT), in which the effects of a certain solution are measured against a test group and a control group. These experiments are characterized by their testing of a predetermined solution. A controlled experiment is, therefore, top-down in a certain sense: the solution is conceived from above and then tested in local contexts. An example of this method is the Finnish basic income experiment, which will be explained in greater detail on page 47.

GENERATIVE EXPERIMENTS

While controlled experiments are about testing solutions, generative experiments are about developing ideas in practice. The goal is not to find out if something works, but rather to try something until it works. Problem and solution are not predefined; they are part of the experimental process. Generative experiments are thus bottom-up, based on the ideas and solutions developed in local contexts by citizens, entrepreneurs, designers and others. A typical name for a generative experiment is a 'maker practice', for example, and the people involved are called city makers or pioneers. An example of a generative experiment is the *Hof van Cartesius* (see page 16), where entrepreneurs created their own circular workplace.

UNINTENDED EXPERIMENTS

Finally, there are also those cases that at first glance might not look like experiments, though they are experiments all the same. Take the Frisian village of Reduzum (page 16), where for the past thirty years residents have been taking innovative steps to reverse the trend of depopulation. If you were to ask any of them about their experiment, they would probably look surprised, but the whole system can nevertheless learn from their innovative solutions.

Unintended experiments arise in the process of doing: they come to exist when people encounter obstacles in practice and need to look for alternative solutions. They are mostly focused on their local context and do not make a point of showing off how innovative they are. That makes them difficult to recognize, which is why this type of experiment can be easily overlooked.

In practice, the three types of experiments often collide with each other. 'Living labs' can in fact be generative in nature, and 'maker practices' still test solutions. Unintended experiments can become recognized, much like when Reduzum was designated as a 'land-maker' practice and all of a sudden became highly visible. Nevertheless, being able to distinguish between the three types is important, first and foremost because some practices need to be recognized as experiments. Secondly, experiments can function in contradictory ways: whereas a controlled experiment tests a top-down solution, a generative idea develops an idea from the bottom up. This raises an important question: when is an experiment 'good', and when does it actually lead to useful innovation?

How to judge a good experiment

Three characteristics largely determine the success of a tree: a deep root system that allows it to absorb water and nutrients from the ground, the crown of leaves reaching up to catch sunlight and the sturdy bark that protects the tree from infection. Experiments also have three defining characteristics that are crucial to innovation.

PRACTICE ORIENTED

Is the experiment able to respond to local circumstances?

Experiments take place in defined settings such as neighbourhoods, villages or regions, where people face concrete problems that require immediate action if they are going to be solved. But experimenting in localized contexts is more than just a convenient way to try something on a small scale. Every experiment will be influenced by a unique set of social, cultural, economic and demographic factors unique to that context, which, when proactively taken into consideration, can generate new possibilities. An example is Holwerd, where population decline is being combatted by breaking a dike (page 17). It may not be an obvious solution for this problem, but it responds very well to the unique needs of that village.

COLLABORATION

Does the experiment work with the relevant parties?

Experiments in the public sphere are rarely performed by a single party: there is almost always collaboration between governments, citizens, researchers, entrepreneurs or developers. One of the benefits of collaboration is that each player adds unique knowledge and skill sets to the experiment. To truly make progress, the different parties need each other.

This corresponds to the findings of a consortium of researchers at the *URB@Exp-Project* (page 49). They looked at five urban labs across Europe and concluded that the participation of both public and institutional parties is crucial. In that way, two worlds come together: the innovative ideas and citizens' initiatives mesh with the policies and proposals from the municipality. Their own involvement as researchers was also beneficial because they were able to use their insights to develop a *LAB-kit*, a design tool for anyone who wants to start a lab.

LEARNING-BY-DOING

Is it possible to have a successful learning process that's both 'technical' and 'social'?

In experiments, doing and learning come together. By researching problems and testing new ideas and solutions, one gains practical knowledge about what does and doesn't work. Learning is not only about finding solutions that work well technically, but is also about the 'social' side: is the solution widely supported by those involved? Are they willing to use the solution, to implement it in their day-to-day practice? The experiments conducted as part of the City Deal: Shared Electric Mobility (more details on page 74) is one example. This car sharing programme works with charging stations that can store excess solar energy for longer periods of time. But this is also a social experiment: are people willing to trade their own petrol car for a shared electric car? And do project developers want to make car sharing programmes the standard in new housing projects?

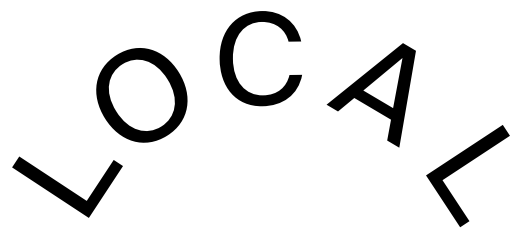
→ John Muir late in his life

← The network of the land-makers

From the *possible*

to the *doable*

Experiments as the start of experimental governance



On the local level, experiments can generate innovative ideas and solutions for complex societal issues.

THE ART OF LAND-MAKING

The Dutch Ministry of the Interior has assembled a unique group of people with the network of land-makers – a civil servant from Ameland, a mayor from Lochem, a resident of Reduzum, a supermarket owner from Holwerd, a developer from Eindhoven – people who ostensibly have nothing to do with each other and yet still have something in common: land-making.

It's difficult to define land-making. On Ameland it means making an island community energy self-sufficient (page 13); in Holwerd it means breaking a dike (page 17); and in Reduzum it means doing whatever's necessary to reverse the trend of depopulation (page 16). In short, land-makers all do something different, and yet intuitively they all do something similar: they're working, together with others invested in their communities, to improve their surroundings through new, practical

Meeting of land-makers in Places of Hope

solutions. Land-makers are an excellent example of experimenting at the local level, but what is the secret of their success? In other words, what is the science behind the art?

CONTINUOUSLY EXPERIMENTING WITH DEWEY

The science of experimenting in the public sphere begins with John Dewey (1859-1953), a leading proponent of the American school of pragmatism, otherwise known as the philosophy of 'what works'. Especially in the United States, Dewey was an influential thinker who contributed to debates on a wide range of issues including education, democracy, governance and art. "No major issue for a whole generation was clarified until he had spoken", an American historian once said about him.

In 1894, Dewey established the Laboratory School. At a time when classroom learning meant the recitation of texts and dutifully listening to the teacher, Dewey took a different approach. In his 'laboratory school' the development of the child was central: children learned based on their interests and by *doing*, seizing upon their own projects under the supervision of the instructor. They also learned about democratic citizenship in a way that accorded with Dewey's ideas about cooperation: children needed to be raised as critical citizens who could relate to people with different opinions. The school was also a laboratory, a centre for research where the latest pedagogical ideas were put to the test. In that sense, the Laboratory School can be seen as one of the first living labs.

→ Holwerd on Sea

Dewey was also ahead of his time with his ideas about government. According to him, a planned government – in which policy is drafted by experts and imposed from above – falls short in addressing societal problems, because it is too distant to adequately relate to people's experiences and too rigid to respond to an ever-changing reality. As an alternative, Dewey suggested addressing societal problems locally where governments and other public actors could collaborate directly with citizens.

In the words of Dewey, "The man who wears the shoe knows best that it pinches and where it pinches, even if the expert shoemaker is the best judge of how the trouble is to be remedied."[09] Experts have the professional skills and resources to tackle societal problems, but citizens know better than anyone else about the problems they face.

The laboratory school of John Dewey

Dewey called this process of collaboration *inquiry*, a continuous, experimental search involving all parties to investigate problems and find solutions together. Depending on how well the solutions work, the process of inquiry repeats itself: situations change, and so do the possible challenges and solutions.

Dewey's ideas underpin the way in which experiments are described in this book – as practice-oriented, collaborative approaches to learning from doing – and show us how local experimentation can work. For him, an experiment is not an isolated event, but rather a structural approach, an alternative to a planned government. Two contemporary examples illustrate how such a structural approach might look in practice.

→ Students working on their projects

HOW A BENCH IN BOLOGNA CHANGED THE CITY

The first example comes from the Italian city of Bologna, where the municipality uses a structural scheme to encourage citizens' initiatives. The scheme was introduced in 2014 after the plans of three citizens to repaint a bench went awry. They brought the idea to the municipality only to become entangled in the bureaucracy. After a tour of five different departments, the answer to their request remained the same: 'no'.

For the citizens this was a disappointment, for the local authorities rather an embarrassment, but one that led to the 'Regulation on pubic collaboration between citizens and the City for the care and regeneration of urban commons'. This allows citizens to enter into 'contracts' with the municipality to improve public spaces. The city provides the necessary resources – whether that involves the use of a building, expertise or financial support – and citizens invest their time and skills. The new regulations have already led to more than four hundred initiatives in the city. One example is the *Mercato Sonato*, a former market that until recently was dilapidated and relatively unsafe. Thanks to the new scheme, however, citizens were able to transform the market into a community concert hall.[10]

→ *Mercato Sonato* in Bologna

THE FINNISH BASIC INCOME EXPERIMENT

The second example comes from Finland, where starting in 2015 the national government decided to start experimenting more. The prime minister himself initiated an experimental programme, whose goal was to conduct concrete experiments while fostering a culture of experimenting within the government. The programme launched several different types of experiments, including strategic policy experiments (or 'policy trials') and grassroots experiments involving citizens and other local stakeholders.

While the grassroots experiments focused on the development of new solutions in local contexts, the policy trials consisted of a series of controlled tests of new policy solutions. One of these policy trials attracted worldwide attention: the basic income experiment, in which two thousand randomly selected Finnish unemployed people received a basic income instead of benefit payments for two years. The architects of the experiment – the Finnish national government and social security agency, Kela – wanted to know if people would be more inclined to look for work or start their own businesses under the programme. The experiment was carried out in a randomized controlled trial, in which a control group that continued to receive regular benefit payments would be measured against the trial group. At the start of 2019, the Finnish government announced the results: there was no significant difference. The group receiving a basic income was no more likely to look for work or start a company.[11]

← *Mercato Sonato*

A FAILED EXPERIMENT?

It is worth considering the basic income experiment, because it demonstrates how some experiments (certainly those initiated by governments) are not always conducted in the spirit of Dewey. In the basic income experiment, almost everything was determined in advance by the Finnish government and the social security agency. They, after all, were interested in basic income as policy. Yet, as a consequence, the experiment left little room to search for solutions collaboratively as Dewey had suggested.

Three limitations impeded the success of the experiment. The first was the scope of the experiment: because the basic income was the same amount as the regular benefit payments, the scheme actually only exempted people from having to apply for jobs. Actual changes were therefore small for the recipient. The second limitation was the short trial period: two years is arguably not enough time to take on the risks of starting a business. Finally, the definition of success was narrow, as the experiment only measured whether the recipients worked more or were more entrepreneurial. There were some other, positive effects recorded, however: the general feeling of well-being improved among those receiving basic income, and recipients also experienced less bureaucracy. But these effects were not taken into consideration.

The most significant limitation was the policy itself. Was the basic income programme actually a solution to the challenges facing the unemployed? As it turned out, many of the recipients of basic income lived in areas with few job opportunities. Finding a job would therefore involve moving to a different city, far from friends and family.

More could have been learned if the whole process had been more open. For example, the recipients could have indicated if they were willing to take the risks involved with entrepreneurship or what would count as a positive outcome for them. And if there had been proactive cooperation with people living in regions with fewer job prospects, some of the problems involved in testing the scheme may have been avoided. Perhaps the participants themselves would have come up with completely different solutions.

How can an experiment be designed so that it actively focuses on local practices, collaborates with the relevant parties and creates a productive learning process? The work being done by the research consortium *URB@Exp* is promising in this regard. Christian Scholl, coordinator of the project, tells us more about the LAB kit.

URBAN LABS: STRUCTURAL EXPERIMENTATION WITH THE LAB-KIT

How can you get more out of your experiment? Urb@Exp, a three-year, transdisciplinary European research project into urban labs, developed a LAB kit to help maximize experiments.

"The idea is that urban labs use the LAB kit to learn from experimenting at the local level and that they then share what they've learned and their learning experiences with other labs. This creates a collective learning network," says Christian Scholl of Maastricht University and coordinator of the project. He explains five lessons from the LAB kit.

BE INCLUSIVE

Scholl: "Who do you involve in an urban lab? Often a lab starts with the 'usual suspects' – people who are already active in a specific context. When the experiment wraps up, no new people have joined, and it's been confined to testing a specific solution. If you want to change that, it's important to keep everything open so that you can learn as much as possible. That means you need to try and incorporate the maximum number of perspectives and experiences."

BE HYBRID

An urban lab should involve both policy and practice. For example, the urban lab in Maastricht was led by two lab coordinators: a government official and someone from the outside. Scholl: "That person brings not only a network from the outside, but also a different way of thinking and working. It also keeps the urban lab from being known as municipal project alone."

BE FLEXIBLE

Scholl is critical of experiments with predetermined outcomes such as the 'natural gas-free neighbourhoods. "You're just trying to convince citizens to do what the government wants. In reality, you shouldn't start with the goal; 'natural gas-free' is only one possible solution. You need to emphasize what you could learn from the whole process."

GET THE RIGHT SUPPORT

Policy makers should be involved from the outset so that they don't hear about the results after everything's over. At the same time, you need to prevent them from exerting too much control over the experiment. In other words, support from a distance. "You need various officials standing behind your experiment who will support you in the process. Only then will you foster a real learning environment."

ORGANIZE LEARNING FROM THE START

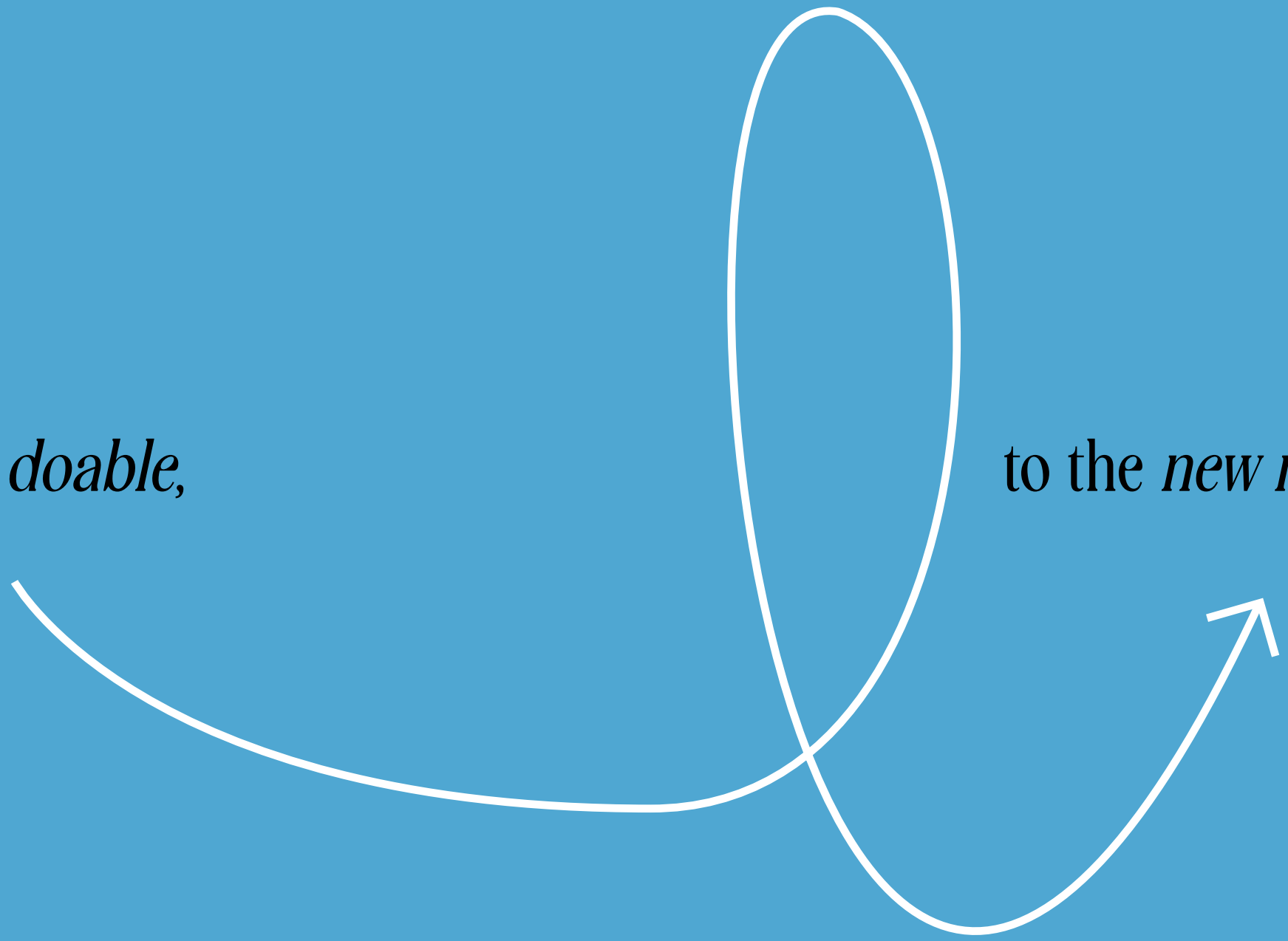
This is perhaps the most important lesson: think about what you want to learn in advance and get the right people involved – usually policy makers – who can start learning from the results right away. That means you need to free up money and people in advance and have evaluation sessions planned. "Learning from experiments takes time and money. If you don't set aside either the money or the right people, then the results often go to waste."[12]

The LAB-kit

SUMMARY: EXPERIMENTING AND LEARNING AT THE LOCAL LEVEL

Experimenting and learning at the local level is about a structural focus on local experiments. While individual local experiments are important, experimental governance requires that we go further. We need to develop local experimentation into a habitual way of working, as John Dewey argues. That's what they're doing in Bologna: there, the city council is making it structurally possible to support residents in the easy implementation of neighbourhood initiatives. Another good example is Finland, where the national government wants to test innovative policies in practice through a series of experiments. The LAB kit helps with the design of experiments by making all those involved think about the factors necessary for a successful experiment.

It's clear from the Finnish basic income experiment that experimenting at the local level comes with its own challenges. There, the institutional parties set the parameters of the experiment rigidly in advance, thereby impeding the learning process. The experiment, while ambitious, did not yield conclusive results about basic income. The big question is whether we can expect that from one experiment. Major challenges such as the future of work and income cannot simply be answered by one idea or one scheme: it requires a much broader search, in which experiments are carried out using many different ideas and methods, with the conclusions allowed to influence each other. That's what the next chapter is about: the *horizontal* level of experimental governance.


From the *doable*,
to the *new mainstream*

Connecting experiments to the broader system

HORIZONTAL

On the horizontal level, experiments can learn the most from each other if investments are made in a wide variety of experiments.

THE CITY OF LABS

The Dutch city of Utrecht might just be a leader in experimentation. In the Lombok area, for example, entrepreneur Robin Berg is working – together with the municipality, Utrecht University and other partners – on the electric car sharing project We Drive Solar. In another district, Plan Einstein is running an experiment with asylum seekers and students who live in the same building and come together to work on projects. The city government is lending its support, along with the student housing provider, various universities and refugee agencies. Across town is the *Hof van Cartesius*, a circular co-working space shared by entrepreneurs that also involves the municipality, Utrecht University, the University of Applied Sciences and the College of the Arts. But there are also many other experiments underway: a pedestrian bridge developed by residents; carbon-neutral housing; a pilot aimed at reducing segregation in education and so on and so forth.

In many of these experiments, the same institutions are involved. And yet, in each experiment different people are involved, and strikingly few ideas and results are shared between programmes. For this reason, the city government and the universities started the Platform for Living Labs (*Platform Proeftuinen*), an umbrella organization that brings together labs in order to draw insights from shared data and results. The platform has only been around for a short time and is currently focusing on a number of practical questions: how do we get labs to work together? How can we learn from them, and how can they learn from each other? All of this is based on one fundamental question, however: what is the value of this horizontal relationship between labs, and how can it be best put to use?

The *Hof van Cartesius*

EXPERIMENTING AS AN ECOSYSTEM

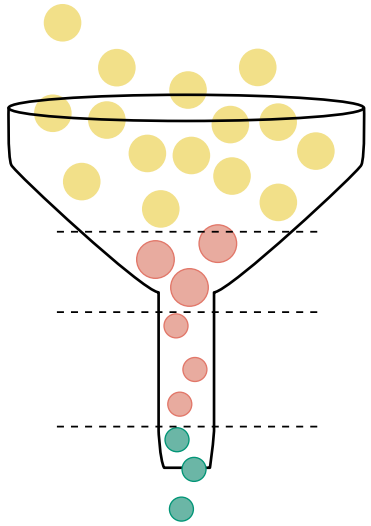
Experiments are like Darwin's islands: separate, yet connected. They are in the same ecosystem, after all, where they are subject to the same institutional forces and are also not completely isolated from each other. Like the finches on the Galapagos Islands, people involved in experiments are free to travel: they can meet with each other, collaborate and learn from each other's work. The power of the ecosystem comes from its abundance and diversity. If one finch is vulnerable, many other finches in all their many varieties ensure the survival of the species.

The same goes for experiments. A single experiment might be vulnerable, but innovative practices are more likely to emerge from multiple and diverse experiments. "Power by the numbers", scholars Christopher Ansell and Martin Bartenberger call this.[13] But experiments do differ from nature in one respect: they do not have to wait for thousands of years of evolution by natural selection. A rich ecosystem of experiments can be actively cultivated and used in such a way that experiments learn from each other very quickly. Two examples can show us how that works.

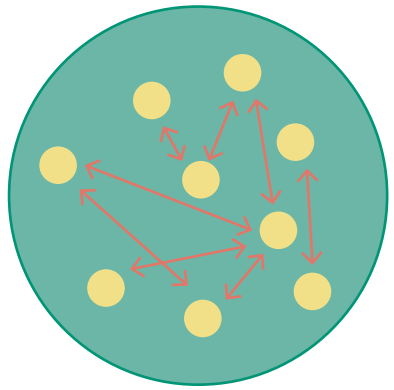
→ Opening *Hof van Cartesius*

THE PORTFOLIO STRATEGY

For an issue as complex as the future of work, a single experiment can only provide part of an answer, as we saw earlier with the case of Finland's basic income. That experiment focused on income and unemployment, while in the end it turned out that job opportunities also played an important role in the ability of people to find work. The so-called 'portfolio strategy' is one way to address this problem. In this strategy, a problem is intentionally viewed from as many angles as possible, and different ideas and solutions are tested in order to learn as much as possible. Larger, overarching lessons can be learned with a portfolio of numerous complementary experiments.



Innovation model: put as many ideas as possible in the funnel. The best solutions emerge to be scaled up and rolled out.



Portfolio strategy: experiments are complementary, and the diversity enables learning.

An example of a portfolio strategy can be found in the EIT Climate-KIC, a European climate innovation initiative aimed at facilitating the transition to a zero-carbon economy. This large, public-private organization is supported by the European Union's Institute for Innovation and Technology (EIT) and serves as a platform for education and knowledge exchange, financing countless experiments from commercial start-ups to scientific research. This was previously done with a so-called 'innovation funnel model', the idea being that if enough new ideas are funded, a few 'scalable' solutions are found naturally.

But Climate-KIC soon found that the funnel approach doesn't produce the most impactful results. For many of the reasons stated earlier in this book (page 15), solutions themselves are not capable of effecting broad systemic change. A change of course was needed. In the new portfolio strategy, applications are no longer assessed based on their individual merit, but rather on what they add to the rest of the experiments in the portfolio. Climate-KIC accepts applications for as many different experiments as possible on topics such as urban mobility or sustainable building practices. The findings of these experiments are then brought together in a summary analysis from which the entire Climate-KIC community can learn.

LEARNING FROM EACH OTHER

In his essay 'Smart Cities', political scientist Maarten Hajer notes how cities around the world are finding answers to the most complex issues of our time, from climate change to the circular economy.[III] These urban solutions may seem small, but they can have a much greater impact when cities learn from each other. "We now need cities that can adapt, correct, adopt, and add on to existing practices and knowledge", says Hajer.[14] In this way, solutions can travel through the system very quickly. This kind of learning is hardly restricted to cities, however: all local practices (whether they're in a city or region, village or countryside) can learn from each other and together produce innovations rapidly. Horizontal learning is not the same as rolling out; it is not about replicating, but rather about learning how to adopt and adapt different components from each other.

An example of horizontal learning is the global 100 Resilient Cities Network. This network of cities, founded by the Rockefeller Foundation, is all about climate adaptation: how can cities prepare for a changing climate? Cities that face similar challenges exchange their expertise within the network.

Rotterdam, for example, shared its experience with 'water squares' with Mexico City.[15] In dry weather these plazas are like any other, where children can play and adults can relax. With heavy rainfall, however, the square fills up and slowly drains excess rainwater so that the sewer is not overburdened. Through the Resilient Cities network and the help of the Dutch embassy, Dutch experts helped officials in Mexico City investigate the possibility of building a water square. But this was not question of a simple copy and paste: not only is the topography of Mexico City different, so too are the institutions, the economic realities and the cultural mores. A significant part of the exchange was therefore aimed at 'translating' the project into the Mexican context: how can the idea of a water square be affordable, doable and worthwhile *there*? The result is a water-adaptive park called La Viga. This linear park stores rainwater for

[III] Maarten Hajer is also director of the Urban Futures Studio and was closely involved in the creation of this book and developing its ideas.

[IV] The Rotterdam delegation also learns from its interaction with Mexico City: by learning how to implement the water square in different contexts, it can improve the concept itself.

Water-adaptive park *La Viga* in Mexico-City

reuse in fountains and ponds. The design is therefore different from the water square, though it is inspired by the insights from Rotterdam.[IV]

A horizontal connection between experiments has another advantage: when experiments come together, they not only can help each other but they can also exert more influence on their institutional environment. The Creative Industries Fund NL supports urban labs in doing precisely this. An interview with Jetske van Oosten.

→ Water square in Rotterdam, designed by *De Urbanisten*

LEARN HORIZONTALLY, CONNECT VERTICALLY

The Creative Industries Fund NL supports urban labs as innovative forms of development, helping to link urban labs to policy makers. Jetske van Oosten, programme leader for innovative forms of commissioning at the Creative Industries Fund, tells us more.

"We saw that more and more people were using urban labs to take responsibility for their own living environment, and frequently those people were innovators and designers from the community – in other words, our target audience. These urban labs take on multiple challenges and shed new light on the design sector. Take the energy transition: the challenge is not only technical, but social as well. For example, if you replace a façade to better insulate a building, you can also widen the front door so that it's wheelchair accessible. You need some connection and imagination. I see a very clear role for designers in that. They use creativity to investigate challenges and work on them in a different way. That is what we are trying to encourage."

LEARN HORIZONTALLY

She cites the example of *GoudAsfalt*, an old asphalt factory on the outskirts of Gouda. Residents were worried that the beautifully situated site would simply be sold to the highest bidder, so they developed their own business case for public assets that focused on connecting, enriching and greening. Or take the urban lab focused on air quality in Rotterdam, which encouraged residents to 'green' car parks as a way to engage the community. Van Oosten: "The city labs are not only about area development; they can also involve different forms of activism."

The Creative Industries Fund builds a network by connecting urban labs. They organize events and participate in a City-makers Convention. "If you don't bring these urban labs together, they will remain isolated projects. I think the purpose of the Fund is not only to share knowledge with the public, but also to help people come into contact with each other."

CONNECT VERTICALLY

One lesson the Fund has learned is just how difficult it is for urban labs to make the leap to the institutional world so that their experiments have some lasting impact. "How can we use the design power of urban labs to include local government in other forms of work? We've made an open call to municipalities to propose challenges, and then we'll be inviting the city-makers to offer their perspective on them." The Fund has also shared lessons they've learned from urban labs with the national government in the form of a manifesto that the Ministry of the Interior is consulting for the National Vision for the Environment, an important Dutch policy."[16]

→ Meeting with city makers of the urban labs

Urban lab air quality in Rotterdam

SUMMARY: HORIZONTAL

It's said that the whole is more than the sum of its parts, and that certainly applies to experiments. One lab in Utrecht is valuable, but only several labs working together can really effect change. When experiments are connected, they can complement each other, learn from each other and work together to reach common goals. The horizontal level of experimental governance is about creating that connection. Multiplicity and diversity are key: multiple and diverse experiments ensure that there is a lot to learn from different perspectives – the perfect environment for cross-pollination.

Climate-KIC's portfolio strategy shows how experiments with different perspectives can reinforce each other. The network of 100 Resilient Cities shows the value of horizontal learning: through the exchange between Rotterdam and Mexico City, creative ideas about water adaptation can travel (and be translated) from one place to another. Finally, the Creative Industries Fund NL illustrates an additional benefit of horizontal connections: when experiments come together, they can also orient themselves more vertically toward their institutional environment. The next chapter deals with this vertical level of experimental governance.

← City-makers visiting urban lab *Buiksloterham*

VERTICAL

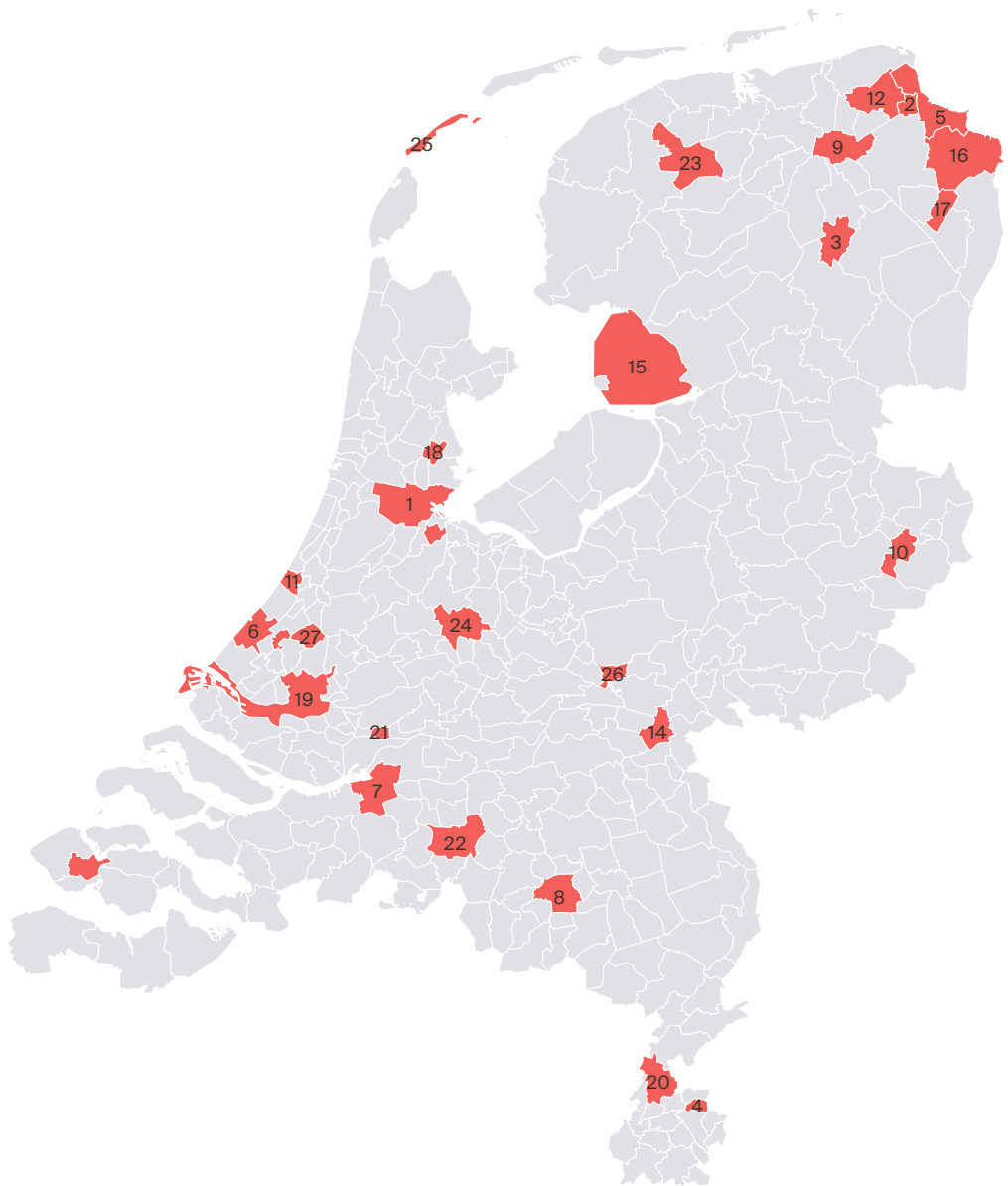
On the vertical level, institutions can create the ideal environment for experiments to thrive. The lessons learned from experiments are used for institutional change.

NATURAL GAS-FREE NETHERLANDS

In the early morning of 22 May 2019, people in the Dutch province of Groningen were awoken by yet another earthquake. The quake – a magnitude of 3.4 on the Richter scale – made doors shudder, windows rattle and was felt as far as the provincial capital. It was a sign that the earthquake problem caused by gas extraction is not over yet.

One year earlier Eric Wiebes, Minister of Economic Affairs and Climate, had made a long-expected decision: the Netherlands should become gas-free. The dire situation in Groningen combined with the need to limit CO2 emissions transformed the 'natural gas-free transition' into one of the most significant policy goals for the Dutch government. The objectives: by 2050 all homes must be gas-free, with a quarter of

Natural gas-free experiments, status 2018



1 Amsterdam, Van Der Pekbuurt
2 Appingedam, Opwierde-Zuid
3 Assen, Lariks West
4 Brunssum, Brunssum-Noord
5 Delfzijl, Delfzijl-Noord
6 Den Haag, Bouwlust/Vrederust
7 Drimmelen, Terheijden
8 Eindhoven, t Ven
9 Groningen, Paddepoel en Selwerd
10 Hengelo, Nijverheid
11 Katwijk, Smartpolder
12 Loppersum, Loppersum-'t Zandt- Westeremden
13 Middelburg, Dauwendaele
14 Nijmegen, Dukenburg
15 Noordoostpolder, Nagele
16 Oldambt, Nieuwolda-Wagenborgen
17 Pekela, Boven Pekela en de Doorsneebuurt
18 Purmerend, Overwhere-Zuid
19 Rotterdam, Pendrecht
20 Sittard-Geleen, Limbrichterveld-Noord
21 Sliedrecht, Sliedrecht-Oost
22 Tilburg, Quirijnstok
23 Tytsjerksteradiel, Garyp
24 Utrecht, Overvecht-Noord
25 Vlieland, Duinwijck
26 Wageningen, Benedenbuurt
27 Zoetermeer, Palenstein

that target met by 2030; by 2020 all municipalities must have a schedule ready for when various neighbourhoods will be shut off from gas.

The transition to being natural gas-free is a challenge of unprecedented proportions. Natural gas forms a central part of the Dutch energy infrastructure, and shutting off those pipes means a complete overhaul of the system. Sustainable alternatives – from heat pumps to district heating and geothermal energy – are available, but much of that technology is still in development or faces logistical obstacles to its implementation. They are not yet ready-made solutions. In addition to the technical side, there is a lot of uncertainty surrounding the social side of the transition, as without the involvement of citizens the transition will not be a success. But how do you win over citizens, especially when there is still so much uncertainty? For all these reasons, becoming gas-free is not a straightforward plan that can be simply rolled out. Rather, it's an experimental quest in which new solutions need to be found and disseminated quickly throughout the entire Dutch system.

This experimental search process is largely taking place at the municipal level: they need to realize the transition in all neighbourhoods together with their energy partners. To support the municipalities, the Ministry of the Interior launched a series of 'large-scale experiments for natural gas-free neighbourhoods'. Through this scheme, the ministry is underwriting gas-free experiments in districts throughout the country, along with research and learning programmes for city governments and other stakeholders in the transition process.[v] The scheme is an ambitious application of experimental governance, which clearly works at both the local and horizontal levels. But what about the vertical level? Does this scheme also create an environment in which experiments can succeed? Does it use the lessons learned from experiments to effect institutional change?

Those are perhaps the biggest challenges. The predetermined objective (natural gas-free by 2050) can, for example, make experimentation at the local level quite difficult. The distress call from residents in one neighbourhood in Utrecht who "don't want to be guinea pigs" (see page 25) reminds us that citizens cannot simply be compelled to make major changes, especially when it is unclear whether or not those changes will improve their lives. The major challenge for this programme is therefore to create an open experimentation process that involves citizens and produces insights into how the transition can lead to tangible improvements of people's everyday lives. What's currently happening with Sustainable Ameland (page 13) is a perfect example of this.

A second question is whether the institutional world will be able to learn from the experiments. For the Ministry of Interior, it's too early to answer this question, as they have just started with the first round of natural gas-free experiments. But how could it work? For that, we first need to understand the 'institutional world' itself.

[v] In the first round, twenty-seven neighbourhoods received a total of €120 million.

BEYOND THE MATRYOSHKA

Maarten Hajer compares the classical understanding of the institutional world with a matryoshka: a set of wooden dolls of decreasing size placed one inside another. Using this model, we can see experiments as the smallest doll.[17] As local practices, they are, as it were, surrounded by institutional levels of increasing magnitude: the city, the province, the nation and even the European Union, in the case of Europe. All institutional levels, regardless of how removed they are from local practices, exert influence on local experiments.

Experiments with the circular economy are a good example of this. The European regulations for waste processing are so strict that any local experimentation with waste recycling is considerably limited. If we want to create more room for local experiments within the circular economy, then something needs to change with the regulations at the European level.[18] But matryoshka experiments have no way of doing this: the institutional world determines the parameters, and experiments are forced to comply.

But it doesn't work like that anymore. The matryoshka model is outdated, as Hajer himself also states. The institutional dolls do not fit together neatly, but rather overlap depending on the issue. The

The entrepreneurs of the *Hof van Cartesius*

dolls symbolize not only governments but also many other institutions (schools, healthcare providers, housing associations, central banks) that, together with the businesses, researchers and citizens, relate to each other in networks of governance. This is the actual institutional system surrounding local experiments: a complex set of networks in which experiments can influence their institutional environment in all kinds of (informal) ways. The examples in this book show that this is not always easy: the village of Reduzum can't do anything about the province's windmill ban, and although the *Hof van Cartesius* is visited by policy makers, it's not invited to provide input on policy (for both examples see page 16). What's missing is a two-way street, a dialogue in which the institutional world not only talks to experiments, but in which experiments can also talk back and influence institutional processes. What could such a dialogue look like? Two examples provide a possible answer.

THE EUROPEAN OPEN METHOD OF COORDINATION

In 2000, the European Union's Open Method of Coordination (OMC) was applied to a policy area that until then had been the reserve of member states: social policy. The desirability of a European social policy has long been controversial. Proponents of further EU integration felt it was necessary to reduce disparities between regions, but member states were reluctant to give up their sovereignty in this domain.

The OMC found an inventive way to keep these conflicting impulses in balance: the method facilitates cooperation between the member states on social policy, but it does not create top down EU obligations. Instead, the OMC allows for two-way traffic: member states are given room to pursue their own policies while European institutions coordinate the whole and, together with the member states, ensure that common goals are reached.

This method can be explained in four stages, which together form a cycle:[19]

The OMC is an innovative application of the ‘subsidiarity principle’, which states that you must always try to resolve issues as locally as possible. In this case it means that ‘higher’ institutional bodies do not have to intervene in what ‘lower’ authorities can handle on their own. In the OMC on social policy, member states do a lot of work themselves, but not everything. By working together at the European level, their individual policies are elevated to a higher level: they can learn from each other and unite around shared objectives. Political scientists Charles Sabel and Jonathan Zeitlin, who have done extensive research on the OMC, see its methods as experimental, allowing for the possibility to experiment with different solutions in a European context. They call it *experimentalist governance*, a term we have adapted for our own project.[20]

As inventors of the term ‘experimental governance’, Sabel and Zeitlin have been an important source of inspiration for this book. Yet their understanding of this term is fundamentally different from ours. For Sabel and Zeitlin, experimental governance is an institutional process, in which countries ‘experiment’ with their own policies and then learn from each other at the European level. This book, however, demonstrates that real experimenting is happening at the local level, where governments, citizens and many other societal actors work together to find innovative solutions to complex issues. A method like OMC offers a promising experimental mechanism for cooperation between governments. To innovate, however, this cooperation must extend to local experiments. How could an institutional practice do that?

CITY DEALS

A group of people have assembled around an elongated cardboard sign, awkwardly shuffling until everyone has found a place. On the left we see some men in suits, on the right the company is mixed: women in colourful blazers, a man in a shirt with rolled up sleeves. The woman in red is the State Secretary of Infrastructure and Water Management. Together with the rest of the first row, she holds up the sign, which shows various logos, signatures and two words in bold letters: ‘City Deal’. They look into the camera and ‘click!’ – a City Deal is born.

City Deal: Shared Electric Mobility

City Deals are an initiative of the Dutch Ministry of the Interior.[21] In these Deals, municipalities, the national government and societal organizations work together on urban challenges such as climate adaptation, inclusivity or electric transport. The photo is the iconic moment of every Deal, capturing what City Deals is all about: the promise of collaboration. Not because it’s necessary, but because it adds value.

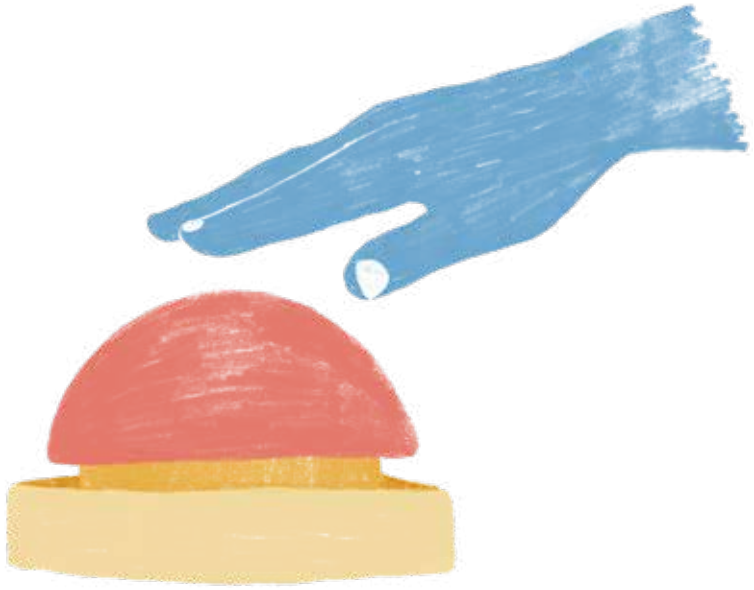
Just like the OMC, City Deals forge new partnerships between different levels of government. In the deals, municipalities implement their own policies, but also collaborate with each other and other levels of government as well as other public organizations. Many cities are facing similar challenges, after all: the hope is that by working together, partners are able to learn from each other to tackle these problems jointly.

But unlike the OMC, City Deals do focus on experiments at the local level. For example, a series of pilot programmes is underway in the City Deal: Electric Shared Mobility (*City Deal Elektrische Deelmobiliteit*), in which shared electric cars are linked to new building projects. The idea is that residents will no longer have their own car but instead share electric vehicles that run on energy from solar panels on the roof of the residential complex. Another example is the City Deal: Housing Subscription (*City Deal Woningabonnement*), which is experimenting with a new form of financing sustainable living. Instead of having homeowners themselves pay to insulate their homes, install floor heating or solar panels, they can take out a subscription whose monthly costs are equal to what they would save on energy bills.

Signing of the City Deal

Cooperation between institutional levels is crucial in order to transition from these small pilot programmes to major changes. The pioneers behind the housing subscription, for example, initially had to sign a 1,123-page contract before they could receive any money from an energy fund. Thanks in part to the experiences of the City Deal, new legislation and regulations for various forms of funding were added to the agenda for the Dutch Climate Accord, a Dutch national action plan to reach the goals of the Paris climate agreement. These new regulations not only cover individual loans such as the housing subscription, but also building-specific financing, where loans are tied to buildings instead of people. This thus shows a tentative beginning of productive dialogue, in which local experiments form (one of) the starting points for important institutional change at the national level.

→ We Drive Solar, one of the projects of the City Deal: Shared Electric Mobility



THE RED BUTTON

In the City Deal: The Inclusive City (*City Deal Inclusieve Stad*) an actual device has been invented for institutional dialogue: the red button. Pressing this button, specially designed for challenging situations in the social domain, sends bottlenecks at the municipal level up to the national government. In topics such as debt counselling, for example, city governments often encounter complex situations that they cannot resolve themselves, because national organizations such as the tax service also play a role in the problem. By pressing the red button, municipalities can forward these complex cases to the national government, which then looks for viable solutions. A possible solution can go as far as to adjust laws and regulations, though this has not happened as of yet.[22]

The City Deal: Housing Subscription and the 'red button' are two examples of successful institutional dialogues in experimental governance. But such a two-sided conversation is still not common practice, according to a study of City Deals by the Netherlands Environmental Assessment Agency (*Planbureau voor de Leefomgeving* or PBL).[23] Ministries are not always prepared to respond to the requests of a City Deal, and the PBL report stresses that this is a missed opportunity. One of the researchers behind this study, David Hamers, tells us more.

GOVERNMENT, BE BOLD!

Cities can take the lead in transitions, but then the national government has to follow, says David Hamers, who researches urban experiments and processes of innovation for the Netherlands Environmental Assessment Agency. He's seeing how City Deals measure up.

"The major transitions heading our way – such as the energy transition or the circular economy – require systemic changes", says Hamers. "That means we need to be willing to try things out, to test things without necessarily having the final answer." That's why the Ministry of the Interior created City Deals in 2015, the idea being that cities can take the lead in these transitions.

Hamers cites the example of the City Deal: The Inclusive City. "It was focused on families with multiple problems and began with a survey: what kind of challenges are people facing? Local teams were then given a mandate to creatively look for ways to solve these problems, even if that meant stretching the law a bit. Professionals were given flexibility and encouragement, and the City Deal could then give recommendations on how to improve existing practices."

LESSONS FROM CITY DEALS

Using what he learned from his investigation, Hamers was able to formulate lessons for a new batch of City Deals. One of the lessons was that more space is needed for experiments and innovation. "You have to be protective of these experimental spaces. In innovation theory they call it 'shielding, nurturing and empowerment'. And that requires action."

But how is that done? "Don't get discouraged by all the laws and regulations – sometimes there's more flexibility than you'd expect, so you've got to use it. You need a certain type of person for that, someone who enjoys pushing the boundaries."

Sometimes more space needs to be made in legislation and regulations, and the government needs to take action to get this done. "Almost all those we surveyed told us that the national government could be bolder. Especially when it comes to the legal side of things, it's clear just how much existing institutions are guarded. But things have to change for innovation and transition. That takes a lot of time, however, and goes beyond the boundaries of a City Deal. But the City Deal can still help."

Hamers believes that City Deals can become a permanent way of working. "But, then you'd have to want to make room for these experimental working methods, including providing them with protected legal status. The government should actively participate in City Deals, working to build networks and connect participants and adjust laws and regulations when that's necessary. Finally, it would help if the government took charge and gave clear directions – that helps everyone step up the pace."

SUMMARY – VERTICAL

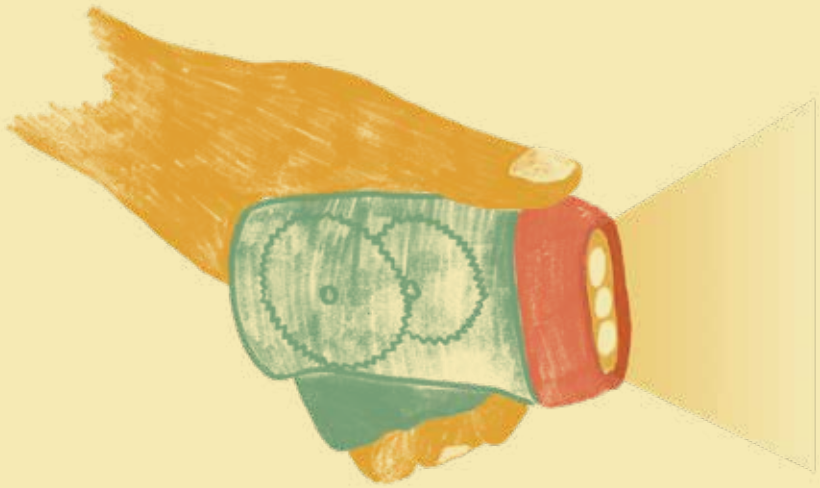
The vertical level of experimental governance is about the relationship between experiments and the institutional world. The big challenge is how to start a genuine dialogue between these layers. Experiments are subject to institutions in so many ways, but is it possible for it to be the other way around? Can experiments also talk back? And would institutions be willing to listen?

There are already several attempts underway. The European Union's Open Method of Coordination is a textbook example of how dialogue can work in practice, though it does not focus on experiments at the local level. The Dutch City Deals, in which cities and the national government work together, does focus on local experiments, but the solutions they find are still nonbinding.

The red button makes dialogue more concrete: if a municipality encounters an institutional barrier in a City Deal, pressing the button sends that problem to the government, which will then work to find a solution. The 'natural gas-free neighbourhoods' might look to this method as an example.

INTERMEZZO III
LEARNING

A dyno torch
called 'learning'



Experimenting involves investing energy. It demands action, investigation, initiative and the patience to take it step-by-step. It is the energy that fuels change: through experiments, we can shed new light on the biggest issues of our time. That's the idea, at least. But like all energy, the energy generated by experiments will dissipate if nothing is done to store it and transform it into something else.

A DYNO TORCH CALLED 'LEARNING'

The mechanism that takes place between experimentation and systematic change is learning. Learning is like the dynamo on a torch: it uses the energy of experimentation and converts it into light. The light is the lessons learned from experimenting, the new solutions to tackle societal problems. With this light we can find our way on the path toward systemic change, as John Dewey wrote in his poem "Truth's Torch".

Learning doesn't happen automatically, however. The dynamo is a consciously created mechanism: it has been deliberately designed, carefully constructed. This is exactly what's missing from current attempts to learn from experiments. Everyone wants to learn something, but little is done to ensure that learning actually happens.

This lack of learning from experimentation was confirmed by the Netherlands Environmental Assessment Agency in their study of City Deals (see page 77) and in the research carried out by URB@Exp on urban labs across Europe (for more detail, see page 49). Both studies saw that much more could be learned in those experimental practices. According to the researchers, a clear picture of what needs to be learned is missing: who is supposed to learn what, and what effect will it have on the wider system? As a result, learning remains limited and inconsistent due to insufficient funding, time and professional guidance.

This book proposes the learning process as an integral part of experimental governance. Learning is an inseparable part of experimenting, and both must happen together at the local, horizontal and vertical levels. Experimental governance does not go into detail about how that learning can be organized exactly, but it is important to stress that thorough planning is essential. After all, without a properly functioning dynamo we expend a lot of energy with little light to show for it.

Participants of the City Leadership Initiative

An example of genuine learning

The Bloomberg Harvard City Leadership Initiative offers training programmes to mayors from all over the world. The organizers, Harvard University and Bloomberg Philanthropies, observed the increasing importance of cities and wanted to help urban leaders perform their duties as well as possible. In the programme – grounded in the importance of the learning process – mayors and other senior officials learn about leadership, management and innovation. The director of the programme, Jorrit de Jong, tells us more.[VI]

[VI] In addition to these training programmes, there are many other ways in which learning can be organized, from monitoring to evaluation and research, from field trips and working visits to debates and dialogues.

STRUCTURAL EXPERIMENTATION REQUIRES STRUCTURAL LEARNING

Learning – it's often done just on the side. A bit of discussion, some questions at a conference. But it could be so much better. Jorrit de Jong is faculty director of the Bloomberg Harvard City Leadership Initiative, which is showing mayors from cities all over the world how to learn better.

"We design and manage learning environments in which people can learn from research, from practical examples, from each other and from themselves. Our goal is to make the learning process as effective as possible. Part of our work focuses on leadership development for mayors and city officials, but we also promote organizational capacity and skills in city councils. Is it possible, for example, to ensure that more aspects of experimentation and innovation are being used in policy development?"

HOW DOES IT WORK?

"Mayors start with a personal assessment. They then get two change agents, people who are close to them professionally who can monitor their development. We also connect them with other (former) mayors so that they can learn from them. We offer lectures and training sessions such as the personal narrative training, an approach to public leadership that assumes that effective public leaders need to tell a story or construct a narrative that is both very personal and authentic and has universal appeal and mobilizing potential.

We also research good practices for meeting urban challenges in order to develop a curriculum that is entirely based on practical problems that occur in cities. We bring both practical and academic expertise together so that such expertise finds its way into practice." And does it work? The results of this initiative are closely monitored, says De Jong; Harvard does before-and-after assessments, and the method seems to be bearing fruit.

FOUR LESSONS FOR BETTER LEARNING

For those who cannot follow the Harvard City Leadership Initiative but want to improve how they learn, De Jong has four tips drawn from the academic literature. "First, people learn more if that learning is linked to practice; there needs to be the possibility to apply what you've learned to your own situation. Second, learning works better if it takes place in a discussion, where people can discover solutions rather than be told them."

"Third, people learn in different ways: some people want examples, others want more theory or concepts. You need to create a diverse range of learning opportunities to try and accommodate everyone. Fourth, you need to let people see how the entire curriculum works so that they can measure their progress and see how they're acquiring skills. You learn the most if you understand your own progress."[24]

→ Jorrit De Jong teaches mayors

CONCLUSION

In Canada it's customary at the start of a government's term for a prime minister to instruct all cabinet members about what they would ideally accomplish. In 2015, Prime Minister Justin Trudeau was the first to make the so-called 'mandate letters' public. Something striking appeared in his letter to the President of the Treasury Board: "You should work with your colleagues to ensure that they are devoting a fixed percentage of program funds to experimenting with new approaches to existing problems and measuring the impact of their programs."[25]

In other words, all ministers were instructed to spend a fixed portion of their budget on experimentation. With that, an experimental government programme was created in Canada. An Innovation & Experimentation Team was tasked with helping the various ministries implement this objective. This was no small task: how big or small should the fixed percentage be? More importantly, how do you get all civil servants to commit to this program? The I&E team decided to experiment and dove straight in with different tests. Working with ministries to set up experiments and formulate strategies, they developed step-by-step plans and frameworks that anyone could use, and they frequently documented their experiences.[26]

This was not the start of an experimental revolution in Canada: ministers did not openly commit to spending a fixed portion of their budgets. Then again, one small team cannot be expected to change an entire government. But if this example shows us anything, it's that you need to start somewhere.

THE PATH TO EXPERIMENTAL GOVERNANCE

Climate change, the energy transition, circularity, the future of work, polarization, aging: these are but a few of the challenges that we as a society need to look at from a different angle if we are going to find solutions. The public sphere – that is, the entire field of people and institutions that deal with societal issues – still plays an important role in shaping that society. But as Justin Trudeau has rightly noticed, that is no longer possible like it once was. Governments, public organizations, universities, companies and citizens: everyone has to experiment more and keep looking for new solutions to the big problems currently facing us.

This book has showed how that is possible. The philosophy of *experimental governance* is a way of thinking about systematic experimentation and learning in the public sphere. The philosophy states that experimentation and learning must take place on three levels: local, horizontal and vertical. At the *local level*, experiments form the starting point of experimental governance. There, people work together in concrete ways to turn what's *possible* into what's *doable*.

← Suzanne Potjer in Places of Hope

But that doesn't go far enough. To transform innovations into the *new mainstream*, individual experiments need to be connected to the broader system. At the *horizontal level*, that means connecting experiments so that they can learn from each other. The *vertical level* is about connecting experiments with the institutional world so that institutions can create the optimal conditions for experiments and use their lessons for change. Only if all three levels are involved in experimentation can experiments actually bring about change, allowing new ideas and innovations to move from the possible to the doable to the new mainstream.

Places of Hope

The examples in this book show how elements of experimental governance are already being put into practice, both in the Netherlands and around the world. Experimental programmes in Bologna and Finland offer a structural way of working. The portfolio strategy of the European climate innovation initiative is no longer holding out for one super-solution, but rather is focusing on diversifying experiments so that more can be learned. Thanks to horizontal learning networks such as 100 Resilient Cities, local innovations can travel and adapt from place to place. Institutional programmes such as the City Deals are helping to create dialogues between experiments and the government. In such a way, lessons from experiments can effect institutional change.

All of these examples show that experimental governance is possible and valuable. Yet these examples are just the beginning. Experimental governance itself also needs to walk the crooked path before it will become common practice. As the Canadian example shows, an experimental way of working needs to be adopted by everyone. Showing

← Platform for Living Labs Utrecht *(Platform Proeftuinen)*

people the power and potential of experiments is the only way to change the status quo in the public sphere. But if we're going to take experimentation seriously, then we also need to make structural room for an experimental way of working.

It's no coincidence that a number of adventurers made an appearance in this book: Darwin aboard the *Beagle*, John Muir atop a tree. The road to experimental governance requires boldness and perseverance. Darwin and Muir could tell you how great the rewards will be if you push on. Therefore, this book closes with the words of another hero, the writer Miranda July:

"Don't wait to be sure. Move, move, move!"

← Community meeting, Ameland

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Ideas are never entirely your own, and that's certainly the case here. A number of researchers and scholars have lent me important insights, including Harriet Bulkeley, Rob Raven, Jonathan Zeitlin, Charles Sabel, Frans Sengers, Jonas Torrens, and Giulio Quaggiotto.

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If at any point while reading you thought 'what a beautiful book', that is all thanks to the following people: Jannetje in 't Veld and Toon Koehorst, who know how to combine design and content like no other; Rachel Sender, who made the beautiful illustrations; and Saskia Naafs, who edited the text and offered her sharp feedback along the way. For that, I am very grateful. Thanks also to Edward Jacobson, who translated the text from Dutch to English for this version.

Finally, this book has been nurtured by inspiration. Throughout this project I was repeatedly reminded that the future is already in the making: people everywhere are engaged in the quest to find new practical solutions to the biggest societal questions of our time. The land-makers, the labs throughout Utrecht, the government officials working with experimental methods, and the many other examples in this book: they do what I have only been able to write about. If I have learned one thing in this process, it is that 'pioneers' can be found in all positions in society: citizens, mayors, officials, researchers, designers, entrepreneurs and everyone in between. It has been my goal to bring these people and their examples together, so that together we can work towards a big change.

Suzanne Potjer, 14 June 2019

NOTEN

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ABOUT THE URBAN FUTURES STUDIO

The Urban Futures Studio (UFS) is a transdisciplinary research institute that combines science and policy to explore desirable futures and the means of getting there. UFS conducts action research into experimentation and learning, while also collaborating with artists to imagine post-fossil fuel futures and undertaking international research into Neighborhoods of the Future. The UFS has also initiated the Mixed Classroom, in which policy makers and students study the future together. Read more about the Urban Futures Studio at www.uu.nl/ufs.

Whether they are called pilots, urban labs or living labs, experiments are on the rise. So many experiments are being initiated that it can even be called a strategy of governance. But how systematic is this strategy? Could we not make better use of our experiments?

This book introduces a philosophy of experimental governance. This philosophy shows how experimentation and learning should take place at all levels: in experiments, between experiments, and between experiments and the institutional world. Only then can experiments provide sustainable answers to the most complex societal questions of this time.

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