

Reprogramming. Observed with social systems theory. An introduction

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Abstract

Purpose – This introductory article develops reprogramming as a systems-theoretical perspective on organisational change and frames the 10 contributions to the special issue “Reprogramming. Observed with social systems theory”.

Design/methodology/approach – The article develops a conceptual synthesis of social systems theory, focusing on organisations as systems of decision communication, decision programmes, functional differentiation and organisational multifunctionality. The ten contributions are presented as cases illustrating different forms, limits and consequences of reprogramming.

Findings – Reprogramming is distinguished from organisational change in general as the revision of programmes that condition subsequent decisions. It may be incremental, path-dependent, contested, resisted or recursively automated and is not inherently progressive. Across the cases, a central issue is whether reprogramming preserves or forecloses organisational and societal alternativity.

Practical implications – The perspective shifts attention from announced change initiatives to whether decision premises have actually changed and to how organisations can preserve the revisability of programmes under conditions of functional plurality and technological uncertainty.

Social implications – Treating programmes as revisable highlights the risks of ideological or totalising reprogramming and the importance of preserving functionally differentiated alternatives in modern society.

Originality/value – The article conceptualises reprogramming as organisational change applied to the conditions of organisational change. It connects social and computational programming and identifies the preservation of programmability and alternativity as central problems of organisational change.

Keywords Reprogramming, Social systems theory, Organisational change, Decision programmes, Functional differentiation, Multifunctionality, Artificial intelligence, Alternativity

Paper type Conceptual paper

1. Introduction

As management and organisation researchers, we have a vital interest in understanding organisational change. Much research in this field observes change in terms of changing environments, strategic interventions, leadership initiatives, employee responses or the success and failure of particular transformation projects. These perspectives have generated important insights into the conditions, processes and consequences of organisational change. Yet they also tend to direct attention either to forces outside organisations or to actors assumed to initiate, implement, support or resist change within them. What remains less visible is the specific form that change takes once it becomes a matter of organisational decision.

From the perspective of social systems theory, organisations are systems of decision communication (Luhmann, 2018; Grothe-Hammer *et al.*, 2022). Environmental developments do not therefore enter organisations directly (Kaczmarczyk, 2025). Economic pressures, political expectations, legal requirements, scientific discoveries, educational demands or mass media events become organisationally relevant only insofar as they are observed, selected and processed in organisational communication (Roth *et al.*, 2018). This observation is particularly pertinent in a functionally differentiated society in which organisations are confronted not with one coherent environment, but with heterogeneous and often conflicting expectations associated with different function



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systems (Grothe-Hammer and Rachlitz, 2025; Roth and Valentinov, 2026; Sales *et al.*, 2023; Valentinov and Hajdu, 2021). Consequently, organisational change cannot be reduced to adaptation to an environment whose demands were already given and mutually consistent.

One way in which organisations manage this complexity is through programmes (Roth and Lien, 2026; Roth *et al.*, 2026a). In social systems theory, programmes constitute decision premises: they structure subsequent decisions without determining them completely. Most prominently, programmes may take conditional forms that relate specified conditions to specified consequences, or purposive forms that orient decisions towards goals and associated means. Programmes thereby reduce complexity by indicating how certain situations are to be treated, which expectations are relevant, and which decisions may count as appropriate. At the same time, their status as premises rather than individual decisions means that programmes themselves may become objects of decisions. Organisations can change how they decide.

This possibility is the point of departure for the concept of “reprogramming” proposed in this special issue. Reprogramming here refers to the revision, replacement, recombination or restructuring of the programmes through which organisations reproduce their decisions. Organisational change can thus be observed not simply as behavioural adjustment, cultural movement, leadership intervention or response to environmental pressure, but as a transformation of the structures through which organisations process and stabilise further change. From this perspective, phenomena commonly discussed as transformation, restructuring, innovation, compliance or repurposing may be redescribed in terms of changes to the programmes that condition subsequent organisational decision-making. Conversely, failed, incomplete or ambiguous change may invite observations of incompatible, unstable or competing programme configurations rather than immediate attribution to insufficient leadership, implementation gaps or employee resistance.

This redescription becomes particularly consequential once organisations are observed as multifunctional rather than straightforward extensions of individual function systems. Governments make economic decisions, firms exercise power and produce knowledge, universities educate, conduct research, compete for funding, administer law-like rules and engage in political communication. Organisations may thus selectively process the codes and programmes of several function systems rather than belong unambiguously to only one of them (Roth *et al.*, 2018; Roth and Sales, 2026a). The resulting functional plurality creates both opportunities and conflicts. A programme that appears adequate from an economic perspective need not satisfy legal, scientific, educational, political or health-related expectations; an organisational reform designed around one functional concern may compromise performances associated with another. Research on stakeholder theory, organisational fit and organisational multifunctionality has already demonstrated the analytical importance of these constellations (Valentinov and Hajdu, 2021; Sales *et al.*, 2023; Roth and Sales, 2026a).

Against this backdrop, reprogramming is not necessarily synonymous with progress. Nor does the concept imply that organisations should continuously adapt their programmes to every new claim formulated in their environments. Current calls to transform or “repurpose” firms, universities, public organisations and other institutions in response to sustainability, diversity, inequality, democratic or other societal concerns provide prominent examples of how external expectations may be translated into pressures for changes in organisational programmes. Such interventions may expand an organisation’s responsiveness to neglected problems; they may equally privilege one set of societal expectations at the expense of others or generate forms of purpose overload and ideological reprogramming (Roth and Sales, 2026a; Roth *et al.*, 2026a, b). The relevant question is consequently not whether organisations ought to change or resist change in general, but how particular programmes are selected, combined, stabilised, displaced or rejected under conditions in which no programme can accommodate the full complexity of an organisation’s environment.

The language of programmes has acquired additional resonance in the context of digital transformation. Programming is ubiquitous in computing, and algorithmic infrastructures, artificial intelligence and automated decision-support systems increasingly confront organisations with technical programmes whose operations interact with social programmes and organisational decisions (Roth, 2019; Aal, 2025). Yet programmes are neither inventions of digital society nor reducible to computer code. Rather, the contemporary spread of digital programming invites renewed attention to the more general social functions of programmes as architectures of selection, inclusion and exclusion, attention and decision. Digitalisation therefore makes visible an older and more general problem: modern society depends extensively on programmes without necessarily observing the programme structures through which its organisations and other social systems reproduce their operations. The distinction between technical and social programming should thus not be collapsed, but their increasingly frequent encounters make programmes an especially timely object of organisation and change research (Guy, 2019; Roth, 2023; Baecker, 2025; Roth and Lien, 2026).

It is against this theoretical and societal backdrop that the present special issue of the *Journal of Organizational Change Management* explores organisational change as reprogramming observed with social systems theory. The issue emerged in connection with the 2025 Luhmann Conference on “Programmes. Observed with social systems theory” at Wolfson College, University of Cambridge. Its contributions examine how organisations manage and reflect change not merely by responding to environmental pressures, but by selectively modifying the decision premises through which such pressures become organisationally meaningful (Roth and Valentinov, 2026). In doing so, the issue also invites a more sceptical observation of grand transformation agendas: sustainability, diversity, digitalisation, innovation or other programmes do not simply enter organisations as self-evident purposes, but must themselves be programmed, translated, prioritised, combined with existing programmes and exposed to organisational decisions.

The subsequent section develops the concept of programmes as decision premises and discusses how organisational change may be reframed as reprogramming under conditions of functional differentiation and organisational multifunctionality. A third section introduces the contributions to this special issue and demonstrates the different ways in which they mobilise programmes and reprogramming to observe organisational change. A brief concluding section then draws together the implications of these contributions and identifies opportunities for further research on the programmatic structures of organisations and organisational change.

2. Programmes and reprogramming: changing how organisations decide

If organisations reproduce themselves through decisions, organisational continuity cannot depend on deciding everything anew. Every decision communicates a selection among alternatives and thereby simultaneously recalls that other selections would have been possible. Decisions consequently reduce uncertainty only locally: by selecting one alternative, they generate conditions for subsequent decisions and thus reproduce rather than eliminate the need to decide (Apelt *et al.*, 2017; Luhmann, 2018; Roth *et al.*, 2018). Organisations manage this recursively generated uncertainty by stabilising selected decisions as premises for future decisions. Decision premises constrain what can plausibly be decided next and thereby make organisational decision-making sufficiently selective to continue.

Luhmann (2018) distinguishes between four types of decision premises: personnel, communication channels, decision programmes and organisational culture. Personnel premises concern who belongs to an organisation and who may participate in particular decisions. Communication channels structure who communicates with whom and who is authorised to decide what. Organisational culture refers to comparatively implicit and often undecidable premises that render some decisions more plausible than others. Decision programmes, finally, define how decisions are to be made. Although all four types contribute to organisational reproduction and change, programmes occupy a particularly interesting

position because they specify criteria according to which subsequent decisions may be treated as appropriate. They therefore link organisational closure – the reproduction of decisions through decisions – to environmental openness, as programmes allow organisations to process references to economic, political, scientific, legal, educational or other environments within the code of decision/non-decision (Luhmann, 2018; Roth and Valentinov, 2026).

Two programme forms are particularly prominent. Conditional programmes specify consequences for defined conditions: if X occurs, Y is to be done. Purposive programmes, by contrast, relate means to ends: if A is the goal, B may be selected as an appropriate means (Luhmann, 2018). The difference matters for organisational change. A new regulatory requirement, accreditation criterion, eligibility threshold or reporting standard may be “incorporated” into existing decision-making through modifications to conditional programmes. A newly declared mission or strategic priority, by contrast, may involve alterations to purposive programmes by redefining organisational goals or the means considered legitimate for pursuing them (Krönig and Möbs, 2026; Roth et al., 2026a, b). Neither programme form is intrinsically more transformative than the other. Repeated changes to apparently mundane conditions may eventually reorganise major parts of organisational practice, whereas ambitious new purposes may remain at the level of self-description unless they acquire consequences for subsequent decisions.

This distinction points towards a more precise concept of reprogramming. In the narrow sense proposed here, reprogramming refers primarily to changes in decision programmes rather than to organisational change in general. Changes in personnel, communication channels or culture may trigger, accompany, facilitate or obstruct reprogramming, but they are not identical with it. Reprogramming occurs when organisations revise the premises according to which future decisions are selected. It may involve changing the conditions under which particular consequences follow, redefining goals, replacing the means associated with established purposes, altering priorities among programmes, combining previously separate programmes or introducing new relationships between conditional and purposive programming. In all these cases, the object of change is not merely an individual organisational decision but a structure that conditions potentially indefinite sequences of subsequent decisions.

This recursive feature distinguishes reprogramming from many other forms of organisational change. A decision may change an organisational state of affairs; a decision that changes a programme changes the premises under which further decisions will be made. Reprogramming therefore does not simply change organisational decisions; it changes the conditions under which future decisions become more or less probable. Organisations can, in this specific sense, change how they decide. Reprogramming is consequently organisational change applied to the conditions of organisational change. Its effects need not be immediate or spectacular. Precisely because programmes operate as premises, relatively modest modifications can propagate through chains of later decisions, whereas highly visible change initiatives can remain structurally inconsequential if they fail to modify the programmes reproduced in everyday decision communication (Krönig and Möbs, 2026). The question whether an organisation has been reprogrammed is therefore different from the question whether it has announced, celebrated or formally adopted a change.

The distinction is particularly important for current debates on organisational repurposing (Roth and Sales, 2026b). External demands do not directly rewrite organisations. They become organisationally consequential only if and insofar as they are observed, translated, prioritised and stabilised within organisational decision structures (Roth et al., 2026a; Roth and Valentinov, 2026). A sustainability commitment, for example, may remain an environmental expectation, be incorporated as an additional reporting condition, enter recruitment and resource-allocation criteria, or eventually contribute to a revised organisational mission. These are different degrees and forms of programmatic consequence. The growing presence of new vocabularies in mission statements, strategies, accreditation documents or public communications must therefore not be mistaken for evidence of completed reprogramming

(Roth *et al.*, 2026b; Roth and Valentinov, 2026). A useful empirical question is whether a new purpose claim has become consequential for future decisions – for example, through altered assessment criteria, personnel profiles, resource allocations, governance arrangements or other programme structures.

The selectivity of reprogramming becomes still more important under conditions of functional differentiation (Grothe-Hammer and Rachlitz, 2025; Roth *et al.*, 2018). Modern society does not provide organisations with a single hierarchy of economic, legal, political, scientific, educational, religious or other expectations (Roth *et al.*, 2025). Function systems operate through distinct codes and programmes and therefore construct problems, solutions and criteria of relevance differently. Their perspectives are not simply plural but in important respects incommensurable: there is no societal meta-code that establishes once and for all whether legality should prevail over profitability, scientific truth over political legitimacy, educational achievement over economic efficiency or vice versa (Roth and Valentinov, 2026; Roth and Sales, 2026a, b). Functional differentiation thus generates precisely the undecidability to which organisations respond by producing selectable alternatives and making decisions. As Heinz von Foerster (2003, p. 293) famously noted, it is “only those questions that are in principle undecidable, [that] we can decide”.

Decision programmes are crucial interfaces in this process. They translate environmental complexity into organisationally decidable alternatives by selectively operationalising one or several function-system references. A hospital programme may connect illness with treatment, thereby referring primarily to health; another may condition treatment on payment and thus introduce an economic reference. University programmes may combine scientific, legal, educational, political or economic criteria in decisions concerning publication, recruitment, patenting, funding or teaching (Roth and Valentinov, 2026). Programmes therefore do not merely respond to a differentiated environment. They specify which differences in that environment make a difference for organisational decision-making. Reprogramming consequently changes not only organisational responses but potentially also the organisation’s pattern of functional references.

This observation complicates the widespread assumption that – desirable or “positive” – organisational change consists primarily in better alignment with external expectations (Gümüşay and Reinecke, 2022, 2024; Stephan *et al.*, 2016). An organisation may be expected simultaneously to increase profitability, respect legal constraints, follow scientific evidence, promote political priorities, deliver educational performance and respond to moral claims. These expectations cannot necessarily be combined within a common scale. Attempts to render them commensurable through aggregate metrics, rankings or universal purpose statements may therefore conceal rather than resolve their underlying incongruence (Roth and Valentinov, 2026; Roth *et al.*, 2026b). Research on multifunctional trade-offs similarly suggests that what appears to be a conflict between stakeholder interests may reflect deeper differences among the systemic languages in which these claims are formulated. Attempts at reprogramming consequently confront organisations not merely with the problem of selecting among competing demands, but with that of recurrent commensuration under conditions of principled incommensurability. Organisations must nevertheless decide, even where the functional perspectives involved provide no common scale on which their respective claims could be ranked.

Different organisational configurations process this problem differently. Monofunctional organisations orient their principal decision premises towards one dominant function-system reference. Multi-referential organisations retain such an anchor while selectively incorporating additional references. Polyphonic organisations reproduce several salient references without a stable hierarchy, while multifunctional organisations more explicitly stabilise a plurality of functional orientations within their structures and programmes (Roth *et al.*, 2018; Roth and Sales, 2026a, b; Roth and Valentinov, 2026). Reprogramming may therefore alter not merely individual programmes but an organisation’s overall configuration of functional references. The addition of a new programme can remain subordinate to an

established functional hierarchy, create recurrent trade-offs among competing programmes or contribute to a more comprehensive multifunctional reconfiguration.

None of these outcomes should automatically be classified as either successful or failed change. Multifunctionality can increase an organisation's capacity to observe and process heterogeneous environments; at the same time, proliferating programmes may create conflicts that reduce rather than expand its decision capacity. Research on organisational purpose describes the limiting case as purpose overload: a condition in which additional purposes produce contradictory expectations and eventually undermine organisational coherence (Roth and Sales, 2026a, b). This possibility suggests that resistance to change deserves similarly differentiated treatment. Resistance may indeed result from vested interests, insufficient resources, cultural inertia or ineffective implementation. Yet it may also indicate that new programmes cannot readily be combined with existing ones, that no acceptable priority rule has emerged or that further reprogramming would compromise established capacities for decision.

The same argument permits a systems-theoretical redescription of symbolic, incomplete and failed organisational change. A new programme may be formally adopted yet remain weakly coupled to other decision premises. A newly declared purpose may coexist with conditional programmes that continue to reproduce earlier priorities. Different organisational units may stabilise incompatible programmes, or new and old programmes may alternately become premises for subsequent decisions. In such cases, apparent implementation failure need not indicate that an organisation has failed to change at all. It may instead signal that reprogramming has produced an unstable, polyphonic or internally differentiated programme configuration. Conversely, apparent organisational continuity may conceal considerable reprogramming where revised premises quietly alter large numbers of subsequent decisions.

The growing involvement of computational programmes makes this perspective still more consequential. Algorithmic systems and generative artificial intelligence increasingly prepare, filter or produce selections that are incorporated into organisational decisions. As Roth and Lien (2026) argue, decision programmes, whether conditional or purposive, structure the space of possible decisions in advance; computational programmes can therefore themselves become organisationally instantiated decision programmes when their outputs are recursively incorporated into subsequent decision communication. Moreover, heterogeneous programmes need not converge merely because they respond to one another. Their recursive interaction may stabilise disagreement, differentiated observational positions and new patterns of mutual irritation (Roth and Lien, 2026). Reprogramming in increasingly programme-rich organisations may consequently involve not only decisions about individual programmes but also decisions about how programmes are allowed to condition, contradict, correct or reprogramme one another.

Observed in this way, organisational change is neither direct environmental adaptation nor an unqualified movement from an old state towards a desirable new one. It is a selective restructuring of the conditions under which organisational decisions continue. Reprogramming makes some future decisions more probable, others less probable and still others newly conceivable. At the same time, because every programme reduces complexity selectively, every act of reprogramming reproduces blind spots, exclusions and alternatives that may become the objects of later decisions. The capacity of organisations to change how they decide therefore does not terminate organisational change. It reproduces the conditions under which further change becomes both possible and necessary.

3. Ten cases of reprogramming

The present special issue brings together ten contributions that approach programmes and reprogramming from different theoretical, empirical and practical angles. The cases span healthcare, education, artificial intelligence, tourism, public governance, political autocracy, leadership and organisational decision-making. Some observe how programmes actually

change over time; others investigate why intended reprogramming is translated, resisted or neutralised; still others develop concepts and decision programmes for observing or managing change under conditions of functional differentiation. Taken together, the contributions thus illustrate that reprogramming may refer to considerably more than the substitution of one organisational goal or rule for another. It may involve changing functional references, stabilising or reopening distinctions, translating environmental expectations into decision premises, programming the conditions of further programming or resisting attempts to foreclose organisational and societal alternativity.

[Fritzsche and Bohnert \(2026\)](#) provide perhaps the most direct empirical illustration of organisational reprogramming in their article “Reprogramming healthcare digitally – a longitudinal case study of organisational transformation”. Based on a longitudinal case study and narrative analysis, the authors reconstruct four episodes in the development of a healthcare service provider that moved from conventional physiotherapy towards online content production, corporate partnerships and data analytics. In the course of this trajectory, decision communication about healthcare itself changes: from therapeutic treatment towards fitness and prevention, then towards broader couplings of contributions to health-risk management, and finally towards an increasingly observational perspective supported by analytics. Media and economic communication acquire changing relevance along the way. Particularly noteworthy is the path dependency of this development. Each episode creates programmatic conditions for the next: the detachment of healthcare from individual therapeutic appointments enables prevention-oriented communication; this, in turn, facilitates economic references and later broader cross-functional couplings. Reprogramming consequently appears neither as an instantaneous strategic intervention nor as the simple adoption of digital technology. Programmes “meander”, in the authors’ terminology and one programme may prepare the conditions under which another can subsequently constitute the organisation differently. Digital transformation thus changes not merely services but the very manner in which an organisation communicates about health and sickness.

A different view on change over time is offered by [Yisu Li \(2026\)](#) in “Embedded cultural programs and the inertia of China’s education reform: Confucian semantics and the imperial examination legacy”. Taking China’s 2021 “Double Reduction” policy as the empirical and theoretical point of departure, Li shifts attention from implementation failure to the organisational translation of reform under programmatic constraints. The article distinguishes between program-compatible coding, weak re-entry and strict re-entry in order to explain why reform communications may be absorbed without fundamentally changing the evaluative criteria against which educational decisions are made. Confucian semantics and the historical legacy of the imperial examination system provide culturally available justifications for discipline, effort, selection, standardisation and measurable achievement. Under continued high-stakes evaluative pressure, organisations can therefore demonstrate responsiveness while shifting workload from homework to quizzes or relocating competition into less visible arenas, rather than changing the selection-oriented programme itself. Reprogramming consequently encounters historically sedimented programmes rather than an organisational tabula rasa. Li nevertheless rejects a deterministic interpretation: durable reform remains possible where alternative modes of complexity reduction themselves acquire legitimate and reproducible decision rules. The relevant intervention is therefore not simply to demand greater openness, but to alter the premises that define what organisations must document, reward, sanction and treat as credible educational performance.

[Tanja Lindacher \(2026\)](#) similarly investigates educational reform, but places the supranational programme of “inclusive” education at the centre of her article “Inclusive education as a catalyst for organizational change?” Drawing on second- and third-order observation, Lindacher asks how the political and legal expectation of access to mainstream schooling for all is processed through the decision premises of educational organisations. The analysis shows how schools formally incorporate inclusion while simultaneously generating distinctions that preserve their capacity to operate. Grouping, tracking, introductory classes,

differential performance assessment and other “substitute technologies” re-enter inclusion/exclusion distinctions within organisations and classroom interactions. Thus, physical or formal inclusion need not entail inclusion in educational communication: pupils may be present while their contributions remain unavailable for subsequent communicative operations. The case therefore cautions against equating the formal adoption of a grand change programme with its straightforward operational realisation. What may appear externally as resistance or incomplete implementation can, from the education system’s perspective, operate as a mechanism for avoiding dysfunctionality and maintaining operational closure. At the same time, school programmes increasingly anticipate political, legal, economic and educational expectations, making inclusive education a particularly instructive site for analysing organisational change under conditions of multifunctionality.

Where Li and Lindacher examine the translation of large-scale reform programmes, *Franz Kasper Krönig (2026)* turns directly to the contemporary transformation discourse itself. In “Purpose under transformation: a systems-theoretical critique of transformative leadership as organizational reprogramming”, he develops a typology of social-change paradigms around two distinctions: self-versus hetero-determination and open-versus closed-goal orientation. Transformative leadership appears in this scheme as predominantly hetero-determined and closed-goal. Its organisational reprogramming relies heavily on purposive programming: predefined societal challenges are connected to purposes such as sustainability, inclusion or resilience, while conditional programming and the continued contestability of goals tend to recede. The paradox is that an approach explicitly associated with innovation and participation can thereby narrow both. When problems and desirable futures are substantially pre-described, participation risks becoming participation in implementation rather than in the definition or revision of goals, while disruptive purposive programming may reduce experimentation and cognitive openness. Krönig does not therefore reject transformation as such. Rather, he proposes second-order observation as a corrective: transformative leadership can observe its own observational premises and combine its strengths in direction and mobilisation with the greater openness, autonomy, experimentation or paradox sensitivity associated with alternative change paradigms.

The contributions by *Tilia Stingl de Vasconcelos Guedes et al. (2026)* and *Shuang Liu (2026)* move from programmes concerning digital change to digital technologies participating directly in organisational programming. *Stingl de Vasconcelos Guedes et al. (2026)*, in “Managing generative AI as organizational change: evidence from a multi-institutional study in education”, report the results of a 1.5-year study across four educational institutions combining a learner survey, educator focus groups and controlled experiments. Their findings challenge the assumption that successful GenAI integration is primarily a matter of access or technical competence. AI is already widely used, but its use remains weakly institutionalised; unstructured adoption tends to reinforce unreflective practices, while strong teamwork produces better outcomes – not entirely – irrespective of AI access. Communication and role clarity, shared responsibility, prior AI experience, critical reflection, intrinsic motivation and innovative thinking emerge as central success factors. The systems-theoretical implication is explicitly programmatic: under technological uncertainty, educational organisations cannot rely exclusively on conditional rules for every possible use of GenAI. Instead, they require purposive programming that stabilises educational and competency-related ends while allowing the means of achieving them to remain variable. In this case, reprogramming therefore involves neither banning nor simply embracing AI, but redesigning organisational premises so that technological openness remains oriented towards educational purposes.

Shuang Liu (2026) radicalises this digital perspective in “AI-enabled recursive reprogramming: a social systems theory perspective on algorithmic ambidexterity”. Rather than treating artificial intelligence as a tool available to pre-existing organisational structures, Liu conceptualises it as an evolutionary communication medium capable of supporting self-modifying programmes. The article distinguishes three levels: ordinary conditional or purposive programming, self-modifying programmes and meta-programming, in which the

rules governing the modification of rules themselves become modifiable. Organisational autopoiesis consequently acquires a second-order dimension: organisations increasingly produce not only decisions from decisions, but decision premises from decision premises. This recursive perspective is then used to reconstruct organisational ambidexterity. Exploration and exploitation no longer have to be treated as ontologically given poles requiring balance. AI-supported organisations may instead observe when that distinction is useful, replace it with alternative distinctions and allow multiple operational logics to coexist through what Liu calls multi-stability. The classical paradox is therefore not eliminated but becomes programmable. This extension also reveals a darker side of reprogramming: when algorithms modify the premises by which further modification occurs, accountability becomes diffuse and the politics of who programs organisational observation becomes increasingly consequential.

Gustavo Markier (in press) explores another consequence of algorithmically stabilised programmes in “AI Travel Paradox. Curatorial proposals to manage new organizational and governance challenges within a Luhmannian socio-semiotic framework”. His Luhmannian socio-semiotic analysis starts from a paradox of AI-supported tourism: recommendation systems optimise individual travel choices by reproducing historically successful itineraries, yet the aggregation of these recommendations contributes to destination concentration, overtourism and the deterioration of the very travel experiences the systems are expected to facilitate. AI therefore amplifies and stabilises established communication patterns while responding inadequately to changing carrying capacities in its environment. In Markier’s analysis, the difficulty lies in insufficient corrective feedback between recommendation systems and tourism destinations. Databases accumulate recommendations for already successful destinations, reinforcing popularity and reducing diversity; what works as a successful selection programme for one system can thus generate dysfunctions elsewhere. The article accordingly introduces a curatorial and governance dimension into reprogramming. Specialised curators and destination-management organisations could intervene in the premises of information selection, make alternative itineraries more visible and introduce sustainability or capacity information into recommendation environments. The case thus demonstrates how organisational change may require the reprogramming of interfaces between systems rather than merely the optimisation of programmes within a single organisation.

Andrzej Stawicki (in press) develops this inter-organisational perspective further in “Programming and Self-Programming Resilience in Governance Systems”. The article distinguishes resilience programming – attempts to promote resilience through policies and interventions – from governance self-programming, understood as the endogenous revision of the arrangements through which heterogeneous organisations coordinate themselves. This distinction is illustrated with two governance constellations in Lublin, Poland: the externally structured European Capital of Culture Lublin (2029) programme and the largely bottom-up response to the refugee crisis following Russia’s invasion of Ukraine. The latter initially generated solutions through distributed self-organisation among public institutions, NGOs, businesses, universities, religious organisations, informal groups and residents; subsequent stabilisation required selective formalisation without destroying the variety that had enabled rapid adaptation. Stawicki conceptualises resilience accordingly as a problem of reflexive meta-coordination. Learning takes place only when heterogeneous observations enter organisational decision processes and modify programmes, responsibilities, participation arrangements or communication channels. Governance reprogramming must therefore avoid both extremes: central attempts to impose predefined solutions and romantic reliance on spontaneous self-organisation. Resilient governance depends instead on maintaining autonomous capacities while making the relations among them observable and revisable.

Nicolas Hayoz (2026) takes the question of programming beyond organisations and governance arrangements to the attempted political programming of “society as a whole”. In “The state-controlled society against modern society – the case of Russia”, he uses the distinctions among codes, programmes, organisations and function systems to analyse

autocracy in general and Putin's Russia in particular. His central argument is that authoritarian regimes do not necessarily abolish the differentiation of economy, law, science, education or other social domains, but seek to suppress their autonomy by controlling the organisations through which these systems become operationally consequential. In Russia, Hayoz identifies Putinism as an overarching political and ideological programme reproduced through legal, educational, economic, scientific and propagandistic organisations. Militarisation and the political disciplining of schools and universities represent particularly visible manifestations of this attempt to subordinate heterogeneous programmes to one politically privileged programme. The result is what Hayoz describes as a state-controlled society characterised by politicisation and partial de-differentiation: organisational programmes increasingly treat political programmes as binding premises and avoid the risk of deviation, thereby reducing complexity but also impairing the performances of other function systems. The case thus constitutes an important limiting observation for the special issue. Reprogramming is not intrinsically emancipatory, adaptive or progressive. Attempts to impose a dominant programme across organisational and functional boundaries can systematically destroy alternatives and produce profoundly dysfunctional or destructive forms of change.

The final case returns precisely to the problem of preserving alternatives. [Roth and Shedleski \(2025\)](#), in "Multifunctional tetralemma: a systems-theoretical programme and its practical implications", do not primarily analyse an existing programme but propose one. Their multifunctional tetralemma translates the traditional Indian tetralemma into a decision programme adapted to the polycontextural conditions of functionally differentiated society. Rather than treating organisational dilemmas as binary choices or assuming that economic, political, scientific, moral or other evaluations can be integrated within a common metric, the method maps how the same issue can appear differently from different function-system perspectives. The resulting programme is designed to unfold rather than prematurely collapse dilemmas and to recover options excluded by narrow frames such as conventional ESG or stakeholder models. This makes the multifunctional tetralemma both an analytical instrument and a practical case of organisational programming. Its function is not to supply the "correct" decision but to reintroduce alternativity where moral or other frames have rendered certain options invisible or illegitimate. In business contexts, this can support stakeholder analysis, investment decisions and business-model innovation; in political contexts, the authors propose it as a deframing strategy against the moral delegitimation of alternative positions. In this sense, the multifunctional tetralemma may also be read as a counter-programme to the totalising tendencies described by [Hayoz \(2026\)](#): where political power seeks to subordinate functionally differentiated perspectives to a single overarching programme, tetralemmatisation can reopen distinctions and alternatives that such programming attempts to suppress. Their concluding observation returns us to a fundamental feature of decision communication: decidability depends on the preservation of alternatives. Programmes that keep alternatives observable may therefore be as consequential for organisational change as programmes designed to produce any particular change.

4. Conclusion

The point of departure for this introductory article was the observation that organisational change need not be understood primarily as adaptation to environmental pressures, behavioural modification or the accomplishment of change agents. *Observed with social systems theory*, organisations reproduce themselves through decisions and programmes constitute important premises under which subsequent decisions become more or less probable. Organisational change may therefore take the form of reprogramming: organisations can change how they decide. In this sense, reprogramming is not merely another label for organisational change. It directs attention to changes in the structures through which organisations make further change possible, improbable or conceivable in the first place.

The 10 cases collected in this special issue illustrate both the analytical reach and the ambivalence of this perspective. Reprogramming may proceed incrementally and path-dependently, as one programme creates conditions for another; externally promoted reforms may be translated into existing programme structures and thereby modified, neutralised or resisted (Li, 2026); purposive programmes may mobilise organisations while simultaneously narrowing the contestability of their goals (Krönig, 2026); and digital programmes may increasingly participate in the recursive modification of organisational decision premises themselves (Stingl de Vasconcelos Guedes *et al.*, 2026). At the same time, the contributions demonstrate that reprogramming cannot be equated with progress (Hayoz, 2026; Krönig, 2026). Programmes reduce complexity selectively. They privilege particular distinctions, functional references, expectations and futures while rendering others less probable or invisible. Reprogramming therefore always changes not only what an organisation can decide, but also what it is likely to overlook. This is particularly consequential in functionally differentiated societies, where no single programme can represent the economic, political, legal, scientific, educational, health-related or other environments of organisations without remainder.

This observation also suggests that a central problem of organisational change is not simply how to replace old programmes with new ones, but how to preserve the alternativity of programmes themselves (Roth and Valentinov, 2026). The cases discussed in this issue range from futile attempts to impose overarching purposes on organisations and function systems (Hayoz, 2026) to decision programmes explicitly designed to reopen distinctions and recover alternatives (Roth and Shedleski, 2025). Their juxtaposition makes visible a crucial difference between programmes that increase the capacity to decide and programmes that attempt to predetermine what can count as a legitimate decision. The latter may temporarily reduce uncertainty, yet they risk doing so by suppressing the plurality on which organisational observation and societal differentiation depend. The former preserve the possibility of second-order observation: programmes, purposes and even the distinctions through which organisations describe their problems can themselves remain observable and revisable (Liu, 2026). The capacity to reprogramme may therefore be at least as important as any particular programme.

This argument acquires additional relevance as social and computational programmes increasingly encounter one another. Artificial intelligence does not abolish organisational programming; rather, it multiplies the occasions on which programmes select, observe, correct and potentially reprogramme other programmes. Future research might therefore ask more systematically how actual reprogramming can be distinguished empirically from changes in organisational self-description; how competing conditional and purposive programmes interact under conditions of organisational multifunctionality; when reprogramming expands or reduces organisational alternativity; and how responsibility and observability change when computational systems participate in modifying decision premises. Such research would shift attention away from the question of whether organisations should change more or less, faster or slower, towards the distinctions and programmes through which particular forms of change become possible at all. Organisations can change how they decide. The continuing challenge is to observe how they decide how to change.

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