DOI: 10.1111/padm.12583

# **ORIGINAL ARTICLE**



# Reconceptualizing layering—From mode of institutional change to mode of institutional design: Types and outputs

# Giliberto Capano

Department of Political and Social Sciences, University of Bologna, Bologna, Italy

#### Correspondence

Giliberto Capano, Department of Political and Social Sciences, University of Bologna, Strada Maggiore 45, Bologna 40125, Italy. Email: giliberto.capano@unibo.it Due to its popularity, the term layering is often used generically, and it risks being transformed into a catch-all concept. Layering has become synonymous with incremental change, thus making it a synonym for change without any specification in terms of the change and its effects. To make the term more conceptually coherent and empirically useful, this article problematizes the historical neo-institutionalist definition of layering as a mode of change and, above all, its use in the literature. It argues that layering should be conceptualized in terms of modes of institutional design through which different types of additions to the actual institutional arrangement can be activated to pursue not only institutional and eventually policy change but also stability. As an approach to institutional design, layering can be distinguished according to that which is layered and the results that layering can achieve in terms of institutional and policy effects.

#### 1 | INTRODUCTION

Layering is a popular concept among social scientists who focus their research on institutional and policy change. This concept was introduced by historical neo-institutionalism, which has defined layering as a specific mode of institutional change. However, against the initial conceptualization (or partially because of it, as I show below), layering has become a catch-all word through which the borders between the actions used to enact different types of institutional/policy dynamics risks have become blurred. This generic use of the concept of layering is not unexpected because its original definition is, paradoxically, too ambiguous. In fact, by defining layering as a mode/process of gradual change, Streeck and Thelen—despite the fact that their theoretical effort was clearly stated because it also included processes of radical changes—underestimated how incremental additions to the actual institutional arrangements (i.e., layering) are the most common way that policy-makers intervene in reality. Thus, due to the prevalent incremental nature of institutional and policy change, layering has become synonymous with incremental changes and covers quite different elements. Furthermore, against Streeck and Thelen's theorization, the possibility has been forgotten by most scholars using the concept of layering that a 'gradual' change (through layering) of an actual

institutional structure does not necessarily produce changes in institutional dynamics or in policy outcomes because some types of incremental changes can drive only the reproduction of an actual state. Therefore, layering has become synonymous with change in an underspecified way.

This underspecification is intrinsic in the concept of layering defined as a mode/process of institutional change and has favoured the misuse of Streeck and Thelen's theoretical framework, which has largely been cherry-picked by subsequent scholarship. The consequence of this trend is that a potentially fruitful concept is at risk of missing its goal and achieving very low analytical power.

Thus, in this article it is argued that the meaning of layering should be shifted from the mode/process of change to that of a mode of institutional design. Because of this shift, the main intuition of Streeck and Thelen—layering as adding something to actual institutional arrangement matters—can be reinforced exactly because its meaning is better specified from a theoretical point of view. Furthermore, redefined as a mode of institutional design, layering can become a concept that bridges institutional analysis with public policy and policy design and thus better connects the theme of institutional stability and change with issues of policy stability and change.

Focusing on layering as one of the most significant ways in which institutional arrangements can be designed and policies can be addressed has become a promising topic of research that can be articulated through different questions: What can be layered? Which types of layering are at the disposal of decision-makers? What types of effects can be achieved through layering? Change can be pursued, but what about stability? Answering these questions can help to provide a better understanding of layering and its improved use as an analytical tool.

This article capitalizes on the vast literature on layering in institutional and policy change to propose a different definition of layering and its effects in terms of institutional and policy dynamics that can be achieved by different types of layering.

The argument is structured as follows. In section two, I present and discuss the original meaning of layering according to Streeck and Thelen's definition. I further discuss why that definition can be misleading in analysing both institutional and policy dynamics. In section three, I argue that layering should be redefined in terms of a mode of institutional design, and I present the content of institutional design through layering and show how flexible policy-makers can be when they layer. In section four, I distinguish between two different targets of policy layering. In section five, I propose a typology of layering according to its policy outcomes. The concluding remarks highlight promising streams of future research.

# 2 | LAYERING AS A MODE OF GRADUAL CHANGE: WHAT DOES NOT WORK IN THE DEFINITION CURRENTLY IN USE?

The concept of layering is not new in studies of political science, public policy and public administration. As van der Heijden (2011) shows in his comprehensive review of this topic, previous research employed layering as a descriptive concept to define the processes by which new actors (Belisle 1944; Smith 1983; Light 1995), new instruments (Kreps 1966; Bardach and Kagan 1982; Florida and Kenney 1992), or 'new arrangements on top of pre-existing structures' (Schickler 2001, p. 15) are added to policy-making. This flourishing of descriptive types of layering originated from the seminal work of Streeck and Thelen; thus, the reflection on layering deserves to start from there.

Originally, layering was theorized as a concept to understand institutional change (Thelen 2003, 2004, 2009; Streeck and Thelen 2005; Mahoney and Thelen 2010). In this stream of literature, layering was originally defined as a 'mode' of gradual change (Streeck and Thelen 2005, p. 19; Thelen 2009, p. 484; Mahoney and Thelen 2010, p. 15) concerning 'the crafting of new elements onto an otherwise stable institutional framework' (Thelen 2004, p. 32), which 'involves active sponsorship of amendments, additions, or revisions to an existing set of institutions' (Streeck and Thelen 2005, p. 25). Furthermore, according to Streeck and Thelen, layering 'can set in motion path-altering dynamics through a mechanism of what we might think of as differential growth' (2005, p. 23; emphasis in original). The classic example of the welfare state literature is the layering of a voluntary private system onto an existing public

system. While the 'established public system may well be unassailable, faster growth of the new private system can affect profound change, by among other things draining off political support for the public system' (2005, p. 25). Thus, the 'founders' of the concept—those who presented its first systematic conceptualization—have clarified that layering is a mode of gradual change that works through the specific mechanism of 'differential growth'. However, it should be noted that Thelen also defined layering as a mechanism of change (2004, p. 35).

In their theoretical proposal, Streeck and Thelen clearly stated that layering is a specific process of incremental change that is conducive to 'transformative results', while other types of incremental change (not precisely defined) can drive institutional continuity through reproduction or adaptation (Streeck and Thelen 2005, p. 9). According to the concept's founders, layering is a mode or mechanism of institutional change characterized by the partial or marginal revision of the existing institutional and policy arrangements. Interestingly, this initial ambivalence (mode or mechanism) has resulted in different ways of defining layering in its empirical applications—all consciously inspired by the Streeck and Thelen theorization.

For example, regarding the mode/mechanism ambivalence, a review of the literature reveals that 'mode of change' (intended as a process) is the primary meaning attributed by scholars to layering (see, for example, Ackrill and Kay 2006; Helgøy and Homme 2006; Barnes 2008; Parker and Parenta 2008; Van de Bovenkamp et al. 2014; Wellstead et al. 2016). However, a sufficiently diffuse definition of layering has also been asserted that identifies it as a 'mechanism' of change (see Béland 2007; Boas 2007; Cerami 2009; van der Heijden 2011; Rocco and Thurston 2014; Borrás and Seabrooke 2015; Engelstad and Hagelund 2015). Other less frequently used definitions can also be found, such as 'type of change' (i.e., the specific content of a decision that is made to change the status quo; Vetterlein and Moschella 2014), 'pattern of change' (Hanrieder 2014), 'patterns and mechanisms of change' (Campbell 2010), and 'policy shift' (Feindt and Flynn 2009).

Thus, the neo-institutional conceptualization of layering has generated different interpretations in terms of 'labels' and definitions. However, all definitions of the concept of layering are directly related to that of institutional change (and extend to policy change). This explains the popularity of the concept and the fact that most scholars have substantially used layering to address any type of incremental change (and thus overlook the initial bi-partition of the Streeck and Thelen framework).

At the same time, it must be noted that those who have adopted this neo-institutional framework to analyse institutional change have interpreted the original framework in a very loose and soft way. In other words, layering has become a concept through which institutional and policy change are analysed without keeping the original definition given by Streeck and Thelen to the object of change (institutions). In fact, if layering is a mode of institutional change, it is clear that the definition of institution makes the difference. Streeck and Thelen proposed the definition of institutions as regimes:

By regime, we mean a set of rules stipulating expected behaviour and 'ruling out' behaviour deemed undesirable. A regime is legitimate in the sense and to the extent that the expectations it represents are enforced by the society in which it is embedded. Regimes involve rule makers and rule takers, the former setting and modifying, often in conflict and competition, the rules with which the latter are expected to comply. (Streeck and Thelen 2005, pp. 12–13)

Furthermore, according to Streeck and Thelen (2005, p. 12), 'Policies, that is to say, are institutions in our sense to the extent that they constitute rules for actors other than for the policymakers themselves—rules that can and need to be implemented and that are legitimate in that they will if necessary be enforced by agents acting on behalf of the society as a whole.'

This extended and 'holistic' definition of institutions, as well as the definition of policies as institutions in the same holistic sense, conflates institutional change (changes in the rules) with policy change and thus directly pushes the definition to include the change in the effects of institutional change in terms of policy delivery. This overlap between changes in institutional arrangements and changes in policy effects has stretched the meaning of layering

and made its empirical application evocative and ambiguous. Defined as a mode of gradual institutional change, institutions (and, consequently, policies) are defined in terms of regimes that comprehend not only formal rules but also the expected behaviours of the rule takers. Thus, layering becomes a label that can be attached to many different processes and a synonym for incremental change (regardless of whether its focus is on institutions or policy).

This has allowed the concept of layering to be adopted in different ways and to generally describe the way both institutions and policies slowly and incrementally change as a consequence of the intervention of the actual rules. This overlapping is corroborated by the two most important books in this theoretical stream of literature, in which most of the chapters are devoted to institutional change in specific policy fields. In Streeck and Thelen (2005), we can find major contributions to US health policy, French social policy, German pension policy, and antitrust policy in Germany and the EU. In Mahoney and Thelen (2010), chapters are devoted to analysing institutional change in Brazilian health policy, land policy in Kenya, and social security in the US. When applied to a specific policy field, layering in this literature means a way that the institutional arrangement is changed and that some policy changes (in terms of effects) are obtained.

As has been clearly shown (van der Heijden 2011), the conceptual stretching of the definition of layering as a mode of institutional change has weakened its explanatory capability. In fact, layering has been adopted as a general label to define any type of additional change in terms of institutions and/or policy elements. As such, any type of layering is a type of change, including institutional and/or policy change.

However, there is empirical evidence that layering does not necessarily cause change but rather can be used to lock in or stabilize an existing governance mode (see Ackrill and Kay 2006, 2014; Baudot 2018). Thus, it can be considered a driver of institutional robustness and stickiness (Ansell et al. 2017). Furthermore, layering can enable the opponents of institutional change to produce counter dynamics capable of stalling or reversing the change pursued (Kelly 2016; Mandelkern and Koreh 2018). This empirical evidence further problematizes the neo-institutional definition, in which the concept of layering, intended as a mode of institutional change, delimits the processes capable of gradually enacting change and generating transformative change in the medium-long run (Streeck and Thelen 2005; Mahoney and Thelen 2010). If layering can also drive stability or institutional stickiness, can it still be defined as a mode of gradual change?

#### 3 | LAYERING AS A MODE OF INSTITUTIONAL DESIGN AND ITS CONTENT

## 3.1 | Layering as a pattern of institutional design

Policy-makers can add 'something new' to the existing institutional arrangement, not only to pursue change but also specifically to maintain equilibrium in terms of political legitimation or effectiveness in delivering the expected policy results. Thus, maintaining the definition of layering as a mode of change may be misleading for understanding the characteristics of institutional change and policy change and in terms of the analytical significance of layering itself.

When policy-makers typically pursue goals related to institutional stability and/or change as well as policy stability and/or change and to intervene in both of these issues, they are asked to redesign institutions (Goodin 1998), such as the rules of existing institutional arrangements (those that form a policy perspective and can be defined as governance modes) and thus the rules that establish the actors, institutions, and procedures involved in the process through which policies are formulated and implemented (Howlett 2011; Capano et al. 2015). In addition, when policy-makers design institutions, they are often constrained by vested interests and the legacy of policy-making in a given field. Therefore, they have limited room for manoeuvre; that is, they only have certain design spaces in which they can attempt to modify the existing set of rules. This process of institutional/policy design typically develops through marginal adjustments, which may involve adding elements to the existing arrangements (Howlett et al. 2014; Howlett et al. 2015; Capano 2018). These new elements can be a new policy instrument, idea, actor, organization,

programme, or decisional level that is added as the content of new layered rules (Hacker 2004; Howlett and Rayner 2013). Thus, policy-makers continuously redesign institutions and policies by layering.

I propose to define the concept of layering as a specific means of formulating policies through which 'something new' is added to the existing institutional arrangement in a specific policy field, no less but no more. In fact, if, by definition, 'layering' means a type of change, this implies that any chosen addition necessarily activates processes of institutional and/or policy change. While this cannot be taken for granted, both logical and empirical evidence demonstrate that this cannot be sustained. Otherwise, layering would become a type of post-hoc definition: only those chosen additions capable of driving change should be defined as layering, while those that are ineffective should be defined in terms of reproductive incrementalism.

By accepting this 'minimal' but more realistic definition of layering, it is possible to obtain a more fine-grained perspective on the role of layering with respect to its real capacity to drive change and the different potential targets of its effects. This conceptual rescaling is quite useful from a more general perspective with respect to theories of institutional and policy change. In fact, by depurating the definition of layering of any emphasis on its capacity to directly drive change, what remains is a definition of layering as a mode of designing institutions through which policy-makers intervene additively with the existing institutional arrangements to affect related behaviours to achieve specific, desired results. Layering can thus be considered a recurrent pattern of institutional design through which the components of the existing institutional arrangements are altered to pursue policy-makers' goals.

These goals do not necessarily aim for changes in institutional outputs and policy outcomes; they can also be structured to maintain particular institutional dynamics and policy outputs/outcomes. In other words, layering is a more precise way to define incremental decision-making specifically focused on 'formal' and 'designed' additions to the actual institutional arrangement (while the concept of incrementalism refers to any type of change introduced to the actual equilibrium, formal or informal, by adding or subtracting something).

If layering is defined as a specific type of institutional design, it should be considered for its descriptive effectiveness, but it cannot be considered an explanatory tool. Thus, layering constitutes a way for policy-makers (and, above all, governments) to attempt to formally design the components of the institutional arrangement of a specific policy field in conjunction with strong contextual constraints. These constraints can be political (i.e., a situation characterized by the presence of many powerful veto players; Mahoney and Thelen 2010) or strong policy legacies that hinder governmental political capacity and thus governments' ability to significantly alter the status quo (Howlett et al. 2015). In such constrained contexts of policy-making, layering is the only intervention method that governments can adopt to affect institutional and policy development. They cannot introduce radical institutional changes, so they can only make adjustments to the institutional status quo.

#### 3.2 | The content of layering

When layering is intended as institutional design through addition, it is important to establish the different types of addition at the disposal of designers. Scholarship on the layering process indicates that different 'things' can be added, but the additive process is generically described in terms of changing the existing set of institutions or rules (Thelen 2004; Streeck and Thelen 2005, p. 25; Mahoney and Thelen 2010, p. 16). However, rules are formal devices, the shapes through which policy-makers intervene; thus, almost every type of addition is introduced through new rules. Hence, the addition of a new rule does not provide much information about what was really added or about the substantial content of the rule. Thus, the generic definition of layering as adding rules should be overcome to better understand how layering works and what types of choices policy-makers have at their disposal when layering.

On the other hand, the range of potential substantial additions can be very diverse, as noted in the literature. To simplify the picture, we assume three main categories of additions that can be pursued by layering new rules based on the main constitutive dimensions of the institutional arrangement in a specific policy field. New rules can add new policy instruments, new actors/arenas, and new ideas (Van de Bovenkamp et al. 2014).

### 3.2.1 | Layering policy instruments

First, through new rules, new policy instruments can be added to the actual institutionalized set of policy instruments adopted. Policy-makers have different types of policy instruments at their disposal to achieve their policy goals. Based on their sources, governments have different families of policy instruments through which they can address individual and societal behaviour as well as deliver the expected services (Hood 1986; Salamon 2002; Howlett 2011). Governments can regulate behaviour by direct command and controlled prescriptions or through soft regulation; they can extract financial resources through the direct homogeneous extraction of resources (a flat tax), through proportional extraction or through specific deductions based on the status of the payers or goods; they can influence behaviour by allocating money in diversified ways, from subsidies to strictly targeted funding; and they can influence behaviour through the use of different types of information, from neutral administrative information to the allocation of blame or prestige (Hood 1986; Vedung 1998; Howlett 2004). Information can be delivered through advice, reporting, education, advertisements, and information suppression or release. Taxation can be delivered through fee exemptions or different types of levies. Expenditures can be delivered through subsidies, grants, loans, earmarked funds, or lump-sum transfers. Regulation can be delivered through direct prescriptions, licences, vouchers, quotas, or self-regulation. Furthermore, governments can support the delivery of their instruments through specific organizational arrangements (such as quangos or public bureaucracies).

Every existing set of policy instruments adopted in a specific policy field is a mix of different types of instruments that have developed over time through a process of partial amendment through layering. This process can be characterized by adding a new specific policy instrument, such as a loan system or an evaluation of research on higher education policy (Huisman 2009; Shattock 2014). However, a new set of different types of instruments can also be added, as is the case when, for example, a private pillar is included in a national system for delivering goods such as pensions (Natali 2008), healthcare (Maynard 2005; Blank and Burau 2011; European Commission 2015), or education (Robertson et al. 2012). In these cases, what is added is a specific combination of regulation (i.e., enlarging the choices available to individuals and establishing specific rules for ensuring coordination of the overall system or by establishing a new agency or bureaucratic organization), taxation (i.e., specific tax exemptions), expenditures (i.e., specific earmarked funding or subsidies), and information (i.e., specific forms of advertisement or monitoring or ranking systems).

#### 3.2.2 | Layering the existing structure of agency

Layering can also be pursued by adding rules that introduce new actors, arenas, or decisional levels to the existing governance arrangement. This type of layering has also been defined as 'thickening' (Light 1995; van der Heiden 2011), a process by which governmental and governance arrangements increase their density of action and institutional complexity. The institutional complexity can increase through the addition of new actors through new, formally stated rules, including environmental groups (Nilsson and Eckerberg 2007; Jordan and Lenschow 2010), private sector actors (Donahue and Zeckhauser 2006), citizen engagement in public administration activities (Creighton 2005), and experts, NGOs, and private actors in transnational and global policy design (Stone 2013). Institutional complexity can also be thickened by adding a new level of government through rules that activate processes of regionalization and devolution, as has occurred with healthcare (Saltman et al. 2007); by adding new arenas, as in the case of the transnationalization of policies (Farrell and Newman 2015); and by adding new policy sectors, as is the case when new policy sectors are formally established (i.e., environmental policy starting in the 1970s).

#### 3.2.3 | Layering ideas

Layering can also be pursued through rules that alter the existing ideational structure of institutional arrangements. The ideational structure comprises the ideas, values, goals and programmes through which the existing institutional arrangement is framed in terms of defining policy problems and the solutions to be adopted. The ideational structure influences the definition of the problems to be addressed, the choice of what issues should enter the agenda, the

shape of the causal theory upon which the intended solution is chosen, and the actors' sense-making with respect to what is possible or desirable (Béland 2010).

There is strong empirical evidence of the process of ideational layering. For example, in analysing developments in British Columbia's land-use planning policy, Thielmann and Tollefson (2009) emphasize that the process of layering was characterized by formally adding new goals to the existing set of goals/means. New programmes (as operational schemes of the new goals) are often layered next to existing initiatives, such as in the cases of the civil service for religious girls in Israel (Bick 2016), the progressive activation of childcare policies in welfare systems (Bonoli 2013), and new plans for supporting disadvantaged students in education policy (Hardy and Woodcock 2014) and low-wage workers in labour policy (Jacobi and Kluve 2006). New ideas or new definitions of policy problems can also be layered on top of the existing governance mode. This approach is shown by Feindt and Flynn (2009) in their analysis of the evolution of the UK's food policy, by Parker and Parenta (2008) in their analysis of ideational layering in Australia's film and television industry policy, and by Shpaizman (2014) in her analysis of certain programmes in Israeli immigration policy. In addition, policy paradigms can be layered on top of the existing paradigms, as in the case of the newer climate change policy paradigm that was layered on top of the established transportation policy paradigm in Canada (Newman et al. 2013).

The different types of substantial content of the layered rules clearly indicate the potential complexity of the action of layering. Policy-makers can layer just one element from one of three categories of layering, more elements from the same category, or more elements from different categories. Thus, the flexibility allowed by layering is quite high, and it can be considered a potential source in terms of the scope of results that policy-makers can pursue. This means, for example, that in terms of institutional and policy effects, layering can impact reality to a different extent based on the number and types of additions. Furthermore, policy-makers have different ways of intervening in actual institutional arrangements, and this increases their room for manoeuvre as well as the opportunities for agreements and compromises. This clarification of the possible content of layering can also be adopted to analytically understand the different trade-offs that can be pursued by policy actors in redesigning institutional arrangements through layering.

Overall, layering allows different combinations of new additions that can satisfy many interests and stakeholders. This makes layering a very useful and welcome mode of institutional design because it allows for the combination of different expectations and contradictory demands.

## 3.3 | Theoretical implications of layering as a mode of institutional design

By defining layering as a mode of institutional design and by clearly distinguishing its possible content, some relevant theoretical implications arise. First, this definition allows for coherence in the empirical literature, which has shown that the other two most relevant modes of institutional change, conversion and drift (as proposed by Streeck and Thelen), require layering, and thus this type of institutional design, to be effective. Conversion (a change in the goals of the policy) can be pursued by layering the rules that change the policy goals (Hacker 2004; Shpaizman 2014; Vetterlein and Moschella 2014). Furthermore, layering is required to institutionalize the changes that occur without the initial direct action of policy-makers, as in the case of 'drift', which occurs when institutions or policies are deliberately frozen while their context shifts, thereby changing the effects of institutions and policies. Thus, the redefinition of layering in terms of institutional design can improve the original framework of institutional change. According to my proposal, layering is not a type of change but a design mode that, when effective, can address specific types of gradual change (i.e., conversion and drift).

Second, broadening the analytical perspective, if layering is defined as a mode of institutional design, it cannot simply be considered a driver of gradual change. Its consequences are by no means given (Mandelkern and Koreh 2018) and depend on both policy-makers' intentions and what actually happens in the implementation stage. In fact, although layering in itself could be considered an institutional change (because the actual rules, ideas, and set of actors are changed by addition), it does not mean that:

- the chosen addition necessarily changes the actual institutional equilibrium (in terms of institutional regimes
  according to Streeck and Thelen's aforementioned definition and, more generally, in terms of the distribution of
  power among stakeholders);
- the chosen addition is made to pursue policy change (it can be made to maintain actual policy performance);
- · the pursued policy goals will actually be reached.

Thus, layering is a multi-targeted mode of institutional design, at least when it is understood from the point of view of policy-makers, and it can be adopted not only to address change but also to guarantee stability. This means that the concept of layering must be better investigated in terms of the content of potential effects (institutional and policy outcomes) of the action of layering.

# 4 | WHAT POLICY-MAKERS PURSUE THROUGH LAYERING: DIFFERENT TARGETS BETWEEN STABILITY AND CHANGE

According to the definition I have proposed, layering is a mode of designing institutions by which policy-makers intervene additively in institutional arrangements to affect related behaviours to achieve specific desired results. In addition, as I underscore above, the desired results are not necessarily those that change the status quo; they can also be those that maintain stability or reinforce the status quo.

To better understand this double-sided nature of layering, below I focus on the two potential targets of interest to policy-makers that must be taken into analytical consideration. In the process of layering, policy-makers should focus on the following:

- 1. the effects (in terms of change or stability) on the existing institutional arrangements; and/or
- 2. the effects on policy delivery (in terms of change or stability) produced by the 'layered' institutional arrangement.<sup>1</sup>

This divide is not only analytical but also 'realistic' because policy-makers may only be interested in the institutional effects of layering driven by political motivations without any interest in the policy effects of layering, or at least with a primary focus on its institutional effects. In this case, the main goal of layering is to intervene in the actual institutional arrangement without real interest in the policy outcome, to maintain or increase (change) the legitimacy of the actual institutional arrangement or to maintain or increase (change) the powerful role of some actors.

For example, when the pursued effect is a change in the institutional arrangement, the adoption rules that introduce public hearings and citizens' involvement in policy-making, such as through ICTs (McComas et al. 2010; Christensen et al. 2015) or the introduction of policy evaluations (Floden and Weiner 1978; Blomquist 2003), may be chosen to increase (and thus 'change') the political legitimacy of the governance arrangement without paying specific attention to its real effects on policy-making.

At the same time, policy-makers can layer to maintain institutional stability, which means the following:

 preserving a specific configuration of the actual institutional arrangement over time in terms of prevailing ideas, the power distribution among actors, or the types of instruments adopted, as clearly shown by Ackrill and Kay (2006, 2014) in their illuminating analysis of EU budgetary policy and the growth of biofuels policy;

<sup>&</sup>lt;sup>1</sup>This distinction has not previously been clarified in the historical-institutionalist literature on layering because the holistic definition of 'institutional regime' has emphasized the intrinsic capacity of layering in driving changes in terms of institutional arrangements. Meanwhile, the effects of layering in terms of policy changes are often underestimated or simply overlap with the former by assuming a logical causal linearity between a change in institutional arrangements and changes in the related policy delivery.

- maintaining the powerful legitimacy of the existing governance mode by including other policy actors and stake-holders, other instruments, and other policy ideas, as shown by Burke and Barnes (2018) in their analysis of disability policy in the US:
- reinforcing the power positions of some already powerful actors, as shown by Baudot (2018) in his analysis of disability policy in France.

Regarding the focus on policy outcomes, policy-makers can not only intervene by layering, as intuitively assumed and very often emphasized in the related research, for policy change but also for maintaining, stabilizing, or preserving actual policy outcome. This may appear to be quite a rough and ready observation; however, institutional design is often adopted to maintain the robustness of policy in terms of what is expected to be delivered (Capano and Woo 2017, 2018). In such cases, layering is required, for example, to stabilize policy performance by adapting institutional arrangements to eventual contextual changes. This is particularly the case in economic policy, where policy-makers layer to ensure stability against economic shocks and crises (Demirgüç-Kunt and Servén 2010; Geithner 2014; Casey 2015); in environmental policy, where policy-makers layer against the ecosystem's vulnerability to climate change (Callo-Concha and Ewert 2014; Jäger et al. 2015); or in pension policy, where a privatized pillar is often layered to maintain main policy goals, such as general financial balance and individual rewards (Natali 2008; Ebbinghaus 2011).

# 5 | A TYPOLOGY OF TYPES OF LAYERING ACCORDING TO EXPECTED POLICY OUTCOMES

In terms of the capacity to achieve the expected policy result, layering can be quite problematic with respect to the linkage between the institutional addition and the possible effects in terms of policy outcomes. To clarify this puzzle, I have constructed a typology in which two dimensions of policy outcomes are addressed: decision-makers' expectations are dichotomized (they are assumed to pursue policy stability or policy change through layering), while the real effects of layering are trichotomized (achieved results, failed results, contradictory results). In this way, as shown in Figure 1, three types of layering are obtained: consistent layering, tense layering, and counter-productive layering.

Consistent layering occurs when the achieved effects in terms of policy are coherent with the expectations of policy-makers when layering something onto the existing institutional arrangements. This is the normal and more intuitive type. Policy-makers add a new rule with the goal of stabilizing the policy outcome or achieving policy change, and they are effective in this effort.

Counter-productive layering occurs when policy-makers layer either to maintain policy stability or to produce policy change, but the institutional layering hinders the expected results against expectations (regardless of whether

		Decision-makers' intentions	
		change	stability
	Achieved results	CONSISTENT Layering	CONSISTENT Layering
Obtained results of layering	Failed results	COUNTER- PRODUCTIVE Layering	COUNTER- PRODUCTIVE Layering
	Contradictory results	TENSE Layering	TENSE Layering

FIGURE 1 Types of layering according to the policy results obtained

they are positive or negative). Such layering may be capable of activating negative feedback, thus delegitimizing the previous addition and the actual institutional arrangements. Counter-productive layering can be the result of incoherent policy design and thus cannot achieve the expected policy goal. For example, if used alone, price stability cannot be sufficient to ensure financial (and thus economic) stability (Laidler 2007). Alternatively, it could be a classic case of unexpected consequences; for example, the introduction of a carbon tax in Australia was justified to decrease carbon emissions. The new layering was effective in achieving the desired results of this policy, but it also resulted in increased energy prices for both households and industries and was thus repealed three years later (Robson 2014).

Tense layering involves cases in which policy-makers layer existing institutional arrangements to pursue either policy change or stability, but the expected policy results are contradictory and drive persistent conflict. This may occur due to friction or excessive incoherence between the old and new rules or because the new rules activate strong opposition among powerful stakeholders. In this case, layering produces tension between expectations and policy effects that can cause functional instability (Schickler 2001; Kay 2007), and it makes room for continuous readjustments and new layering that can achieve unexpected results. Furthermore, this can be a case in which the addition of new ideas, actors and organizational structures, while changing the actual institutional arrangement, create a problem of integration between two institutional orders, the old layer and the new layer (in terms of actors, power positions, ideas), and thus further create continuous tensions. These tensions can contribute to contradictory dynamics that can undermine the 'functionality of the policy' in terms of outcomes (Burke and Barnes 2018). In sum, tense layering is a type of institutional design that creates an imbalanced equilibrium in policy dynamics and drives conditions of stalemate or unexpected policy dynamics. In fact, as shown in the analysis of the Australian National Disability Insurance Scheme, tense layering can escape the control of policy-makers and is thus a driver of significant undesirable policy change (Carey et al. 2017).

These three types of layering (consistent, counter-productive, and tense) should be considered to grant this concept greater analytical significance beyond its simple description. Clearly, if layering is considered a process and not a single design decision, then various types of layering can be drivers of various processes. Consistent layering, the highest-performing type of layering, can solve a problem without requiring a process. This type of layering can thus demonstrate the effectiveness of institutional design in adjusting the features of a governance mode in response to an immediate problem.

The other two types of layering can trigger a process of continuous but potentially conflicting layering when the adopted design is shown to be incoherent concerning its goals and is perceived as introducing tensions into the functioning of the amended institutional arrangement. These tensions can produce counter-reactions as well as renewed processes of layering. This may be one of the causes of transformative change that, according to historical neo-institutionalists, can be produced by layering (Mahoney and Thelen 2010). Thus, according to the proposed definition of layering as a mode of institutional design, transformative change can also occur because the adopted layering is not consistent. Because it is either tense or counter-productive, it activates unexpected processes that can lead to further layering or to other means of designing institutions and policies.

## 6 | CONCLUDING REMARKS AND NOTES FOR FURTHER RESEARCH

In this article, I have problematized the neo-institutional definition of layering as a mode of change and proposed to consider it as a way for policy-makers to formally intervene in institutional design and, thus, in policy design. I have developed my argument through three steps. I have defined layering as a mode of institutional design that policy-makers can normally adopt (because of a constraining political/policy situation); I have distinguished among three categories of layering based on its content; and I have distinguished among three types of layering (consistent,

counter-productive, and tense) based on policy-makers' intention to pursue stability and/or change in the institutional arrangement and in the policy outcomes.

This approach reveals that layering constitutes a mode of institutional design not only for change but also for maintaining the equilibrium of existing institutional arrangements as well as related policy outcomes. Layering is a highly complex activity that is useful for pursuing various substantive policy design solutions. Thus, policy-makers can enjoy greater flexibility than they may have expected. Furthermore, through the analytical clarification presented here, layering can be more effectively operationalized for empirical investigation to better compare different cases of policy dynamics (based on stability and change).

The reconceptualization of layering as a mode of institutional design can be very fruitful from at least two points of view. First, it can be helpful in resolving some of the ambiguities of the theory of gradual institutional change since many empirical studies show that layering too often overlaps with the other two most relevant types of gradual change, conversion and drift (van der Heijden and Kuhlmann 2017). If layering is defined as a mode of institutional design, then:

- conversion, a change in goals, is pursued by redesigning in a specific way the actual institutional arrangement by layering new rules that add new goals (Barnes 2008; Shpaizman 2014; Vetterlein and Moschella 2014);
- drift (which occurs when institutions or policies are deliberately frozen while their context shifts, thereby changing the effects of the institutions and policies) is stabilized and institutionalized through layering (Emmenegger et al. 2012).

Obviously, when shifting from layering as a mode of change to layering as a mode of institutional design, the original historical neo-institutional approach to gradual institutional change should be re-thought. However, it is possible that by distinguishing between the mode of designing changes and its effects, more clarity can be achieved with respect to the real content and characteristics of the processes of gradual institutional change.

Second, by defining layering as a mode of institutional design, the streams of literature focused on institutional dynamics and change, on policy dynamics and change and on policy design can be bridged to obtain a more encompassing perspective capable of aligning institutions, policies and the way in which they are designed. Thus, the concept of layering as a mode of institutional design can successfully serve as a bridge because it can be a point of contact for these three streams of literature. In fact:

- for historical neo-institutionalists, layering could be considered a mode through which institutions are redesigned and through which conversion and drift can be obtained or stabilized;
- for policy scholars, layering as a mode of institutional design can be a descriptive concept to facilitate the understanding of how the main characteristics of policy dynamics (with the aim of stability and change) can be addressed by redesigning institutional arrangements;
- for those focused on policy design, layering could be considered the most relevant way for designers to concretely intervene in the reality of policy-making. Thus, their focus should be on the instrumental aspect of layering (how different policy instruments are layered together or alone).

Obviously, questions remain with regard to the concept of layering as a 'mode of institutional design', which requires further conceptualization as well as empirical analysis. The first question involves the types of causal mechanistic chains that can be activated by the three different types of layering. The second question concerns the intensity of layering in terms of the number of additions. This question is particularly relevant because only a corresponding type of analysis can empirically gauge the threshold between layering and more radical ways of designing policy. Finally, the most relevant problem involves the implementation stage of layering. More attention

should be devoted to the content of layering in terms of the capacity of structuring the implementation and the contextual dimensions of the process of implementation itself.

Rethinking layering as a mode of institutional design can help to improve the explanatory frameworks of institutional and policy change that tend to conceptualize layering in generic terms and, above all, to establish a common concept and a relevant common descriptive point of departure to bridge the different theoretical perspectives on institutional and policy dynamics.

#### **ACKNOWLEDGEMENTS**

I thank Simone Busetti, Bruno Dente, Jeroen Van der Heijden, Michael Howlett, Lara Monticelli, Manuela Moschella, and Guy Peters for reading and commenting on earlier drafts of the article, and two anonymous referees for their incredibly helpful comments and suggestions. I also thank the participants at the workshop 'Designing Governance for Policy Effectiveness' (Lee Kew Yuan School of Public Policy, Singapore, 27–28 February 2016).

#### ORCID

Giliberto Capano https://orcid.org/0000-0003-3533-7407

#### REFERENCES

- Ackrill, R., & Kay, A. (2006). Historical-institutionalist perspectives on the development of the EU budget system. *Journal of European Public Policy*, 13, 113–133.
- Ackrill, R., & Kay, A. (2014). The growth of biofuels in the 21st century: Policy drivers and market challenges. Basingstoke: Palgrave Macmillan.
- Ansell, C., Trondal, J., & Ogard, M. (Eds.) (2017). Governance in turbulent times. Oxford: Oxford University Press.
- Bardach, E., & Kagan, R. A. (1982). Going by the book: The problem of regulatory unreasonableness. Philadelphia, PA: Temple University Press.
- Barnes, J. (2008). Courts and the puzzle of institutional stability and change: Administrative drift and judicial innovation in the case of asbestos. *Political Research Quarterly*, 61, 636–648.
- Baudot, P. (2018). Layering rights: The case of disability policies in France (2006–2016). Social Policy and Society, 17, 117–131.
- Béland, D. (2007). Ideas and institutional change in social security: Conversion, layering, and policy drift. *Social Science Quarterly*, 88, 20–38.
- Béland, D. (2010). The idea of power and the role of ideas. Political Studies Review, 8, 145-154.
- Belisle, E. L. (1944). Information policy and democratic social planning. American Journal of Economics and Sociology, 3, 599–612.
- Bick, E. (2016). Institutional layering, displacement, and policy change: The evolution of civic service in Israel. *Public Policy and Administration*, 31, 342–360.
- Blank, R., & Burau, V. (2011). Comparative health policy (3rd ed.). Basingstoke: Palgrave Macmillan.
- Blomquist, J. (2003). Impact evaluation of social programs: A policy perspective. Social Safety Nets Primer Notes, no. 14. Washington, DC: World Bank. Available at: http://documents.worldbank.org/curated/en/2003/01/6246735/impact-evaluation-social-programs-policy-perspective.
- Boas, T. C. (2007). Conceptualizing continuity and change: The composite-standard model of path dependence. *Journal of Theoretical Politics*, 19, 33–54.
- Bonoli, G. (2013). The origins of active social policy: Labour market and childcare policies in a comparative perspective. Oxford: Oxford University Press.
- Borrás, S., & Seabrooke, L. (2015). Sources of national institutional competitiveness: Sense-making in institutional change. Oxford: Oxford University Press.
- Burke, T., & Barnes, J. (2018). Layering, kludgeocracy and disability rights: The limited influence of the social model in American disability policy. Social Policy and Society, 17, 101–116.
- Callo-Concha, D., & Ewert, F. (2014). Using the concepts of resilience, vulnerability and adaptability for the assessment and analysis of agricultural systems. Change and Adaptation in Socio-Ecological Systems, 1.
- Campbell, J. L. (2010). Institutional reproduction and change. In G. Morgan, J. Campbell, C. Crouch, O. K. Pedersen, & R. Whitley (Eds.), The Oxford handbook of comparative institutional analysis (pp. 87–116). Oxford: Oxford University Press.
- Capano, G. (2018). Policy design spaces in reforming governance in higher education: The dynamics in Italy and the Netherlands. *Higher Education*, 75, 675–694.

- Capano, G., Howlett, M., & Ramesh, M. (2015). Re-thinking governance in public policy: Dynamics, strategy and capacities. In G. Capano, M. Howlett, & M. Ramesh (Eds.), *Varieties of governance* (pp. 3–24). Basingstoke: Palgrave Macmillan.
- Capano, G., & Woo, J. J. (2017). Resilience and robustness in policy design: A critical appraisal. Policy Sciences, 50, 399-426.
- Capano, G., & Woo, J. J. (2018). Designing policy robustness: Outputs and processes. Policy and Society, 37, 422-440.
- Carey, G., Kay, A., & Nevile, A. (2017). Institutional legacies and 'sticky layers': What happens in cases of transformative policy change? Administration and Society. https://doi.org/10.1177/0095399717704682
- Casey, T. (2015). How macroprudential financial regulation can save neoliberalism. British Journal of Politics & International Relations. 17. 351–370.
- Cerami, A. (2009). Mechanisms of institutional change in Central and Eastern European welfare state restructuring. In A. Cerami & P. Vanhuysse (Eds.), Post-communist welfare pathways: Theorizing social policy transformations in Central and Eastern Europe (pp. 35–52). Basingstoke: Palgrave Macmillan.
- Christensen, H. S.., Karjalainen, M., & Nurminien, L. (2015). Does crowdsourcing legislation increase political legitimacy? The case of Avoin Ministeriö in Finland. Policy and Internet, 7, 25–45.
- Creighton, J. L. (2005). The public participation handbook: Making better decisions through citizen involvement. San Francisco, CA: Jossey-Bass.
- Demirgüç-Kunt, A., & Servén, L. (2010). Are all the sacred cows dead? Implications of the financial crisis for macro- and financial policies. World Bank Research Observer, 25, 91–124.
- Donahue, J. D., & Zeckhauser, R. (2006). Public-private collaboration. In R. E. Goodin, M. Moran, & M. Rein (Eds.), Oxford handbook of public policy (pp. 496–525). Oxford: Oxford University Press.
- Ebbinghaus, B. (Ed.) (2011). The varieties of pension governance: Pension privatization in Europe. Oxford: Oxford University Press.
- Emmenegger, P., Häusermann, S., Palier, B., & Seeleib-Kaiser, M. (2012). The age of dualization: The changing face of inequality in deindustrializing societies. New York: Oxford University Press.
- Engelstad, F., & Hagelund, A. (2015). Cooperation and conflict the Nordic way: Work, welfare, and institutional change in Scandinavia. Berlin: De Gruyter Open.
- European Commission (2015). Competition among health care providers in the European Union: Investigating policy options. Brussels: European Commission.
- Farrell, H., & Newman, A. (2015). The new politics of interdependence: Cross-national layering in trans-Atlantic regulatory disputes. *Comparative Political Studies*, 48, 497–526.
- Feindt, P., & Flynn, A. (2009). Policy stretching and institutional layering: British food policy between security, safety, quality, health and climate change. *British Politics*, 4, 386–414.
- Floden, R., & Weiner, S. S. (1978). Rationality to ritual: The multiple roles of evaluation in governmental processes. *Policy Sciences*, 9, 9–18.
- Florida, R., & Kenney, M. (1992). Restructuring in place: Japanese investment, production organization, and the geography of steel. *Economic Geography*, 68, 146–173.
- Geithner, T. (2014). Stress tests: Reflections on financial crises. New York: Random House Business/Crown.
- Goodin, R. (Ed.) (1998). The theory of institutional design. Cambridge: Cambridge University Press.
- Hacker, J. S. (2004). Privatizing risk without privatizing the welfare state: The hidden politics of social policy retrenchment in the United States. *American Political Science Review*, *98*, 243–260.
- Hanrieder, T. (2014). Gradual change in international organisations: Agency theory and historical institutionalism. *Politics*, 34, 324–333.
- Hardy, I., & Woodcock, S. (2014). Inclusive education policies: Discourses of difference, diversity and deficit. *International Journal of Inclusive Education*, 19, 141–164.
- Helgøy, I., & Homme, A. (2006). Policy tools and institutional change: Comparing education policies in Norway, Sweden and England. *Journal of Public Policy*, 26, 141–165.
- Hood, C. (1986). The tools of government. London: Chatham House Publishers.
- Howlett, M. (2004). Beyond good and evil in policy implementation: Instrument mixes, implementation styles and second generation theories of policy instrument choice. *Policy and Society*, 23, 1–17.
- Howlett, M. (2011). Designing public policies: Principles and instruments. London: Routledge.
- Howlett, M., Mukherjee, I., & Rayner, J. (2014). The elements of effective program design: A two-level analysis. *Politics and Governance*, 2, 1–12.
- Howlett, M., Mukheriee, I., & Woo, J. J. (2015). From tools to toolkits in policy design studies: The new design orientation towards policy formulation research. *Policy & Politics*, 43, 291–311.
- Howlett, M., & Rayner, J. (2013). Patching vs. packaging in policy formulation: Assessing policy portfolio design. *Politics and Governance*, 1, 170–182.
- Huisman, J. (Ed.) (2009). International perspectives on the governance of higher education. London: Routledge.
- Jacobi, L., & Kluve, J. (2006). Before and after the Hartz reforms: The performance of active labour market policy in Germany. IZA Working Paper No. 2100. Bonn: Institute for the Study of Labor.
- Jäger, J., Rounsevell, M. D. A., Harrison, P. A., Omann, I., Dunford, R., Kammerlander, M., & Pataki, G. (2015). Assessing policy robustness of climate change adaptation measures across sectors and scenarios. *Climatic Change*, 128, 395–407.

- Jordan, A., & Lenschow, A. (2010). Environmental policy integration: A state of the art review. Environmental Policy and Governance, 20, 147–158.
- Kay, A. (2007). Tense layering and synthetic policy paradigms: The politics of health insurance in Australia. Australian Journal of Political Science, 42, 579–591.
- Kelly, A. S. (2016). Boutique to booming: Medicare managed care and the private path to policy change. *Journal of Health Politics, Policy and Law*, 41, 315–354.
- Kreps, C. H. Jr. (1966). Modernizing banking regulation. Law and Contemporary Problems, 31, 648-672.
- Laidler, D. (2007). Successes and failures of monetary policy since the 1950s. University of Western Ontario, Working Papers 2007-2.
- Light, P. C. (1995). Thickening of government: Federal hierarchy and the diffusion of accountability. Washington, DC: The Brookings Institution.
- Mahoney, J., & Thelen, K. (2010). A theory of gradual institutional change. In J. Mahoney & K. Thelen (Eds.), *Explaining institutional change: Ambiguity, agency, and power* (pp. 1–37). New York: Cambridge University Press.
- Mandelkern, R., & Koreh, M. (2018). Interrupting gradual institutional change: How 'continuity agents' have stalled and even reversed gradual welfare-state reforms in Israel. *Journal of European Public Policy*, 25, 1706–1725.
- Maynard, A. (2005). European health policy challenges. Health Economics, 14(S1), 255-263.
- McComas, K., Besley, J. C., & Black, L. W. (2010). The rituals of public meetings. Public Administration Review, 70, 122-130.
- Natali, D. (2008). Pensions in Europe, European pensions. Bruxelles: PIE-Peter Lang.
- Newman, J., Perl, A., Wellstead, A., & McNutt, K. (2013). Policy capacity for climate change in Canada's transportation sector. Review of Policy Research, 30, 19–41.
- Nilsson, M., & Eckerberg, K. (2007). Environmental policy integration in practice: Shaping institutions for learning. Stockholm: SEI.
- Parker, R., & Parenta, O. (2008). Explaining contradictions in film and television industry policy: Ideas and incremental policy change through layering and drift. *Media*, *Culture* & *Society*, 30, 609–622.
- Robertson, S., Mundy, K., Verger, A., & Menashy, F. (2012). Public private partnerships in education: New actors and modes of governance in a globalizing world. Cheltenham: Edward Elgar.
- Robson, A. (2014). Australia's carbon tax: An economic evaluation. Economic Affairs, 34, 35-45.
- Rocco, P., & Thurston, C. (2014). From metaphors to measures: Observable indicators of gradual institutional change. *Journal of Public Policy*, 34, 35–62.
- Salamon, L. M. (2002). The tools of government: A guide to the new governance. New York: Oxford University Press.
- Saltman, R. B., Bankauskaite, V., & Vrangbaek, K. (2007). Decentralization in health care. Maidenhead: McGraw-Hill.
- Schickler, E. (2001). Disjointed pluralism: Institutional innovation and the development of the US Congress. Princeton, NJ: Princeton University Press.
- Shattock, M. (Ed.) (2014). International trends in university governance. London: Routledge
- Shpaizman, I. (2014). Ideas and institutional conversion through layering: The case of Israeli immigration policy. *Public Administration*, 92, 1038–1053.
- Smith, B. L. R. (1983). Changing public-private sector relations: A look at the United States. Annals of the American Academy of Political and Social Science, 466, 149–164.
- Stone, D. (2013). Knowledge actors and transnational governance: The public-private policy nexus in the global agora. Basing-stoke: Palgrave Macmillan.
- Streeck, W., & Thelen, K. (2005). Institutional changes in advanced political economies. In W. Streeck & K. Thelen (Eds.), Beyond continuity: Institutional change in advanced political economies (pp. 1–39). Oxford: Oxford University Press.
- Thelen, K. (2003). How institutions evolve: Insights from comparative historical analysis. In J. J. Mahoney & D. Rueschemeyer (Eds.), Comparative historical analysis in the social sciences (pp. 305–336). Cambridge: Cambridge University Press.
- Thelen, K. (2004). How institutions evolve: The political economy of skills in Germany, Britain, the United States, and Japan. New York: Cambridge University Press.
- Thelen, K. (2009). Institutional change in advanced political economies. British Journal of Industrial Relations, 47, 471-498.
- Thielmann, T., & Tollefson, C. (2009). Tears from an onion: Layering, exhaustion and conversion in British Columbia land use planning policy. *Policy and Society*, 28, 111–124.
- Van de Bovenkamp, H., De Mul, M., Quartz, J., Weggelaar-Jansen, A. M., & Bal, R. (2014). Institutional layering in governing healthcare quality. *Public Administration*, 92, 208–223.
- Van der Heijden, J. (2011). Institutional layering: A review of the use of the concept. Politics, 31, 9-18.
- Van der Heijden, J., & Kuhlmann, J. (2017). Studying incremental institutional change: A systematic and critical meta-review of the literature from 2005 to 2015. *Policy Studies Journal*, 45, 535–554.
- Vedung, E. (1998). Policy instruments: Typologies and theories. In M. L. Bemelmans-Videc, R. C. Rist, & E. Vedung (Eds.), Carrots, sticks, and sermons: Policy instruments and their evaluation (pp. 21–58). New Brunswick, NJ: Transaction.
- Vetterlein, A., & Moschella, M. (2014). International organizations and organizational fields: Explaining policy changes in the IMF. European Political Science Review, 6, 143–165.



Wellstead, A., Rayner, J., & Howlett, M. (2016). Alberta's oil sands reclamation policy trajectory: The role of tense layering, policy stretching, and policy patching in long-term policy dynamics. *Journal of Environmental Planning and Management*, 59, 1873–1890.

**How to cite this article:** Capano G. Reconceptualizing layering—From mode of institutional change to mode of institutional design: Types and outputs. *Public Admin.* 2019;97:590–604. <a href="https://doi.org/10.1111/padm.12583">https://doi.org/10.1111/padm.12583</a>



Copyright of Public Administration is the property of Wiley-Blackwell and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.

