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# Experimental legislation concerning technological & governance innovation – an analytical approach

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## ABSTRACT

This article aims to provide an analytical framework for the legal design of experimental legislation in the field of technology and governance. The article focuses on ‘legally disruptive experiments’, either as concretizations of factual or legal acts. The relations between such experiments and various basic types of (non) experimental legislative arrangements are mapped. The scope for experimenting is defined in terms of legal liberty and ability space, on the basis of normative positions within either rules of conduct or rules of power.


A distinction is suggested between three scopes of permissiveness to (i.e., as freedom, full and partial permissiveness), and five types of permissive norms (i.e., mere silence, eloquent silence, with toleration, with rights, and with enabling rights) – all of which are potentially relevant to experimentation. Departing from the idea of legal disruption, the article goes on to focus on exceptional permissiveness to experiment by temporary derogation. Such exceptions can be arranged through limiting an obligatory legal norm upon a ‘subset’ scope of application, defined by operative facts or by legal acts. The use of these mechanisms can lead to two possible groups of exceptional, derogative regimes for experimentation (‘Permissiveness v. Obligations’ and ‘Permissiveness v. Permissiveness’), encompassing five arrangements (in short: legislative permissiveness over obligations; unlegislated permissiveness over obligations; strong silent permissiveness over weak silent permissiveness; legislated permissiveness over unlegislated permissiveness; broad over narrow permissiveness), each of which can come (as regulatory holidays or sunset clauses) with combinations of no, some or many reservations and facilitations.

In all, these findings provide cornerstones for proper legal design of models of legal regimes for experimentation.

**KEYWORDS** Legal experiments; legal disruption; legal design; liberty space; ability space; experimental legislation; derogation; waivers; regulation

## 1. Introduction

Policy- and lawmakers face a difficult challenge in making legislation while keeping pace with innovation.<sup>1</sup> These challenges include the regulation of the use of ‘drones’, the possibility of human cloning or the introduction of Uber transport services.<sup>2</sup> Fostering innovation, such as by legislative

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incentives for experimentation with smart energy systems or geo-engineering, but also by experimenting with (related) legislation to temporarily test its usefulness, similarly calls for legislative wit. This article is about the legal design of legislative regimes for such experimentation, including experimenting with legislation, with a focus on enhancing innovation of technology (e.g., driverless cars) and of governance (e.g., legislative co-creation). Its presumption is that ‘proper legal design’, as a well-considered, systematic and methodical way of making legislative regimes, which builds upon a theoretical understanding of the relevant models of legislative regimes, can support the introduction of such regimes and thus help to best secure the benefits of experimentation without taking unnecessary risks. This aspiration is believed to be relevant for experiments with legislation, temporary regimes such as pilots phasing in the implementation of policies with ‘the aspiration of permanence’,<sup>3</sup> and also for legislation regulating experiments as such, as in case of the abovementioned smart energy systems or driverless cars.

Regimes for experimentation may be useful to enable the resources necessary for their performance (as in the case of subsidies), to secure the gathering of information that experiments can bring, and to promote policy-learning.<sup>4</sup> All this implies the assumption that the experimental activity by itself is already lawful. While not ignoring these elements, this article looks especially at experimental activities that become lawful only by virtue of an explicit permissive and dedicated experimental legal regime. Such regime derogates from prohibitive standard rules but meanwhile considers the risks of experimentation. The term ‘legally disruptive experimentation’ is used to express that, without the experimental regime, the performance of these experimental activities would infringe existing legislation. Such infringement occurs because the experiment enacts a significantly different (disruptive) regime.

This article is intended to provide analytical insight into the most important building blocks of legal design of regimes for experimentation and in the legal anatomy of basic models of such regimes. The article focuses primarily on examples of Dutch legislative experiments. Its objective is not to improve legal theory, but rather apply a theoretical insight to improve the legal design of experiments. The ultimate aim is ‘get regimes for experimentation right’. To this end, section B elaborates on this notion of ‘legally disruptive experimentation’, and on the (legal) meaning of experimentation. Section C describes legal-theory cornerstones that are considered crucial to the prescriptive elements of the said legislative regimes. On that basis the next section (D) models permissive experimental ‘legal space’ to perform factual experiments. In conclusion, section E reflects on the findings, while referring to some example types of Dutch legislative regimes for experimentation.

## 2. Setting the Experimental Stage

Existing permanent legislation<sup>5</sup> often already allows for forms of technological and governance experimentation.<sup>6</sup> Standard legislative trade-offs set boundaries for risk-acceptance and opportunity seeking (e.g., role of the precautionary principle with respect to technological risks), choice of governance-modes (e.g., market-competition versus public hierarchy) and the rule of law (e.g., allocative justice and fundamental rights).<sup>7</sup> Through permanent legislation, balancing interests leads to a settled legal scope of legally allowed actions. While, for example, reproductive cloning may be prohibited, therapeutic cloning may be permitted, including space to perform related medical science experiments.

In legal regimes for disruptive experimentation, ‘experimental trade-offs’ derogate from ‘standard trade-offs’. If a legislator finds that it is desirable to determine if perhaps there is merit in reproductive cloning, than it may decide to derogate from the existing categorical prohibition and allow for a ‘pocket’ of experimental liberty through individual permissions – as an exception ‘*pro experimentum*’. The legislator may decide to – possibly on a temporary, experimental basis – allocate to a regulatory authority the power to grant permits to experiment. This power may come with conditions on when permissions may be granted, but also as regards the requirements concerning the permitted scope of experimental activities, tailored to the performance and evaluation of the involved experiment. These conditions may, *inter alia*, concern safeguarding basic justice concerns (respect for human rights concerns, legal certainty, equality and proportionality),<sup>8</sup> avoidance and/or response to ‘uncertain risks’ (meeting precautionary principle demands), impartial expert execution and information-gathering (to avoid capture by private interests), peer review on findings (to secure scientific rigor), intellectual property and ownership of reproduced organisms (concerning an equitable distribution of costs and benefits), public participation in setting conditions and discussing results, and policy-uptake. Together these would set the experimental stage: a less risk-averse, permissive setting (than under the standard, prohibitive legislation), which is also more controlled for reasons of safety, justice and proper evaluation, to best consider possible ‘real world’ uptake – in the hopes of producing greater societal benefits.

### 2.1. Disruptive legislation

Experiments may have a disruptive (versus an incremental) character in that they either lead to transformations in existing markets or sectors; creating a new/niche market, or disrupting existing ‘value networks’ of business resource interactions, or because they cause a paradigm-shift in natural science/technology or social science/governance research.<sup>9</sup> In law we also find that next

to incremental innovations, as by minor legislative amendments or varieties in use of executive discretion, there may be disruptive innovations that radically change the scope of legal liberties and abilities. Experiments may be a way of *ex ante* learning about the ‘pros and cons’ of such possible radical changes. These experiments are ‘legally disruptive’ as they concern activities that are not legitimately performable within the scope of legal liberties that ensues from standard trade-offs enshrined in existing legislation – regardless of whether these experiments are disruptive or sustained in terms of business theory of scientific paradigm-shifts.<sup>10</sup>

The term ‘first order’ legal disruption is used here to point at legal regimes for experimentation that take a permissive stance derogating from existing prohibitive obligations. An example would be allowing a telecom-provider on a liberalized market to temporarily monopolize its grid to develop a new alarm service. Whereas first order legal disruption is a temporary state of legal affairs, ‘second order’ legal disruption is about the potential of permanent radical change. This may result from cases where experimental findings lead legislators to adjust current legislation, so to make best use of the new or improved understanding of (innovative) technology and/or governance – as when the newly developed internet alarm service is prescribed on a broad scale. First order legal disruption, by temporarily allowing experimentation, may lead to second order disruptive changes, in permanent legislation, but of course experimental outcomes may also lead to retain the legislative *status quo* (and progress only in small steps).

## 2.2. Experimentation as such

The Oxford dictionary defines the noun ‘experiment’ as ‘A course of action tentatively adopted without being sure of the outcome’, with reference to the Latin roots of ‘*experimentum*’, from ‘*experiri*’ (to try).<sup>11</sup> The ‘tentative course of action’ component suggests some measure of deliberation and organisation, with the intent of researching some result or effect. Not ‘being sure of the outcome’, places experimentation outside performances following repetitively applied methods, procedures or technologies with predictable results. Instead there is a considerable, certainly not fully calculable chance, that experimentation does not produce the hypothesized outcome(s). Perhaps there will be no effects or other, perhaps totally unexpected, effects.

The combination of experimental outcomes being uncertain but informative in a way relevant to societal interests is why experiments are undertaken. The quest for information is generally of a ‘deterministic’ nature: finding out about empirical states of affairs and about causal relations (if only stochastically). On methodological grounds this requires a practical ‘course of action’, properly designed and controlled (ranging from ‘*in vitro*’ to ‘living labs’),<sup>12</sup>

including monitoring and evaluation of results, with outside-experimental relevance.

Aside from ‘uncertainty as opportunity’, there is ‘uncertainty as threat’; possibly causing harm, also to third parties, and this too may call for performance controls. Aside from such risks, the only failed experiment is the one that does not yield any useful information.<sup>13</sup> The measure of usefulness of information lies with the wider societal benefit, across various technology and governance practices and modes – whether undertaken with public and/or private interests at heart.

Temporality may be regarded an inherent characteristic of experimentation – as tentative performance, with control to be successfully maintained and with conclusions having to be drawn from defined outcomes.<sup>14</sup> Without starting a semantic debate, alternatively, permanent experimentation with intermittent evaluations may be a possibility. In legally disruptive experiments, permanence is rather in standard rules and possibly in non-experimental regimes for experimentation performed as temporary endeavor.

### ***2.3. Experimentation as ‘setting apart’***

A recent definition in the INOGOV-context placed experiments aside from ‘standard’ (learning) practices, as:<sup>15</sup>

... activities that 1.) make something new and concrete that is 2) tried out or tested in a restricted environment in terms of time, space, scope and/or actors but that 3) is intended to provide a proof of principle that subsequently could have the potential of wider societal relevance. To achieve wider significance experiments must be ‘upscaled’, i.e. by being reproduced, possibly modified, and carried out repeatedly and on a larger scale than the original experiments.

Together, the second and third characteristics emphasize experimentation as a secluded activity; to ensure scientific and risk control – with learning intended for a wider use. The challenge of experimental design invariably lies ultimately with bridging the gap between experimental conditions and the real world.<sup>16</sup>

The concept of legally disruptive experiments opposes the broader view that all legislative endeavors are experiments, a statement that we have often heard in the literature and case law throughout the world (e.g., ‘all new laws are experiments’, ‘legislation is an experiment with human destiny’, the ‘happy incident of states within federations serving as laboratories’).<sup>17</sup> Rhetorically such broader views underscore the unavoidably fallible character of policy- and lawmaking attempts at governing society. However, methodological concerns, about, the need for a controlled setting to produce sound knowledge, and ethical concerns, about experimental-legislation not turning citizens into guinea-pigs, make for a distinct regime. Experiments

prioritize knowledge creation, and their settings reflect corresponding trade-offs: a *'pro innovatio'* bias regarding aspects of risks and fairness – temporariness sometimes being a major factor in enhancing acceptance.

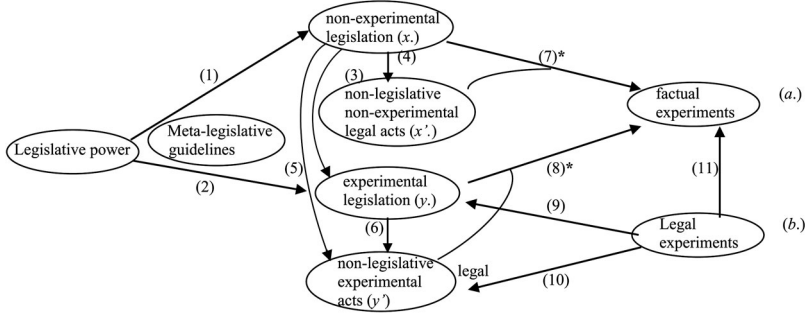
#### 2.4. Factual and legal experimentation

Legal definitions of experimentation may be hard to find as the term is often used following the 'plain meaning rule'. An interesting Dutch example of a legal definition in 'meta-legislative' form, is that of Instructions 10a and 10b of the Dutch Instructions for Legislative Drafting.<sup>18</sup> These Guidelines concern the making of legislative regimes for experimentation (including experimental legislation). Here 'an experiment' is defined as: 'the empirical determination (from controlled experience) whether a particular instrument can contribute to solving a societal problem.'<sup>19</sup> This description encompasses both empirical determination and societal interest, as prime legislative motivators. More generally, the meta-legislative perspective readily presents us with two important distinctions: first, the distinction between two object-types: (a.) 'factual experimentation' by doing or not-doing something as a matter of fact, such as concerning technology (e.g. operating smart grids) or governance (e.g. not allowing competition on one's grid), without intent to change the law; and (b.) 'legal experimentation', which takes the form of legal acts, legislative or otherwise, intentionally changing the law (e.g. introducing experimental statutes or permits). Second, besides non-binding meta-legislative rules (such as the Guidelines –about when and how to legislate), two legislative rule-types: (x.) non-experimental legislation (with norms about (not) performing certain activities – such as experiments), and (y.) experimental legislation (as subset of the above object-type (b.) 'legal experimentation').

These distinctions allow for a variation of arrangements. Legally disruptive experiments type *a.* ('factual') and *b.* ('legal') require a proper, exceptional legal arrangement, necessary to enable their lawful and valid performance, provided for by rule-types *x.* or *y.* Factually experimenting, for example, with smart electricity grids, could be underpinned either by a rule-type *x.* or a type *y.* provision, in a permanent general energy statute, or in an experimental statute concerning sustainable energy projects respectively – the latter being a form of legal experimentation. Legal experimentation of a rule-type *y.*, could be underpinned, as subordinate legislation, by a dedicated rule-type *x.* arrangement, or could stand by itself on the basis of a general legislative power. Such legal experimentation could in turn provide the underpinning for other (type *b.*) legal experiments (legislative or otherwise, such as experimental permits or subsidies) or allow for (type *a.*) factual experiments.

The mentioned main distinctions have been organized in [Table 1](#):

**Table 1.** Objects and Legislative Rules In Experimentation.



Lines: (1)+(2) underpinnings of *x.* and *y.*; (3) underpinning for *y.* subordinate to *x.*; (4) *x.* underpinning *x.*; (5)+(6) alternative underpinnings for *y.*; (7)+(8) *x.* or *y.* alternative underpinning of *a.* (via subordinate legal instruments – e.g. permits); (9)+(10) *y.* and *y.* are alternative forms of legal experimentation; (11) alternative forms of *b.* may allow/enable *a.*

\*focus of study: legal regimes for experimentation, ultimately of factual legally disruptive experiments.

### 2.5. Legal space & Entrepreneurship

In legislative regimes for experimentation, combinations of above object- and rule-types address legal disruption. The terms ‘legal liberty space’ and ‘legal ability space’ seem helpful in localizing the design-challenge in providing fitting regimes for experimentation.<sup>20</sup> Together they are referred to as ‘legal space’, and determine constraints and opportunities for performing factual experimental activities, as a matter of ‘legal liberty’, and for performing legal acts to establish the relevant legal regimes, as a matter of ‘legal ability’.

A lack of liberty space to undertake factual experiments (type *a.*), such as testing a smart grid, calls for a regime that: (i.) removes constraints by derogating from existing obligations (i.e. prohibitions and commands) thus granting exceptional legal permissiveness to experiment, and/or (ii.) introduces obligations for third parties to tolerate or support experimentation, thus providing legal facilitation to experiment.

A lack of ability space requires a regime that: (iii.) provides legal powers by which to perform legal experiments (type *b.*, possibly type *y.*, e.g. an experimental statute) or to secure vital resources, especially in factual experiments – type *a.*, (e.g. rights as legal claims, privileges, powers or immunities; to goods, services, information/knowledge, finance/capital, workforce, land, buildings, infrastructures, machinery, and mobility), and/or (iv.) immunizes against undesirable changes in the law (in both types of experiments).

All legal regimes for experimentation are primarily about enhancing the legal ability space to experiment, as a matter of permissiveness (removing legal obstacles, by derogation or waivers; towards ‘freedom from’) or facilitation (establishing legal support; as ‘freedom to’). Table 2. Summarizes the link between experiments, legal disruption and legal space.



**Table 2.** Experiments – legal disruption – legal remedy – legal space.

Experiment type	Disruption/legal problem	Legal remedy	Legal space
Factual	i. Experimenter being prohibited to experiment or commanded contrarily	Create permissiveness <sup>1</sup>	Liberty
	ii. 3 <sup>rd</sup> party intolerance and lack of support regarding experiment	Obligate 3 <sup>rd</sup> parties	
	iii. Experimenter's lack of legal power 1 (obtain vital factual resources)*	Empower factual experimenter Empower legislator <sup>2</sup>	Ability
Legal <sup>1</sup>	iii. Experimenter's lack of legal power 2 (esp. to perform experiment)	Empower legal experimenter Empower other legislator <sup>3</sup>	
Both	iv. Experimenters liability to 3 <sup>rd</sup> party power to cause new disruption	Immunize experimenter from later changes diminishing liberty/ ability	

<sup>1</sup>Only permissive arrangement (arranging 'freedom from'); all others are facilitative (arranging 'freedom to') – with neglect of factual aspects of legal experiments (e.g. communicating about performance; civil servant assistance).

<sup>2</sup>To make x-type rules to arrange (above) permissiveness, 3<sup>rd</sup> party obligations, the factual experimenter's legal powers, legal powers of others to provide resources (e.g. subsidies) (Aside from non-legislative legal acts)

<sup>3</sup>Ditto – to arrange legal power for legal experimenters (e.g. authority making rule-type y.)

Liberty and ability to experiment may be at play separately, but also together and may concern factual and legal experimentation (types *a.* and *b.*) separately or in conjunction. This article focuses on factual experimentation (in technology and or governance) with an emphasis on liberty space and regards legal experimentation and ability space only when there is a strong connection with factual experiments.

Ultimately, legal space to experiment is about fostering 'innovative entrepreneurship';<sup>21</sup> providing opportunities for organizations, public or private, seek opportunities to (experimentally) to innovate. Such entrepreneurship manifests itself in for-profit companies, and (possibly) also in not-for-profit organizations, such as governments, universities, and (other) NGOs. Standard legal regimes may already provide standard legal space for non-legally disruptive experimentation – and can be 'smart' in doing so.<sup>22</sup> Legal regimes for legally disruptive experimentation provide the specific legal space for a more radical leap forward, to (perhaps not 'boldly') go where standard rules otherwise constrain or lack support for disruptive experiments. The experimentation clause of Article 7a of the Dutch Electricity Act provides a fitting example. Whilst the rules of the liberalized energy market command vertical unbundling of production, distribution and consumption, enhancing the transition towards a sustainable energy provision has led to this legally disruptive arrangement to experiment with local neighborhood 'smart grid' energy systems (allowing 'prosumerism' - i.e. vertical bundling), which in future may lead to structural legal changes.<sup>23</sup> The regime calls largely upon collaborative private initiatives, such as by local cooperatives, to display the desired innovative entrepreneurship.

Clearly, it follows from the above, that both policy-and lawmakers should well consider what options for regimes for experimentation fit best with given objectives and what legal characteristics are involved in these options.

### 3. Legal Theory Basis

Having identified types of experiments and major issues that regimes establishing a legal space for legally disruptive experiments have to deal with, this section is dedicated to understanding the basic norm-components and rules types as relevant building blocks in the legal design of experimental regimes. Relevant normative positions are linked to relevant legal relations and to their specific legal space – concerning liberties and abilities. The analysis focuses on theoretical insights relevant to permissiveness to experiment, including, in the final subsection, options for strengthening such permissiveness.

#### 3.1. Norm-components and legal rules

Legislative regimes for experimentation are systems of legal rules, which prescribe norms that address experimental activities either by permitting or facilitating them. Such norms combine a norm-object (i.e., to do or to refrain from doing) and a norm-operator (i.e. a ‘direction of ought’: may, shall or can), together projecting ‘normative positions’ – e.g., shall not experiment with cloning, can allow experimentation with cloning. The rules that hold such norms/normative positions<sup>24</sup> also come with a ‘scope of application’. This scope combines designated norm-subjects (the norm-addressees; any, some, one – e.g. car manufacturers involved in experimenting with driverless cars) and norm-conditions (if any;<sup>25</sup> of some/one time, place or circumstance when, where or under which the normative position applies; e.g. driverless cars in public roads). By combining normative positions and a scope of application, rules determine the available legal space between interested parties – e. g., energy grid-operators shall not experiment during peak load; experiments can be allowed if these seem relevant to sustainable innovation.

Rules determine legal space in two crucially different ways; ways which align with the well-known categorization by Herbert Hart.<sup>26</sup> ‘Primary rules’ are about norms of conduct, prescribing normative positions as the liberty space available for factual activities, such as performing an experiment. ‘Secondary rules’ are rules about rules, of which ‘rules of power’, or ‘power-conferring rules’ allocate competence to perform legal acts, such as by introducing, changing or terminating an experimental act.<sup>27</sup> The term ‘regime’ in the case of experimentation is used here for configurations of primary rules together with secondary rules of power, which shape a dynamic legal space that can, over time and within certain boundaries, evolve to accommodate changing (experimental) needs – such as in the example of the above named Dutch Electricity Act, in which general and individual norms of experimental conduct are determined and may later be changed by exercising various legal powers embedded in this regime.<sup>28</sup> To

understand which regime configurations are especially relevant to experimentation, a closer look at the underlying norm-components is needed.

### 3.2. Norm-components, legal relations, legal space

The way in which norm-components constitute legal relations, which in turn combine to shape legal space, and relations between these three concepts, differs between (primary) rules of conduct (a) and (secondary) rules of power (b). These normative positions and legal relations are made explicit only to secure a shared understanding necessary to grasp the difference discussed in no. 3. between a legislated liberty to experiment and a liberty to experiment by absence of legislative constraints. In addition, this is necessary to grasp the two subsequent operations, where first we move from categorical to exceptional rules – in section C; exceptions being especially relevant to disruptive experimentation – and next we look into different composite models of regimes for experimentation.

#### (a) Rules of Conduct: components, relations and space

As regards experimental activities, four general normative positions can be distinguished:

- i. a ‘command’ to perform experimental activities, combining the operator ‘shall’ with the object ‘act/do’ (i.e. ‘shall experiment’);
- ii. a ‘prohibition’ to perform experimental activities, combining the operator ‘shall’ with the object ‘refrain/not do’ (i.e. ‘shall not experiment’);
- iii. a ‘permission’ to perform experimental activities, combining the operator ‘may’ with the object ‘act/do’ (i.e. ‘may experiment’);<sup>29</sup>
- iv. a ‘dispensation’ to perform experimental activities, combining the operator ‘may’ with the object ‘refrain/not do’ (i.e. ‘may refrain from experimenting’).

The determination of the rights and obligations of people (not wanting to be) involved in performing experiments departs from a legislator’s choice between these very basic normative positions. Following Hohfeld,<sup>30</sup> these rights and obligations make sense only in relational terms, looking at any right-holder, enjoying the benefit of a right, and any counterparty, burdened by the right-opposite. Relating to rules of conduct we may thus distinguish between two ‘first order’ relations: (i.) rights as claims of the right-holder against a duty of the counterparty and (ii.) rights as privileges of the right-holder, against a no-claim of the counterparty.

The extent of these relations become clearer as we consider Lindahl’s<sup>31</sup> model for grouping these relations into ‘sets’ that determine a person’s/norm-subjects’ liberty to bring about a particular state of affairs (e.g. one that allows for experimenting), from both sides of relevant legal relations: (L1) from the right-holder/bearer (X) and (L2) from the counterparty (Y).<sup>32</sup>

## L1 - 'Bearer-permissive'

- i. the privilege of X, versus Y, to perform action A, following some permission ('may do'), whereby Y has no-claim to keep X from performing A. Consider researcher X being allowed to experiment with cloning, without a critical NGO Y being able to invoke a prohibition to do so.
- ii. the privilege of X, versus Y, to refrain from action A, following some dispensation ('may refrain'), whereby Y has a no-claim to keep X from not performing A. For example, Coffee-shops in the Netherlands are allowed to sell a number of authorized soft drugs. Imagine the case when the owner of a coffee-shop, Mr. X, is refrained from selling them to foreign citizens as a part of a local experiment conducted by municipality Y. In this case, we see the privilege of Mr X in direct opposition to the action of municipality Y.

## L2 - 'Counterparty-obligative'

- i. the claim of X, versus Y, that Y shall perform action A, upon Y's duty following some command ('shall do'). For example when an electricity grid operator Y is obligated to facilitate metering of electricity generated by an experimental smart grid facility X.
- ii. the claim of X, versus Y, that Y refrains from action A, upon Y's duty following some prohibition ('shall not do'). Consider a prohibition for the general public ( $Y^n$ ) to come close to an experimental test site of chemical plant X.

Together as a set, counterparty-obligative and bearer-permissive relations determine the legal liberty space that exists between the relevant norm-subjects (e.g. experimenters, legislators/regulators, third parties), to perform factual experiments (type *a.*). The liberty space to perform such experiments increases as experimenters hold more privileges (as permissiveness) and/or more claims (as facilitations) versus counterparties.

## (b) Rules of Power: components, relations and space

Norms of power to introduce, change or terminate rules (concerning experimentation) only come with one relevant normative position: of norm-operator 'can' combined with norm-object 'perform a rule establishing act'. Whilst to refrain from doing something merely factual can bring a legal effect (e.g. insufficient care in performing an experiment leads to liability for the damage caused), the action of not performing a valid legal act leads to absence of legal effects (e.g. a draft experimental regime is not enacted). Following Hohfeld, we have two 'second order' rights-relations to consider: (i.) rights as power of the right-holder against a liability of the counterparty and (ii.) rights as immunities of the right-holder, against a disability of the counterparty.

When again we apply Lindahl's grouping to sets of relations, we find a set of two legal relations; A1 and A2 - again with X as the right-holder, and Y as the counterparty:

## A1 - 'Bearer-ability'

- the *power* of X, versus Y, by which X can, upon his right to validly bring about legal position P, with Y being liable to X doing so. In experimentation, this ability could be about empowering a minister X to order a particular category of medical personnel Y<sup>n</sup> to assist in reproductive therapeutic cloning, or about a municipality X enacting an experimental by-law on uncontrolled intersections, binding to all road users Y<sup>n</sup>.

## A2 - 'Counterparty-disability'

- the *immunity* of X, versus Y, given Y's disability to validly bring about legal position P.

In experimentation this could be relevant to a public or private organization Y wanting to perform a living lab experiment but being unable to obligate citizens or employees to perform activities that infringe on their privacy (e.g. having to provide information) or are a threat to their bodily integrity/physical health (having to be implanted with a medical device).

Together as a set, bearer- and counterparty-disability relations determine the legal ability space that exists between the relevant norm-subjects – experimenters, legislators/regulators, and third parties – to perform factual or legal experiments (type *a.* or *b.*). The ability space to perform experiments increases as experimenters or legislators/regulators hold more legal powers to arrange for experiments and (experimental) legal regimes for experimentation and is limited by the immunities that protect others against unwanted changes in their legal position/freedoms. Clearly, from a position of legal design it is important to carefully distinguish legal ability from legal liberty. Legal powers are not implied in permissions, as they are not about derogating from a prohibition to intentionally cause legal effects but about ending the incapacity to cause such effects; a power granted may in turn enable the valid introduction of (secondary) legislation that allows for derogation from an existing prohibition to perform certain experiments. Note also that invalid legal acts may, as factual acts, cause unintended legal effects – as in case of an unlawful/invalid refusal to allow experimentation causing financial losses with experimenters, such as by withdrawal of research grants, or in case of permission to experiment, of damage to third parties by being exposed to increased risks related to experimentation.<sup>33</sup>

### 3.3. To legislate or not to legislate ... permissiveness with strength

Henceforth we limit the analysis to matters of permissiveness to experiment – following an (experimental) regime for experimentation. As a first consideration we need to also look beyond the above positions of 'permission' and 'dispensation' (in C2(a)). These were presented as legislative arrangements, whereas (deliberate) absence of legislation may also provide liberty space to experiment. When, on a particular activity, there is no legislation, logically

the absence of a prohibition or command brings about an unlegislated conjunction of permission & dispensation<sup>34</sup> – which makes for a fifth normative position:

- v. Permission & dispensation as described in the above (nos. iii. and iv.) but in simultaneous *conjunction*, following logically from the *absence* of legislation, more specifically from the absence of obligations. This permissiveness as absence of obligations reminds us of Von Wright's 'weak permissiveness', as opposed to the term 'strong permissiveness'. The latter requires a considered permissive decision by an authority; the former exists merely upon absence of obligations. Strong permissiveness usually follows from legislative enactment.<sup>35</sup>

Experiments with driverless cars may be an interesting example. It may well be that existing legislation about driving cars does not hold the obligation of cars in public roads being driven by human drivers, simply because the legislator at the time of the legislative drafting simply could not foresee the possibility of robots driving cars. For this reason a legislator could, in principle, decide not to make legislative arrangements for experimenting. Then again, for reasons of creating legal certainty, but also for reason of introducing conditions to such experiments (as obligations onto the experimenter), or to empower others to set such rules, a strong, legislative permission could yet be introduced. To merely deregulate, by withdrawing legislation that is prohibitive to performing certain experiments, as by temporarily withdrawing rules on medical tariffs to see what tariffs will ensue from open competition, tacitly introduces a state of strong permission, as it is a considered decision to not legislate – again posing the question if perhaps there is benefit to at least some explicit legislative safeguards.<sup>36</sup> Clearly, in organizing legislative experiments or allowing factual experimentation, the option of weak permissions or strong but unlegislated permissions is the most relevant addition to the spectrum of legal design options. For this reason we need to consider the following relational aspects of various types of permissiveness to experiment.

Whilst legislated normative positions iii. and iv. have a 'unilateral' operator scope (either 'may do' or 'may refrain'), normative position v. is 'bilateral' ('may do & may refrain'). Thus, in permissiveness (to experiment) there are three basic possibilities:

- i. an unlegislated-bilateral (i.e. weak) permissiveness, in case of legislative indifference (henceforth 'freedom'): e.g. of anyone to (not) experiment with determining how long one can look straight into the sun.
- ii. a legislated-bilateral (i.e. strong) permissiveness, in case of a designed combination of permission and dispensation (henceforth 'full permissiveness'): e.g. of privatized telecom companies to (not) experiment on their grid with monopoly services.

- iii. a legislated-unilateral (i.e. strong) permissiveness, in case the legislator arranges only permission or only dispensation (henceforth ‘partial permissiveness’). This form can exist as ‘explicit’ legislative permissiveness (e.g. clinics type A are allowed to experiment with a new cancer drug – i.e. permission), or as ‘implicated’ legislative permissiveness (e.g. clinics type B are prohibited to experiment with stem-cell therapy – i.e. dispensation –, but also clinics type C are under command to experiment with antidotes for the Ebola virus – i.e. permission, but ‘with force’).<sup>37</sup>

Given their relevance to the range and scope of the liberty space to experimentation, we should be aware that only legislated permissiveness has the form of a (Hohfeldian) legal relationship: more precisely a ‘bearer-permissive privilege’ (L1i), which allows for including related ‘counterparty-obligative duties’ (L1ii). Unlegislated activities are not channeled by any obligation, nor is their ensuing permissiveness protected by any legally specified right to criticize an infringement. Absence of obligations counter to experimentation counts as freedom to perform an experiment. Legislated permissiveness, however, does present a legal relationship with a counterparty, and not only promotes legal certainty, but also allows for strengthening permissiveness by posing duties on counterparties, which could be relevant in enhancing experimental entrepreneurship. The mere existence of a legislated legal relation of a bearer-permissive privilege (L1i/ii – e.g. to experiment) already entails that the legislator-counterparty holds a no-claim position to legally oppose and may be legally criticized when not displaying ‘tolerance’. Atienza and Manero<sup>38</sup> point at the possibility of strengthening permissiveness as regards the position of third parties:

- i. as ‘permissiveness with rights’, through adding a prohibition upon third parties, creating a counterparty-obligative duty (L2ii) to not hinder or prevent the right-holder (who holds a corresponding claim). For example a prohibition to hold a demonstration near an experimental nuclear fusion installation.
- ii. As ‘permissiveness with enabling rights’, through adding, next to the immediately above ‘rights’, a command upon third parties creating a duty (L2i) to assist the right-holder (who holds a corresponding claim).<sup>39</sup> The earlier example of medical personnel having to assist in cloning would obviously fit here.

Finally, as strengthened permissiveness can only apply to legislative privileges, this is not to say that unlegislated permissiveness is not of interest to legal design of regimes for experimentation. Aside from weak permissiveness by ‘mere legislative silence’, where no legislator has considered legislating the experimental activity (perhaps because its possibility was unanticipated – e.g. cloning and driverless cars), we already saw the example (concerning deregulation of tariffs) of the option of strong unlegislated permissiveness. This ‘eloquent legislative silence’ follows from when a legislator has taken the



considered decision not to legislate, either in obligative or permissive terms.<sup>40</sup> Although neither silence specifies any norms of conduct, one may argue that the latter impedes the (lower) legislator's ability space to (without due process or compensation) later introduce new restrictions, effectively creating (some) immunity.<sup>41</sup>

## 4. Exceptional Experimental Permissions

On the basis of the above theoretical concepts and distinctions we can now specifically consider the legal design of types of permissive regimes for experimentation. A first point is to focus on the exceptional scope of application, which determines the lawful 'pocket' available for legally disruptive experimentation; derogating from existing legal impediments. We will first consider some technicalities of making legal exceptions to then look at five types of legal regimes for experimentation.

### 4.1. Making exceptions

We discussed above normative positions as if they came in rules with 'categorical' application; with unlimited/universal applicability to anyone, at any time, in any place, under any circumstance.<sup>42</sup> Most legislated normative positions, however, come with a 'dedicated/general' scope of application: their normative positions apply only to certain subjects and/or certain conditions, such as that drivers of cars, when driving on public roads, need to be in possession of their driver's license. Henceforth we will speak of categorical and general rules as the 'normal rules' of legal sets of cases with a standard scope of legal liberties.

Legislators frequently use their ability to create 'exceptional subsets', with a scope of application that concerns only a subcategory of cases within the whole set of a normal rule. Cases within the subset share the characteristics of application of the set of all cases under the normal rule, but come with one or more extra characteristics that call for making exception – e.g. for experimenting with cars; cars with certified self-steering instruments. To them (e.g. driverless cars) another than the standard normative position applies: permissive instead of prohibitive – e.g. preselected self-steering cars may be experimentally driven on public roads without a licensed driver.<sup>43</sup>

Legislators have two mechanisms available to create exceptional subsets, which derogate from obligations by permissiveness (although perhaps with obligating reservations – such as on the use of certified equipment), built around the (possible) occurrence of a factual or legal incident establishing the extra characteristic(s) that places them apart from the normal rule:

- i. by a norm of conduct presenting 'operative facts', described as brute facts (e.g. driverless cars) or institutional facts (e.g. certified steering



equipment), which, upon their factual instantiation, have the legal effect of causing a permissive exception (with reservations, such as reporting on activities) to the obligating standard normative position.

- ii. by a norm of power to perform ‘legal acts’ whereby permissive exception (with reservations) can be made to an obligating standard normative position. We label legal power norms that are embedded in the normal rule for anticipated use ‘intrinsic powers’: the normal rule determines the exceptional scope through its own specification of norm-subjects or norm-conditions – as in the case of the Dutch Electricity Act which delineates the scope for smart grid experiments. ‘Extrinsic legal powers’ are part of other legislative acts. Their effectiveness depends, of course, on the priority of that legislative act over the normal rule – such as in the case where a legislator introduces a temporary exception to fiscal tariffs, derogating from specified subsets from existing fiscal statutes.<sup>44</sup> The scope of this extrinsic exceptional application is then determined by the extrinsic act.

In both arrangements, the exception lasts until the incidental occurrence (of operative facts or of a legal act) ends, whereupon the original obligating standard is no longer ‘eclipsed’.

Finally, the subset arrangements most relevant to experimentation are those that are intended to allow for a substantive temporary derogation with a primary objective of learning from experimentation. They are not about bespoke regulation that specifies the normative position to subset specific characteristics within the liberty space intended by the normal rule – as for instance in environmental permit systems, where the standard obligating norm-operator is merely a formal ‘rule of closure’.<sup>45</sup>

Substantive subset ‘derogations’ are intended for extraordinary cases, outside the normal standard balance. They address legally disruptive situations that, as a subset, demand a radically different balancing of interests. In cases with a subset ‘emergency characteristic’ (e.g. of nature, safety, security or economy) control and restoration will be the prime motive to derogate. In cases with a subset ‘experimental characteristic’, the prime motive for derogation would be to allow experimentation to gather information about innovative societal opportunities or threats; the excepted cases are the experimental ‘sample’ versus the ‘control’ settings of the standard cases. Temporariness of the incident of emergency or innovation is inherent to their perceived extraordinariness: the subset exception is made with the intent to return to some normality, which in turn may then be one to be changed in view of experimental outcomes. Although (factual or legal) experimentation is inherently temporal, the relevant legal acts (on states of emergency and experimentation) may be permanent (as in type *x.*; opposed to type *y.*; see section B2).

Much alike Dworkin’s picture of ‘discretion’ (‘Discretion, like the hole in the doughnut, does not exist except as an area left open by a surrounding

belt of restriction.’),<sup>46</sup> subsets exist only within the broader context of a normal rule. They do not determine or redraw the outer scope of application of that context, but within, for excepted cases, they present a different ‘normative setting’, with a different norm-operator. The earlier example of the license to experiment with smart electricity grids, following relevant powers intrinsic to the Electricity Act is a case in point. The authority granting permission or dispensation may come with its particular reservations (as ‘prerequisite conditions’ to permissiveness; burdening the experimenter, such as the obligation to report about activities or curb particular risks) and with facilitations (as ‘strengthening’ of permissiveness, while burdening third parties by the obligation to tolerate or assist).<sup>47</sup> In the next section different variations of doughnuts and of settings will be discussed. Meanwhile the above distinctions are summarized in the below table 3:

#### 4.2. Design models of regimes for experimentation

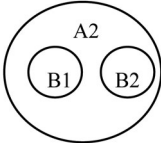
All of the above elements, taken together, allow for a final theoretical step, which leads us to distinguish among various design models of regimes for derogating subsets, with a focus on enhancing liberty space available to factual experimentation.

Following the immediately above, summarized in Table 3, the main exceptions to enlarge liberty space for temporary experimentation by establishing ‘Permissiveness versus Obligations (in short PvO), with two options:<sup>48</sup>

- i. by introducing temporary legislative, strong permissiveness to experiment to derogate from legislative obligations; counter-experimental prohibitions or commands respectively.
- ii. by temporarily suspending legislative obligations, thus creating unlegislated, strong permissiveness to experiment as effective derogation from (suspended) legislative obligations; counter-experimental prohibitions or commands respectively.

In both cases we could think of the examples of derogation from the prohibition to experimentally perform cloning or derogation from the commanding

**Table 3.** Making exceptions<sup>1</sup>.

A1		<ul style="list-style-type: none"> <li>- A1. Normal rule with categorical scope or unlegislated eloquent silence (to A2)</li> <li>- A2. Normal rules with general scope</li> <li>- B1. Exceptional rule (within A2) upon operative facts<sup>2</sup></li> <li>- B2. Exceptional rule (within A2) upon legal act(s)<sup>3</sup></li> </ul>
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<sup>1</sup>Assuming a strict distinction between normative positions and scopes of application – see footnote 42

<sup>2</sup>Upon a rule of conduct: exception by an instantiation of operative facts (B3)

<sup>3</sup>Rule of power: an instantiation of a legal act (B4 – in- or extrinsic)

<sup>2/3</sup>Converting weak into strong permissiveness; bespoke regulation with standard; derogation (e.g. restore balance or experiment)

obligation of the owner of a telecommunication grid to allow other providers to offer their services on that grid. The difference between the two is that in the first option (i.) the ‘hole’ is positively defined by the express permissive scope of experimental application, also allowing specific conditions, whereas in the second option (ii.) it is defined negatively, only by the exceptional limitations to the scope of application of standard obligations. In both cases, upon expiration of temporary exceptions, the normal regime regains its original scope of obligating application.

Next, there are two other, perhaps less obvious frames, of ‘Permissiveness versus Permissiveness’ (in short PvP), where a legislator creates:

- (iii) strong but eloquently silent permissiveness to experiment, to temporarily underscore weak (mere silent) permissiveness to experiment. For example by a statement (not as legislative enactment) that private plant breeding experiments will not be prohibited until some point in time, when restrictive legislation will be introduced.
- (iv) legislated strong permissiveness to experiment to temporarily replace unlegislated permissiveness to experiment.<sup>49</sup> For example, the introduction of temporary legislation that temporarily grants permission to experiment with driverless cars, despite the fact that at the moment of introduction there is no legislation that prohibits such experiments.

The first of these two PvP regimes enhances legal certainty (e.g. plant breeding is ‘free’), following the relevant legislators considered opinion and resolution to not restrict certain experimental activities.<sup>50</sup> The second PvP-regime adds legal force by legislative enactment (e.g. concerning permission to perform driverless car experiments) that brings tolerance, but perhaps also strengthening by enabling rights and perhaps other facilities, such as subsidies.

Superficially, both PvP-regimes resemble normal permissive rules (one eloquently silent, one enacted), each presenting a set with a standard normative position. They are, however, exceptional because of their temporary nature. This temporariness presents a subset exception from the existing unlegislated set of permissiveness – as a silent crust of the doughnut.

PvP-regimes unavoidably come with ‘sunset-clauses’,<sup>51</sup> as upfront statements on future termination, either informally announced through eloquent silence, or formally arranged in provisions of their legislative enactment. By contrast PvO-regimes usually postulate ‘regulatory holidays’, as they come with a temporary exemption from an existing legislative obligation.<sup>52</sup> They only operate as sunset clauses when upon introduction of an obligating rule there is a ‘*terme de grace*’. An example is privatization of network industries, to allow former public owners of networks a temporary monopoly to secure the innovations – perhaps by experimenting with novel services – needed to survive in a future competitive market.

In many cases within PvO and PvP regimes, permissiveness will not be a ‘blank canvas’. Mostly the right holder/experimenter will face ‘reservations’, as prerequisite conditions to permissiveness – for example concerning risk control, for reasons of precaution, and proper monitoring and reporting, for reasons of proper evaluation.<sup>53</sup> In turn, as a matter of strengthening permissiveness, third parties may face the obligation to tolerate or to assist, as a legislative means of facilitating that experiments will indeed go ahead.

The scope of this article does not allow for detailing specifications in reservations and/or facilities. The broad variety of specification amounts to four basic settings of liberty space: (a.) ‘unbridled permissiveness’ (neither with strengthening nor reservations); (b.) ‘assisted permissiveness’ (with strengthening only); ‘constrained permissiveness’(with reservations only); (d.) ‘regulated permissiveness’ (strengthening combined with reservations).

The possibility of reservations may, to an experimenter, turn a ‘regulatory holiday’ into a ‘rainy summer’. Furthermore, uncertainties involved in experimentation may yet influence the nature of reservations. Grave uncertainties and high urgency may lead to an ‘open regime’ for experimentation, interactively providing ‘soft reservations’, whereas slight uncertainties and low urgency may well lead to a ‘closed regime’ for experimentation, hierarchic and based upon hard rules.<sup>54</sup>

Given that reservations and facilitations can also relate to permanent permissive rules, a fifth exceptional regime for experimentation can be added (in the PvP-category) to the above four:

- (v) exceptional cancellation of reservations or adding of facilitations, to temporarily enhance liberty space of permanent legislated permissive regimes – as a broader over a more narrow permissiveness. A regime-type that may be applied as a regulatory holiday or as sunset clause.

Hitherto we assumed a somewhat unrealistic setting of one normal rule with one or some permissive exceptions. In reality various rules may concern (partially) overlapping norm-objects, with different norm-operators and (partially) overlapping scopes of application. Thus, to only name but one example, a permissive public law arrangement for experimentation, may not exclude private law liability of the experimenter or of the ‘responsible’ regulator or even third parties for damage caused by the experiment, possibly justifying preliminary injunction to not experiment for fear of harm to others. Such situation may be understood to effectively operate as an extrinsic subset reservation to the permissiveness granted, unless the legislator arranges for exculpation, state-insurance or state-compensation. The example emphasizes the need to look beyond the perspective of individual rules or indeed of individual experimental regimes.

Finally, the PvO and PvP groupings clearly fit enhancing the liberty space for factual experimentation (type *a.*). Such enhancement may be brought about by permanent and by experimental legislation (types *x.* and *y.* – to

**Table 4.** Permissive regimes for experimentation.

PvO*	PvP*
i. <sup>1</sup> – legislative P derogating from O	iii. <sup>2</sup> – strong silent P underscoring weak silent P
ii. <sup>1</sup> – unlegislated P derogating from O	iv. <sup>2</sup> – legislated P replacing unlegislated P
	v. <sup>1</sup> – broader P over narrow P

\*P = Permissive / O = Obligating

\*Alternatively as (a.) 'unbridled permissiveness'; (b.) 'assisted permissiveness'; (c) 'constrained permissiveness'; (d.) 'regulated permissiveness'. Except ii. – weak P: only implicit (a) or (c).

\*Note 1: open and closed regimes. Note 2: extrinsic reservations (i.e. effective subsets – e.g. liability)

<sup>1</sup>As regulatory holiday or as sunset clause when temporary legal provision of conduct (operative facts) or of legal power (legal acts); <sup>2</sup> Only as sunset clause – in as much as for experimental use.

say nothing of non-legislative legal acts). The scope for introduction of such legislation is decided by the ability space available to the respective legislators. Disruptive issues, such as infringing upon immunities (e.g. fundamental rights) or absence of power (e.g. limits by rules of higher powers within or beyond states) may come into play – as will questions about making exceptions. All of which will be left aside here.

The most important types and characteristics of exceptional permissive regimes are brought together in the below table (no. 4). (Table 4)

## 5. Concluding Remarks

This article's aim was to identify and analyze the normative components and models of (experimental) legislative regimes for especially factual (type *a.*) and associated legal (type *b.*) experimentation in the field of technology and governance, to contribute to the proper legal design of such (type *x.* and *y.*) regimes.

Upon having defined experimentation, we firstly identified meta-legislative guidelines and (non-) experimental legislation (types *x.* and *y.*). Secondly, we defined legal liberty and ability space on the basis of normative positions and types of rules. Focusing on permissiveness, the possibility of an additional normative position led to a distinction between three scopes of permissiveness (freedom, full and partial permissiveness), and to distinguish five types of permissive norms: mere silence, eloquent silence, with toleration, with rights, and with enabling rights – all of which are potentially relevant to experimentation. Departing from legal disruption, we focused on exceptional permissiveness by temporary derogation, through operative facts or in- or extrinsic legal acts. These led to two possible groups of regimes for experimentation (PvO and PvP), encompassing five options as design models of regimes for experimentation, each of which can, as regulatory holiday or with sunset clause, come with combinations of reservations and facilitations.

If these findings are to serve as basis for a legal design guideline for modelling regimes for experimentation, we should be able to identify most of the main distinctions and forms in reality. The scope of this article does not allow

for a descriptive exploration. A non-representative glance at Dutch law,<sup>55</sup> readily provides us with some interesting matching examples.<sup>56</sup>

The mentioned meta-legislative guidelines are interesting also because of their reference to the need for specified reservations in the ‘normal rule’, regarding experimental liberty space. Which derogations are allowed, with what objectives and duration, and with what arrangement for evaluation? As regards ability space, the guidelines present the principles of derogation only by lower legislation at the nearest lower to the normal rules’ level, and of the clause that the normal rule legislator has the *ex ante* opportunity to veto derogation.

As regards non-experimental legislation as a model for experimentation, Dutch law presents relevant examples of extrinsic and intrinsic legal act arrangements. The Crisis and Recovery Act (CRA)<sup>57</sup> fits the concept of (effective) ‘extrinsic derogation’. Since gaining permanence, after a stage of temporary existence (with a sunset clause – allowing derogation to incentivize infrastructural projects in response to the 2007–8 ‘credit crisis’), this statute operates, *inter alia*, as a flexible legislative mechanism to foster factual experimentation, although only when there is an innovative promise for economic growth and/or sustainability. Relevant projects (especially on sustainable energy), currently about 60, are listed in a Dutch Decree,<sup>58</sup> at the ‘nearest lower level’ to the CRA, with derogative exceptions specified per project for some 12 statutes (including duration and method of evaluation).

Meanwhile present and future permanent statutes, such as on telecommunications,<sup>59</sup> on electricity and natural gas,<sup>60</sup> and on environmental protection,<sup>61</sup> (will) have ‘intrinsic’ arrangements to allow temporary derogation – probably due to the technological dynamics of these areas. All of these regimes are non-experimental, type *x*. regimes for factual experimentation. Currently a proposal is under preparation for an experimental type *y*. statute that temporarily allows some municipalities to, by derogation from some existing legal obligations, engage in experiments in municipal governance of local projects, especially as regards public participation and community initiatives.<sup>62</sup>

Not only do these examples demonstrate the relevance of legal regimes for various types (a. and b.) of experimentation, the two types of legislation (*x*. and *y*.) as forms of PvO-derogations with reservations, they also express that experimentation in technological and governance domains is of great and growing importance.<sup>63</sup> Increasingly policy- and lawmakers take an interest in experimentation, and this interest would be well served with legal design guidelines with proper analytical basis – to simply mimic existing regimes would risk insufficient tailoring to the demands of the experimental issue. Of course there are numerous issues yet to be addressed, such as on open and closed modeling of experimental regimes, on flexibility of reservations and facilitations,<sup>64</sup> and comparing the five design models (of section D2).

This article has aimed to provide some insight into key normative building blocks that together may form regimes for experimentation, and thus contributes to further sophistication in design guidelines for the making of such regimes.

## Notes

1. The term legislation is meant to also include regulation (when about legal acts that present general and abstract norms). Similarly see: S. Ranchordás, *Constitutional Sunsets and Experimental Legislation: A Comparative Perspective* (Edward Elgar, Cheltenham 2015)15.
2. See, as a general approach to this challenge: R. Brownsword, *Rights, Regulation and the Technological Revolution* (Oxford University Press, Oxford 2008). For the regulation of sharing economy, see S. Ranchordás, 'Does Sharing Mean Caring? Regulating Innovation in the Sharing Economy' (2015) 16 *Minnesota Journal of Law, Science and Technology* 1.
3. See Ranchordás, *supra* (footnote 1), p. 36.
4. On these aspects, see Y. Millo and J. Lezaun, 'Experiments in regulation. Regulatory experiments: genetically modified crops and financial derivatives on trial' (2006) 33 (3) *Science and Public Policy*, 179-190.
5. We assume that experimental legislation in itself is or should be of a temporary nature – see also, Ranchordás, *supra* (footnote 1), p. 10 – while legislation determining the conditions of experimentation may (but need not be) be permanent; see section B(2).
6. E.g. Article 8.40a, section 1, Dutch Environmental Law Act: in prescribing the taking of certain measures, the Decree may stipulate that alternative measures may be taken, if these provide at least an equal level of protection of the environment.
7. Ranchordás *supra* (footnote 1), explains and demonstrates the Rule of Law concerns relevant to legal experimenting.
8. The latter feature in Ranchordás, *supra* (footnote 1).
9. The former, disruptive in business (administration) theory, was introduced by Christensen, see, inter alia, See J. L Bower and C. M., Christensen, 'Disruptive Technologies: Catching the Wave' (1995) 73(1) *Harvard Business Review*, 43-53. The latter, scientific paradigm shifts, is the author's analogous use of the term 'disruptive', inspired by T. Kuhn, *The Structure of Scientific Revolutions* (University of Chicago Press, Chicago 1962).
10. For a similar terminology: N. Cortez, 'Regulating Disruptive Innovation' (2014) 29(1) *Berkeley Technology Law Journal*, 175, 183 ('Regulatory disruption' occurs, then, when the 'disruptee' is the regulatory framework itself).
11. See: Oxford Dictionary, <http://www.oxforddictionaries.com/definition/english/experiment> [Accessed 24-02-2015].
12. Ranchordás, *supra* (footnote 1), pp. 42-46, lists various forms of legislative experimentation, such as 'field experiments'.
13. Leaving policy makers in a state of '(un)known unknowns' or uncertainty beyond risk. See, inter alia, F.H. Knight, *Risk, Uncertainty, and Profit* (Hart, Schaffner & Marx, Boston 1921).
14. Ranchordás, *ibid.*, with a focus on legislative experiments, regards temporariness as a vital characteristic (p. 8), aside from derogation, evaluation and a limited scope of application (pp. 37-38).



15. INOGOv workshop: Climate Change Policy and Governance: Initiation, Experimentation, Evaluation (12-13 March 2015; Helsinki) See: <http://www.inogov.eu/#home> [Last accessed 10 May 2015]. Report forthcoming.
16. See Y. Millo and J. Lezaun, *supra* (footnote 4).
17. Quote from Ranchordás, *supra* (footnote 1), p. 29 (citing Noll), p. 8 (citing Jahrreiss), p. 13 (citing US Justice Brandeis).
18. Instructions for Legislative Drafting issued by Official Journal (*Staatscourant*) 1992, 230 – most recently amended 2011, 6602. On these guidelines: N.A. Florijn ‘The instructions for legislation in the Netherlands: a critical appraisal’ (2010) IV(2) *Legisprudence*, 171-191.
19. Translation by this author from the Dutch Explanatory Memorandum to Instruction 10b of the Guidelines.
20. L. Lindahl, *Position and Change, A Study in Law and Logic* (Synthese Library, vol. 112, Uppsala 1977) 104
21. See also Ranchordás, *supra* (footnote 1), p. 68-72.
22. See: M.A. Heldeweg ‘Legal Design of Smart Rules and Regimes: Regulating Innovation’ in M.A. Heldeweg and E. Kica (eds.), *Regulating Technological Innovation. A Multidisciplinary Approach* (Palgrave MacMillan, Hershey 2011) 37-52.
23. Also see the Explanatory Memorandum (in Dutch) related to the relevant Decree: [http://www.internetconsultatie.nl/besluit\\_experimenten\\_decentrale\\_duurzame\\_elektriciteit\\_opwekking](http://www.internetconsultatie.nl/besluit_experimenten_decentrale_duurzame_elektriciteit_opwekking) [Accessed 08 July 2015].
24. We assume rules to hold a maximum of one normative position, unless it includes other normative positions as related exceptions – see section C.
25. Some (fundamental) norms apply to all/any person(s) in any case (i.e. at any time, place and circumstance) – e.g. prohibition of genocide or of chemical weapons.
26. See H.L.A. Hart, *The Concept of Law* (3<sup>rd</sup> edition, Oxford University Press, Oxford 2012) 91-99.
27. The other 2 subtypes of secondary rules are ‘rules of recognition’ and of ‘rules of adjudication’.
28. Establishing and changing general rules by Crown decree, and granting permissions in individual cases – all within the substantive and procedural boundaries of the Electricity Act.
29. These may be perceived as permission to waive legal standards or requirements, but at this stage we look at normative positions as they ‘stand alone’.
30. W.N. Hohfeld, *Fundamental Legal Conceptions as Applied to Judicial Reasoning* (Yale University Press, Westport 1964).
31. Lindahl, *supra* (footnote 20). Lindahl does not *expressis verbis* relate to the normative positions (a-d), as is done in the below and his approach is ‘relativistic’, in looking at one-on-one relations.
32. In the following we will leave out whether a subject on either side of the relation is just one person, some persons or any person. See D.W.P. Ruiter, ‘Unital and multital legal relations’ in M.L. van Genugten & M. Harmsen (eds.), *De Vorm behouden. Verslag van een levenswerk door Dick W.P. Ruiter* (University of Twente, Enschede 2008) 87-129.
33. Although doctrinal arrangements may differ, logically these issues would have to be dealt with following rules of conduct/first order relations that determined the relevant liberty space).
34. According to normative logic, but also in the liberal state doctrine: ‘One is presumed free, unless ...’.



35. More on other than legislative strong permissiveness in the below. G.H. von Wright, *Norm and Action: A logical enquiry* (Routledge, London 1963) esp. pp 85 ff. Von Wright spoke of 'permission' instead of 'permissiveness, as is done here. Strong permissiveness implicates weak permissiveness (as absent obligations) but weak permissiveness can exist without strong permissiveness.
36. Ranchordás, *supra* (footnote 1), p. 199, presents such an example in the Dutch dentistry sector.
37. 'Explicit' does and 'implicated' does not come with a matching weak permissiveness. The scope of this article does not allow to elaborate on underlying (complexity of) normative logic – see (inter alia) Von Wright, *supra* (footnote 35) and D.W.P. Ruiter, *Institutional Legal Facts. Legal Powers and their Effects*. Dordrecht/Boston/London: Kluwer Academic Publishers (1993).
38. M. Atienza and J. R. Manero, *A Theory of Legal Sentences* (Kluwer Academic Publishers, Dordrecht/Boston/London 1998) 96- (with quotes from Von Wright, *supra* (footnote 35), p. 88 f.).
39. Von Wright, *supra* (footnote 35), p. 88; Atienza and Manero, *supra* (footnote 38), p. 97. Note that in both examples the third party can be another legislator/regulator.
40. A. Soeteman, 'Legal Gaps' in: *IVR Encyclopedia of Jurisprudence, Legal Theory and Philosophy of Law*, [http://ivr-enc.info/index.php?title=Legal\\_gaps](http://ivr-enc.info/index.php?title=Legal_gaps) [Accessed August 19, 2014], speaks of 'explicit silence'. The oxymoron of 'eloquent silence' is inspired by: Michal Ephratt 'The functions of silence' *Journal of Pragmatics* 40 (2008) 1009-1938. Note that a broad concept of legal acts (e.g. legislation) could encompass eloquent silence.
41. A consequence in the realm of conditions to rules of power – assuming that eloquent silence can only pertain to the legally available yet unused ability space.
42. See A. Ross, *Directives and Norms* (Routledge, London 1968) 108.
43. As Ross has demonstrated, *supra* (previous footnote), some 'substitution' is possible whereby norm-subjects are (v.v.) included in norm-conditions and either or both in norm-object descriptions. We will ignore this to not (further) complicate the narrative.
44. Such as by (systemic conditions of) hierarchical priority ('*Lex superior derogat legi inferiori*') and (mostly in absence of hierarchy), priority of specificity ('*Lex specialis derogat legi generali*'), or priority of age ('*Lex posterior derogat legi priori*').
45. Encompassing all relevant cases (the set) to enable regulation (permissive with reservations) where necessary, and providing a liberty space with 'regulatory tilt': indicating the margins of (reasonable) discretion in tailor-made regulation. On regulatory tilt, see Brownsword, *supra* (footnote 2), p. 21 .
46. R. Dworkin, *Taking Rights Seriously* (Harvard University Press, Boston 1977) 31.
47. R. Brownsword, *supra* (footnote 2), p. 19-20, uses similar terms: 'plus facilitation' and 'with negative reservation'. Concerning reservations to experiments: e.g. the prohibition to use certain fuels or the command to monitor performance.
48. On the specific use of these spaces see footnote 31. We only consider the exceptions that enlarge liberty.
49. This may include converting partial permissiveness into full permissiveness (see B3 ii. and iii.).
50. Possibly with effects on the ability of lower legislators to introduce restrictions, so effectively as an immunity. See section C3 and footnote 40.
51. Ranchordás, *supra* (footnote 1), discusses the difference between sunset clauses and (the yet to be mentioned) 'regulatory holidays' (pp. 17-77)

52. A major example is provided by Article 101(3) TFEU. This Article states that the prohibition of cartels (of Article 101(1) TFEU) may be declared inapplicable in a case of undertakings (that normally amount to a prohibited cartel), ‘which contributes to improving the production or distribution of goods or to promoting technical or economic progress, while allowing consumers a fair share of the resulting benefit.’ Monti presents a fine analysis of the regulatory holiday in EU competition law, see: G. Monti ‘Managing the intersection of Utilities Regulation and EC Competition Law’ *The Competition Law Review* (2008) 4 (2) 123-145.
53. Note that in option ii. permissiveness is indeed a (non-legal!) blank canvas.
54. See, without the specific terms of open and closed models, R. Brownsword & H. Somsen, ‘Law, innovation and technology: before we fast forward – a forum for debate’ *Law, Innovation and Technology* (2009) 1(1) 28-29.
55. Merely on the basis of this being the legal order that the author knows best, with an acceptable top 10 (rank 5) position in the 2014 WJP Rule of Law index (vide: <http://worldjusticeproject.org/rule-of-law-index> [Last accessed 10-05-2015]). See footnote 52 for an EU example.
56. See Ranchordás, *supra* (footnote 1), for many more examples from the Netherlands, Germany and the United States.
57. Crisis- en herstelwet, Stb. 2010, 136 (amended).
58. ‘Besluit Uitvoering Crisis- en herstelwet, Stb. 2010, 289 (amended).
59. Article 3.12 Telecom Act, derogation for undertaking experiments by ministerial frequency permit from the requirement of rejecting requests for such permits if they conflict with the national frequency plan.
60. Presently, Article 7a Electricity Act and Article 1i Gas Act, and in future, Article 11.1 of the Draft Electricity and Gas Act – especially in the area of local smart energy grids/systems – factual experiments within permanent legislation.
61. Article 23.3 draft Environmental Act – experiments towards a safe and healthy environment and on improving the quality of the environment and of related decision-making (scope yet to be specified).
62. Letter of the minister of the Interior and Kingdom Relations, 5 January 2015, ref: ‘Agenda Lokale Democratie’. Parliamentary documents 34 000 VII.
63. Also triggering attention across governance studies, such as in INOGOV-context.
64. See, *inter alia*, N. Cortez, *supra* (footnote 10).

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