



ROE-M'ing Prosocially with PRISM

An Integrated Framework for
Natural Language Analysis

Robert Styles & Beth Hawkins

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&
Beth Hawkins



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About the Authors

Robert G. Styles (PhD, ANU)

Presently Robert is working with [ProSocial World](#), an organisation that has developed a change method based on behavioural and evolutionary science. Sciences that acknowledge the ineffable as being integral to enhancing cooperation and collaboration for groups of all types and sizes if we are to be effective on a global scale. As a Contextual Behavioural Scientist, his applied research has been a study of how language and cognition functions to influence psychological and social wellbeing, particularly the enhancement of team and institutional productivity, collaboration, and performance. The ongoing application of his research is at the operational nexus of a number of different disciplines including applied behavioural psychology, organisational and cultural sociology, evolutionary science, and systems engineering. Over the last three decades, this stream of activity has had him working with communities, organisations, and governments across the Australian, Pacific, African, Asian, European, Latin and North American regions. Particular areas of impact include climate, environment and human well-being, gender equity and social inclusion realised through individual and collective endeavours.

Essentially Robert's work focuses on developing pro-sociality and employs a contemplative pedagogy and principles of behaviour change to improve attention, situational awareness, emotional intelligence, relationships in personal and work settings, and sustained value directed performance. Taking a contemplative approach means being able to allocate sustained, balanced attention to what is most important when working, leading, relating to others, or striving for adaptive change. This approach extends to establishing norms of trust and reciprocity that facilitates more sustainable and equitable group and inter-group behaviours. This involves providing tailored services that are informed by long-term research and evidence-based approaches to improving life, work, and the workplace. Through analysis and facilitation of organisational and cultural change initiatives, institutions and communities experience improved team and individual effectiveness. Enhancing wellbeing and performance are key components of the collaborative work he does. Organisation and leadership development is achieved by helping leaders and teams discover new solutions when challenged by change and complexity. The central organising question has been, and still is, *"how can we identify ourselves within bounded groups that share a sacred duty and responsibility to work together to preserve life, the life of each individual, as well as the collective and our planet?"*

Robert's research focus, using Relational Frame Theory (RFT), is on how words and speech influence covert and overt behaviour. He is interested in enhancing the capacity to take oneself, and what you are identifying with verbally, as the object of your own attention to reinforce valued living. The question is, *"How does what we say, reflect who we are?"* and *"How do we allocate attention to what is most important now, and in the long run?"*

Beth A. Hawkins (MSLA, University of Tennessee)

Beth is the Director of Research at [ProSocial World](#), a global non-profit education and research organisation working at the intersection of evolutionary science, behavioural science, and contemplative practice to enhance cooperation among and between groups of all sizes. As a mixed-methods social science researcher, her applied work examines the conditions under which individuals, teams, organisations, and communities become more cooperative, compassionate, and resilient — and how those conditions can be measured, surfaced, and strengthened through rigorous evaluation. Trained as a cultural anthropologist at the University of Washington and as a landscape architect and policy analyst at the University of Tennessee, she brings to her current work an interpretive sensibility grounded in lived context, a methodological discipline grounded in evidence, and a long-standing conviction that the most consequential research questions sit at the intersection between science and spirituality.

Over the past fifteen years, Beth has designed and led complex mixed-methods evaluations across federal, institutional, non-profit, and community contexts — first at the Institute for a Secure and Sustainable Environment, then Oak Ridge National Laboratory, where she co-managed a \$26M national evaluation of the U.S. Department of Energy's Weatherization Assistance Program, co-developed innovative and rigorous methods to monetizing health benefits, and subsequently as Vice-President and co-founder of the East Tennessee research non-profit Three3. There she served as Principal Investigator on a sequence of evaluations sponsored by federal agencies and philanthropies, including the U.S. Department of Housing and Urban Development, the U.S. Environmental Protection Agency, the National Institutes of Health, and the Robert Wood Johnson Foundation. The substantive thread running through this body of work has been a sustained inquiry into the policies and structural conditions that shape public health, well-being, and social equity — particularly for households and communities historically positioned at the margins of the systems being evaluated. A consistent methodological commitment has run alongside it: the translation of difficult-to-measure qualitative states — community-defined equity, lived energy burden, daily compassion and self-criticism, psychological

flexibility — into rigorous quantitative measures capable of informing policy, programme design, and practice.

In 2022, Beth resigned from the non-profit she had co-founded to undertake a period of spiritual inquiry — a deliberate stepping back to ask what her research was ultimately in service of. She later joined ProSocial World, where the integration of science, evolutionary theory, and contemplative practice offered a coherent home for both the methodological rigour and the relational, ineffable dimensions of her work. The central organising question of her current research is: *“What conditions — structural, relational, and inner — allow groups to become genuinely cooperative and compassionate, and how can we measure those conditions in ways that respect both the science and the sacredness of souls?”*

Beth’s current methodological focus is on developing measurement frameworks that integrate multiple levels of cooperative experience — structural conditions, individual adaptive capacity, group relational climate, and systemic outcomes — into a coherent picture of how groups function. Her recent work applies intensive longitudinal designs, mixed-effects modelling, and idionomic meta-analysis alongside directed thematic and domain-intensity coding to study prosocial development at scale, including a multi-level analysis of a participatory action research programme at Tecnológico de Monterrey in Mexico in which individual variation was treated as substantive information rather than statistical noise.

This methodological work is anchored in two intertwined development efforts. As lead developer of ProSocial Insights, an assessment platform for cooperative contexts and frameworks, Beth has designed and deployed a suite of instruments now serving individuals, intact groups, businesses, healthcare cohorts, and research dashboards — including Conscious Enterprise Center at Tecnológico de Monterrey’s EGADE Business School and the Bendigo Health Cancer Centre in Australia. Together with Dr. Robert Styles, she co-developed PRISM — the Prosocial Relational Integrated Scoring Model — which extends that measurement architecture from survey-based instruments to facilitated group discourse, applying systematic content analysis and AI-assisted interpretation to render the dynamics of cooperation legible, actionable, and answerable to the groups whose lives they describe.

Introduction

The *ROE-M'ing Prosocially* framework has been designed for facilitators and analysts wanting to better understand how human cooperation emerges and stabilizes within and between groups across complex social systems, and to catalyse healthy evolutionary processes in response to the prevailing challenges of our times. The framework is the synthesis of three analytic approaches to understanding and regulating human behaviour informed by Contextual Behavioural Science (CBS; Zettle et al. 2016). In *Section One: ROE-M'ing Prosocially*, we provide an overview of the evolutionary processes we strive to enhance; we then discuss each of the three analytic methods and conclude with an overview of how we have synthesised these methods to form the *ROE-M'ing Prosocially* framework and a taxonomy of socio-cultural institutional grammar we use to evaluate the function of a prevailing discourse (Styles et al. 2026). In *Section Two: PRISM*, we present the *Prosocial Relational Integrated Scoring Method* (PRISM), a functional analytic method for coding, scoring and evaluating the function of a prevailing discourse based on the *ROE-M'ing Prosocially* framework (Hawkins et al. 2026).

In *Part 1: Conscious Cultural Evolution* we discuss the *evolutionary processes* we strive to enhance when facilitating cultural change initiatives that fall broadly into three categories. The first focused on developing self-awareness and responsiveness (psychological flexibility), the second on deepening shared purpose and direction at multiple levels within polycentric systems (functional cultural/symbolic niches), and the third on enhancing the group's capacity for collective action and co-evolution (participatory action learning/research) within relevant spheres of influence.

In *Part 2: The RFT of ROE-M'ing* we introduce the first of the three analytic methods we employ, which is at the heart of this framework. This method is based on an updated version of Relational Frame Theory (RFT; Hayes et al. 2001a), a behaviour-analytic account of human language and cognition, captured in the acronym “*ROE-M*” (Barnes-Holmes et al. 2022). Here you are invited to examine the function of the stories people **R**elate about the events toward which they are **O**rienting, the emotions that are **E**voked, and the putative **M**otivational response. Alongside this one integrated response is the *Hyperdimensional, Multi-Level (HDML)* framework which delineates facets the manipulable verbal context within which people are *ROE-M'ing* – the Coherence, Complexity, Derivation and Flexibility of what is being related in order to elicit healthier responses from the individuals and groups concerned.

In *Part 3: Functional Self-Discrimination* we introduce the second of the three analytic methods comprising the *ROE-M'ing Prosocially* framework.

This method is informed by the Functional Self Discrimination Measure (FSDM; Atkins et al. 2016; Styles et al. 2016; Styles et al. 2018), which is also based on Relational Frame Theory (RFT). While the ROE-M and HDML frameworks point to the basic analytic unit and manipulable variables of a prevailing discourse that will shape the responses of the individuals concerned, the FSDM draws a distinction between different substrates related explicitly to each individual's sense of identity and the self-rules that are governing their behaviour, healthily or otherwise.

In *Part 4: Behavioural Systems Analysis* we discuss the third method folded into the ROE-M'ing Prosocially framework. This is framed up in terms of the interbehavioural work of Houmanfar et al. (2024) who invite us to take into account the metacontingencies selecting the behaviours of groups within institutions and the aggregate products produced as a consequence of their interlocked behaviours. Here we are particularly interested in the products that shape institutional cultural and climatic conditions. Particularly the group norms and rules that align with the prize-winning work of Nobel Laureate Elinor Ostrom (Atkins et al. 2019; Cox et al. 2010; Wilson et al. 2013). Ostrom identified eight '*Core Design Principles*' (CDPs) shown to reinforce prosocial behaviours within and between groups who share a common purpose. These principles delineate a suite of integrated behaviours that, when implemented well within cultural and institutional arrangements, enhance mutual trust and reciprocity. Lastly, we briefly introduce the *ROE-M'ing Prosocially framework* as a synthesis of all we have discussed to this point, and the *Taxonomy of Socio-cultural Institutional Grammar* we employ.

In *Part 5: Prosocial Relational Integrated Scoring Method (PRISM)*, we provide a concise outline of the functional analytic approach we employ to evaluate the function of a prevailing discourse as discussed in *Section One: ROE-M'ing Prosocially*. This is elaborated in terms of the classes of verbal behaviour and theoretical underpinnings of the *Taxonomy of Socio-cultural Institutional Grammar*.

In *Part 6: PRISM Analytic Architecture*, we present PRISM's technical details and formulas, detail the PRISM protocol, provide interpretive guidance and show how the domains integrate into the ROE-M'ing Prosocially Profile. This diagnostic and predictive profile offers a system health assessment and a 6–12-month forecast of psychological flexibility, prosocial governance, and system resilience.

Section One: ROE-M'ing Prosocially

Robert Styles & Beth Hawkins

Part 1: Conscious Cultural Evolution

The essential feature of Evolution Science is the process of variation, selection and replication in specified contexts. The question here is, how do we orchestrate a conversation that has us effectively vary, select and replicate the normative environments and practices that will lead civilisation to flourish? For our purposes, this involves facilitating three broad processes. The first focused on developing self-awareness and responsiveness, the second on deepening shared purpose and direction at multiple levels within polycentric systems, and the third on enhancing the group's capacity for collective action and co-evolution within relevant spheres of influence. Overall, the whole ongoing process looks like this (Figure 1).

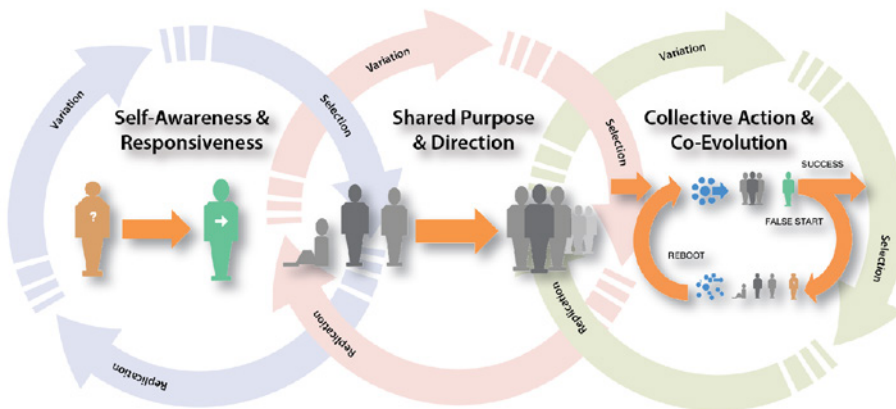


Figure 1: Processes of conscious cultural evolution

Process versus procedure

Before considering how we might go about facilitating these processes, there are a few important distinctions that need to be drawn. We need to recognise the difference between a) a process, b) a procedure or intervention designed to shape the process, and c) the consequent outcome of the decreased or increased strength of that process.

So, what exactly are processes? These are the dynamic processes of living as sentient human beings. The aim is to enhance the processes of a rich and vital life. As individuals and groups, we are striving to do things that matter now and in the long run. We engage in the ongoing processes of *sensing and responding* to all that life presents to us each moment of each day. We sense what is happening now, has happened and might happen, describe or make sense of it all, and respond. Then, after the fact, the consequences of our

strivings are rendered as stories about the love, redemption and villainy of it all. History is made.

We are ‘sentient’ human beings. And as such, a ‘process’ is understood to be the ongoing act of ‘being sentient’ within a given context. These are the processes of interest, and they are distinct from the procedures or interventions we might employ to shape and evolve them. Procedures and interventions are designed to enhance our sensitivity and responsiveness at different levels—from the individual to the collective. In this way, we strive to employ a variety of best practice procedures to improve particular processes.

This approach is evolutionary. It reflects the overarching evolutionary process of multi-level selection—the conscious variation-selection-replication of behavioural repertoires that enhance well-being at each level in complex adaptive systems (Wilson 2016). The aim is to increase and strengthen our capacity to achieve results that will have us evolve in a healthier direction.

Cultivating self-awareness and responsiveness

The first process is focused on evolving personal awareness and responsiveness. Enhancing this process typically involves very personal and transformative reflections designed to have us take perspective on our efforts to live in line with what is intrinsically important and actively move towards what is valued. This is central and fundamental. Here we employ methods designed to enhance psychological flexibility—defined as “contacting the present moment as a conscious human being, fully and without needless defence—as it is and not as what it ‘says’ it is—and, depending on what the situation affords, persisting with or changing a behaviour in the service of chosen values” (Hayes et al. 2012b, p.96). Here we invite those we work with to reflect on their efforts to live the values and virtues that are intrinsically important to them within the various domains of their daily life. Consequently, these reflections and related activities significantly enhance the capacity for self-determined intentional and positive change within their life, relationships and work with others.

What is being selected for here are the behaviours (inner & outer) that will move people more towards a life of thriving. The desired outcome is for those involved to be taking a broader perspective on their experience such that they can respond consciously rather than reactively to their environment.

Developing a sense of shared purpose and direction

The second process is at the level of the whole group, or group of groups, and aims to build a flexible, context sensitive, deeply held sense of shared purpose and direction based on values and needs. This is about constructing a symbolic niche and catalysing streams of co-evolutionary sense-making. It

is an active enquiry into and consideration of what a preferred and probable future could look like within the families, communities, organisations, and societies involved, considering the disciplines and practices being engaged. The aim is to access the wisdom of those journeying together, to take the perspective of the individuals and groups involved in co-creating that preferred and probable future. Here folk are invited to contemplate the factors (contingencies) that will likely determine what a healthy, harmonious and prosperous world would look like should it materialise in time within their collective sphere of influence. The output of this enquiry is a much clearer understanding of the systemic trends and drivers shaping everyone's behaviour and the consequences of organised and coordinated effort in the service of their cause. This enables those involved to identify and benchmark opportunities and innovations that could become the seeds of positive, system-wide, trans-generational transformational change.

What is being selected for here are robust descriptions of a healthy future world, of shared value and vision that reflects the head and the heart of everyone in the group. The desired outcome is a deeply held sense of shared vision, values and purpose, i.e. alignment between everyone in the group.

Engaging in collective action and co-evolution

The third process is at the level of the group embedded in the broader system. This is about creating ecological niches and catalysing streams of co-evolutionary action. This work is grounded in a set of principles for good civic behaviour based on the prize-winning work of Nobel Laureate Elinor Ostrom (1990). These principles have been shown to underpin the formal and cultural normative practices that sustain effective inter-related teamwork over extended periods and distances required for a successful enterprise. Here those involved are invited to reflect on how to best guide and support their group or organisation to employ these principles and cultivate more effective, trusting, and collaborative working relationships. Furthermore, they consider how their community or organisation could more successfully interface and interact with the broader society it is an integral part of. Equipped with this framework, ecosystem partner groups co-design and prototype collective best practices at every level of the system. At its heart, enhancing this process calls for innovation as it invites the richness of our cultural and disciplinary heritages to be woven together prosocially in a variety of ways in response to the existential challenges of our time.

What is being selected for here are well-coordinated normative practices and learning through action. The desired outcome is a genuinely co-developed and implemented plan for action that is tracked, evaluated and evolved over

time. In this way, emergent best practices are selected and replicated in the service of valued long-term outcomes.

Overall

Enhancing these three processes comprises a series of structured and facilitated deliberations designed to guide change agents as they reflect, with their people, on what is important personally and professionally to them and how they can effectively shift behaviourally towards what is valued in the long run. Those involved employ best practice, cultivate the ability to exercise psychological flexibility, and take choices for action toward things that fundamentally matter at each level in the system. They learn to think strategically about changing future contexts and contribute professionally and influentially to establishing the collaborative and productive cultures capable of bringing about desired change. Importantly, these facilitated discussions and reflections are complemented by fieldwork in order to reinforce and embed desired change within the lives of those involved and the institutions they are a part of operationally. The aim is to facilitate these three dialogical and behavioural processes, so individuals and communities are better equipped to successfully respond to the natural rhythm of life while pursuing what is possible. For more information on the facilitation methods we employ, please refer to the book *Conscious Cultural Evolution: A Prosocial Approach to Collective Action* by Styles et al. (2025).

Part 2: The RFT of ROE-M'ing

So, what are we assuming? Having provided an overview of our approach to facilitating conscious cultural evolution, let's take a step back and consider what we have discussed in terms of Relational Frame Theory (Barnes-Holmes et al. 2022; Zettle et al. 2016), a behaviour-analytic account of human language and cognition.

The worlds of words, or symbolic niches rendered socially and in the privacy of our own mind have us performing one way or the other, and consequently we have got the world we have got. This observation begs another question, "How does language and cognition function to regulate healthy values-directed behaviour at multiple levels?" For us, this is a more fundamentally important question because if we understood this, we might not have created the enigmatic world where our collective strivings are leading to catastrophic collapse on multiple fronts. So, how does language and cognition function to regulate our behaviour?

The A-B-C of human behaviour

To take a behaviour-analytic account of our deliberations, first we need to introduce some fundamentals of behaviour analysis, beginning with *operant behaviour*. Operant behaviour is "voluntary" behaviour that is sensitive to, or controlled by its consequences. If doing something works, or not, you will be more, or less, likely to do it again. Specifically, operant conditioning refers to a three-term contingency that uses stimulus control, particularly the antecedent discriminative stimulus (SD), that influences the likelihood of a behaviour occurring because of the strength of possible appetitive or aversive consequences. This is known as the A-B-C (Antecedent-Behaviour-Consequence) of behaviour (Chance 1998).

This is about learning by doing. For example, if you are hungry, a bowl of fresh fruit will function as an SD. This antecedent will prompt you to go over to the bowl and choose a piece of fruit. You behave. Now, just say there is a slice of bitter melon in the bowl, fruit you have never tasted. The consequence of eating something bitter will determine whether you will choose to eat it again. If you like it, the appetitive experience will function as a reinforcer, and you will likely do it again. Seeing a bitter melon will function as a SD in the future; it will signal the availability of a nice taste and satiation. Unlike other animals, however, we humans respond not only to the direct experience of eating fruit, but we also begin to tell ourselves stories about such experiences that also will influence our subsequent behaviour.

In the A-B-C three-term contingency, behaviour is operant, it changes the environment, with volition we operate on the environment in some way.

The appetitive or aversive nature of the consequence of acting will increase or decrease the likelihood of the behaviour reoccurring. In this way, the perceived value of the consequence will perform a motivating function. The hungrier you are the more valuable a piece of bitter melon will be. And should you master this operant you will become a connoisseur of melons.

How does language work?

We have just taken an account of non-verbal motivators and reinforcers. But what if we are hungry for a new future? This is where human language and cognition come in, and an introduction to some of the fundamentals of RFT is called for. So, how does it work?

As children we are taught to name and respond to objects and events in our world. Initially in terms of equivalence. For example, we learn the word “mum” or “dad” = that special person who looks after me, and when asked we might say, “This (pointing to that special person) is ‘mum’.” In this statement, the word “is” acts as a contextual cue to control a coordination relation between ‘this special person’ and the word “mum”. “Is” means that the two are hypothetically the same. In RFT terms this is known as a frame of coordination, which is one class amongst many of generalised operants, referred to as relational frames (Hayes et al. 2001a; Hughes et al. 2016b). As time goes on, we learn to name and respond to all manner of events in our world in accordance with many other relational frames such as difference, opposition, comparison, and so on. These patterns of emergent or derived relational responses provide the behaviour-analytic account of the complexities involved in human language and cognition that we are interested in.

More specifically, relational frames are comprised of three properties: (i) *mutual entailment*, (ii) *combinatorial entailment*, and (iii) the *transformation of stimulus functions*.

Mutual entailment refers to the relations between two stimuli. For example, if you are told that “mum” = ‘that cuddly person’, you will derive that ‘that cuddly person’ = “mum”. That if $A = B$, therefore $B = A$. *Combinatorial entailment* refers to the relations among three or more stimuli. For example, if you learn that “dad” is taller than “mum”, and “mum” is taller than “my sister”, then you will derive, without direct learning, that “dad” is taller than “my sister”, and “my sister” is shorter than “dad”. That is, if $A > B$ and $B > C$, therefore $A > C$ and $C < A$. The A-B and B-C relations combinatorially entail the derived A-C and C-A relations.

Transformation of stimulus functions refers to the psychological content, or consequent meaning, of derived relations. For example, if a ‘little dog’ bit you, then the presence of or thought of a ‘big dog’ will be scarier than the little

dog even though it hasn't bitten you or may not even be present. That is, if $A > B$, and a reinforcing (appetitive or aversive) function is attached to B, then A will acquire an even greater reinforcing function than B, even if the function was not directly attached to A (Hayes et al. 2001a; Hughes et al. 2016b). This outcome is understood to be the transformation of the reinforcing function through the comparative relation between A and B, the 'little' and 'big' dogs in this case. Specifically, the aversive reinforcing function of A, 'big dogs', is transformed by virtue of its comparative (more-than) relation with B, 'little dogs', hence the functions attached to B will be stronger with A.

The distinction between the *transformation of stimulus functions* and *relational entailment* is an important one in RFT. This distinction delineates the act of abstractly relating stimuli in the myriad of complex ways that we do from the impact of that relating on the functions of those stimuli. RFT specifies that these properties (*entailment* and *transformation of functions*) are under different classes of contextual control. Specifically, contextual cues control both the *type of relation* (C_{rel} ; e.g., coordination, comparison, difference, etc.), which determine the entailment properties, and the *behavioural functions* (C_{func} ; i.e., the appetitive through aversive) that are evoked during this relating, thus determining the transformation of function properties. This entire process is formally known as *arbitrarily applicable relational responding* (AARR).

Putting all this together gives us an analytic unit which is captured in the acronym ROE-M (Barnes-Holmes et al. 2022). Very briefly, **Relating** refers to AARR as defined within RFT (outlined above); **Orienting** refers to the extent to which a stimulating event is noticed or "stands out" in the wider context; **Evoking** refers to the extent to which a stimulating event is deemed to be appetitive versus aversive; and **Motivating** refers to the putative strength of motivational variables, which interact with orienting and/or evoking functions, and indeed relating, in a dynamical manner.

Conceptually, an evaluation framework designed to capture the strength of the ROE-M components is illustrated in Figure 2 below (Barnes-Holmes et al. 2022; Harte et al. 2023b). Relating refers to the act of cognitively relating stimuli in an "abstract sense" (C_{rel}), which is distinct from the entailed functions of that relating, which is captured in the strength of Orienting and Evoking. Orienting (C_{func}) is seen as lying on a continuum, on the vertical axis, from complete absence (0) to strongest orienting response possible (1). Evoking (C_{func}) which refers to the extent to which a stimulating event is deemed to be appetitive versus aversive is also seen as lying on a continuum, on the horizontal axis, from the strongest aversive response possible (-1) to the strongest appetitive response possible (+1) with 0 representing the absence of either an aversive or appetitive reaction. Motivating is represented with the

broken line, which is scaled from 0 to 1, indicating the putative strength of motivational variables.

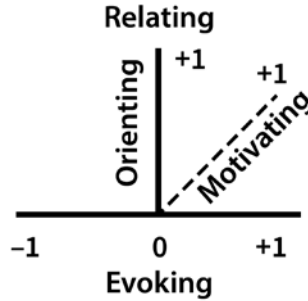


Figure 2: ROE-M (image from Barnes-Holmes et al. 2022)

In this way, the ROE-M framework is the most basic unit of analysis in the behaviour-analytic methods informing the approach we have adopted. Noting that verbal communities abstractly relate stimuli in an almost countless number of complex ways, discerning these aspects of an integrated response provides an accessible approach to eliciting healthy behaviour for individuals, groups and groups of groups. The question is, how can we understand such complex behaviour from a behaviour-analytic perspective?

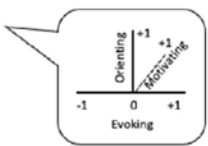
Increasingly complex relational networking

For RFT, more complex aspects of symbolic language and cognition are accounted for through the combination of relational frames into increasingly complex networks. This extends from simple instructions or rules, such as recipes for a meal, and the GPS directions that guide you to the shop where you buy the ingredients, to more sophisticated levels of symbolic language and thought, such as analogical and metaphorical reasoning, to the relating of entire relational networks to other entire relational networks, as for example, when we extract common themes from different narratives or undertake multi-disciplinary approaches to change within a specific sector.

To account for the development and evolution of these increasingly complex forms of relational responding theorists have recently formalized the *hyper-dimensional, multilevel (HDML) framework* (Barnes-Holmes et al. 2017; Barnes-Holmes et al. 2018; Barnes-Holmes et al. 2022). At present, the HDML specifies five levels of relational development: (i) *mutually entailing*, (ii) *combinatorial entailing*, (iii) *relational networking*, (iv) *relating relations*, and (v) *relating relational networks*. The framework also emphasizes the dynamic nature and strength of the relating activity that may occur along four dimensions – *coherence*, *complexity*, *derivation*, and *flexibility* (Table 1).

Table 1: HDML framework (image from Barnes-Holmes et al. 2022)

Levels	Dimensions			
	Coherence	Complexity	Derivation	Flexibility
Mutual Entailing	<i>Analytic Unit 1</i>	<i>Analytic Unit 2</i>	⌋	⌋
Relational Framing	⌋	⌋	⌋	⌋
Relational Networking	⌋	⌋	⌋	⌋
Relating Relations	⌋	⌋	⌋	⌋
Relating Relational Networks	⌋	⌋	<i>Analytic Unit 19</i>	<i>Analytic Unit 20</i>



Briefly, *Coherence* refers to the extent to which a pattern of AARR is consistent (coheres) with previously established patterns. In natural language, a coherent statement is ‘True’ if it is consistent with what has been learned, that $A = B$ for example. *Complexity* refers to the density or detail involved in a particular pattern of AARR, such as types and/or number of relations involved. A PhD thesis is more complex than a child’s story book. *Derivation* refers to the extent to which a particular pattern of AARR has been emitted previously, either derived from our continuously growing source of prior learning (history of operant learning), or where our derived relational responding involves “arriving at a conclusion” based on a relation, subset of relations, or multiple exemplars of such relations, that is, through “reasoning,” “inference,” or “deduction” from a limited source of prior learning (Barnes-Holmes et al. 2022; Hughes et al. 2016a). *Flexibility* refers to the extent to which a given pattern of AARR may be modified by current contextual variables. A worldview that is dogmatically believed to be ‘the truth’ reflects a lack of flexibility.

This concept of the ROE-M has been designed to capture the constant, dynamical, and nonlinear nature of the core unit of responding that characterises human psychological events. From an RFT perspective, the set of relational abilities, and associated orienting and evoking functions interacting with motivational variables contained within the ROE-M, as a unit of analysis, appear to be core defining characteristics of the human species, which allow us to navigate and react within our physical and social environments in increasingly sophisticated and powerful ways.

But you ask, how can we evolve our capacity to ROE-M in increasingly effective and useful ways in the climate of our times? Good question!

For our purposes the ROE-M provides a unit of analysis for conceptualising the ‘response’ pattern that characterises any instance of relational networking.

There are no antecedents or consequences inside the ROE-M because it is the one integrated '*response*' pattern that needs to be explained (predicted-and-influenced with precision, scope, and depth) by manipulating the context '*outside*' of the ROE-M (i.e., current/historical antecedent and consequential variables). These variables are to be found in the four dimensions of the HDML. Essentially, the ROE-M can't be extracted from the HDML because the framework orients the analyst toward the types of variables that need to be manipulated to predict-and-influence the ROE-M itself. The relationship between these variables, the four dimensions of the HDML, and the ROE-M response is illustrated Figure 3 below.

The ABC of ROE-M'ing

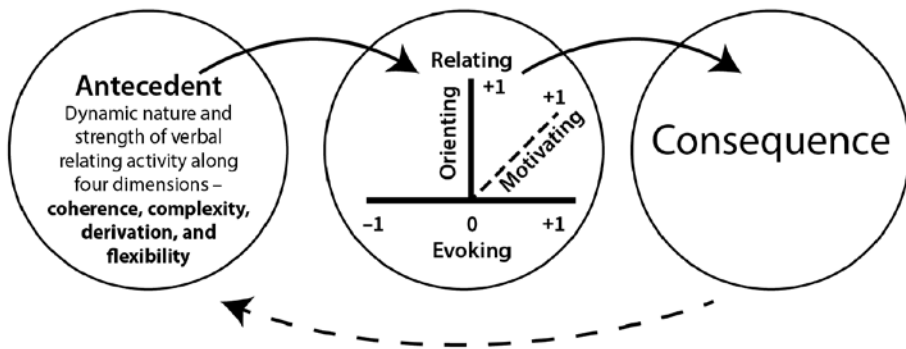


Figure 3: The ABC of ROE'M'ing

As a case-in-point, notice how you have responded to each of the sections in this article to this point. We suspect the first section was quite engaging. Hopefully, it was an appetitive experience because it cohered with your history of prior learning, of having talked or read about the kind of things we wrote about—cultivating self-awareness and responsiveness, developing a sense of shared purpose and direction, engaging in collective action and co-evolution. The next section, we imagine, was not quite as accessible. It was likely a struggle to get your head around. A more aversive experience. That being the case (we assume) would have had you deriving relational responses to the symbols on the page for the first time. Because you have little or no history with RFT you had to piece things together, to “reason,” “infer,” and “deduce” what it “means” and “arrive at a conclusion”. We hope you got there!

Notice the different ways you ROE-M'ed through these sections. But also notice how we manipulated the independent variables, the four dimensions

of the HDML, to elicit your different ROE-M'ing responses. We tried to do it like this:

- *Coherence...* we wove in stories about 'special people' called "mum", big and little dogs, and fruit that you may or may not like to eat. Here we aimed to enhance your ROE-Ming by having the concepts we are introducing increasingly cohere with your history of learning, your 'life stories'.
- *Complexity...* in Part 1 we elaborated on what we assume are generally accessible concepts about conscious cultural evolution then in Part 2 put these ideas into a relationship of equivalence with the more complex theoretical underpinnings of our work. We did this on the assumption that RFT would render itself as less complex in your own mind.
- *Derivation...* in introducing you to this list we invite you to take your sense-making processes as the object of your attention in order to help you arrive at meaningful conclusions that are intrinsically important and applicable to your own context.
- *Flexibility...* we have tried to introduce some complex ideas with intellectual humility. We acknowledge that in many ways we are dealing with the ineffable. Human behaviour, particularly the behaviour of constructing 'symbolic niches', is very complex, and we offer our perspective purely for its utility, not as an absolute truth. We hope that as a consequence of our modelling you find yourself in a relation of equivalence with us, holding your own world views flexibly, being open to learning new things.

In brief, in writing this article we have tried to create the conditions that change your orienting and evoking. Fascinating, isn't it? That's how language works. The symbols in this article are functioning to elicit the responses you are experiencing.

Okay, having explored how language functions generally, the next question we would like to consider is, "What is the role of language when it comes to the construction of a sense of self?" Please stick with it. It will be worth it!

Constructing a verbal sense of self and other

A sizable body of research, both conceptual and empirical, has been conducted within RFT on a class of AARR referred to as deictic relational responding, a pattern of AARR'ing considered critical for the emergence of the "symbolic self." According to RFT, there are three key relations involved in deictic relational responding: the interpersonal (I-YOU) relation, the spatial (HERE-THERE) relation, and the temporal (NOW-THEN) relation.

These three core deictic relations combine to form the most basic deictic relational frame. Responding in accordance with this frame thus involves locating oneself in space and time (e.g., I-HERE-NOW) relative to someone (or something) else (e.g., YOU-THERE-THEN). See Figure 4 below. The ongoing refinement of the three deictic relations thus shapes our capacity to respond appropriately to questions about our own behaviour relative to others in specific times and places (Barnes-Holmes et al. 2001a; McHugh et al. 2019).

Constructing a verbal sense of self and other

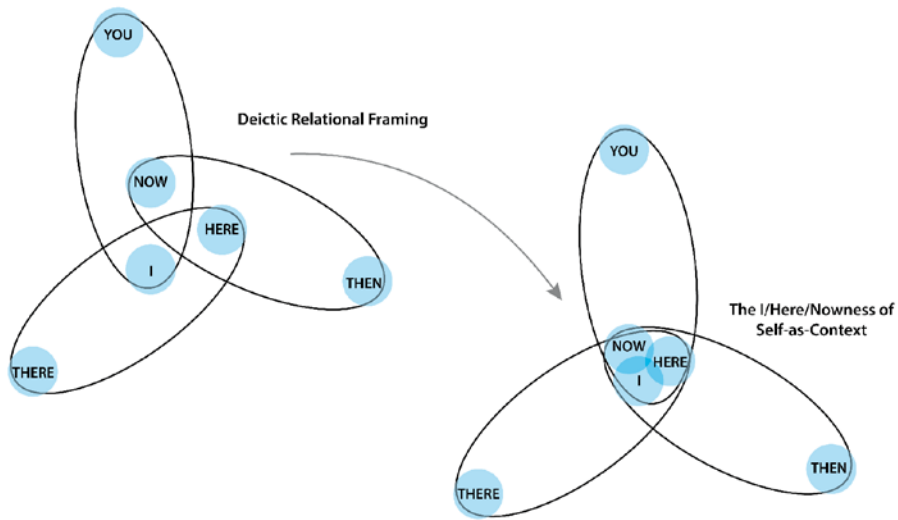


Figure 4: Deictic Relational Framing (image from Hayes et al. 2012b)

The concept of deictic relations highlights that a verbal human's sense of self is, in a sense, socially constructed. The construction of this self begins with the cooperative acts involved in mutually entailed orienting, evoking, and motivating that occurs in the context of a cooperative act involving a caregiver and an infant. Of course, mutually entailed orienting clearly involves "basic" orienting responses such as eye gaze, joint attention, and social referencing, but the critical point here is that they occur as part of a human cooperative act between two or more people. Consequently, over time, we derive a verbal sense of self in relation to the others we are cooperating with.

When considered this way, the symbolic self is another term for having a perspective, as experienced by a verbal human. In a technical RFT sense, therefore, it is not possible for a verbal human to experience or know the world non-symbolically, at least in a pure sense of 'non-symbolic', once a history of mutually entailed orienting/evoking/motivating has begun to establish arbitrary relations with I-YOU, HERE-THERE, and NOW-THEN.

The non-symbolic self

The distinction between our 'non-symbolic' sensory perception and our 'knowing verbally' of ourselves in the world is an important one. As sentient beings, we perceive, we take perspective. The perspective-taking self is the context from which we become conscious of the objects of our experience. Like consciousness, perspective is not thing-like. Taking perspective on things means becoming conscious of the limits of those things. We cannot be conscious of the limits of our own consciousness; it is not thing like, it is nothing and everything (Barnes-Holmes et al. 2001a). This sense of perspective is the locus from which things occur to us, and it does not change. You, as the context of your experience, have been everywhere you have ever been. Wherever you go, there you are, looking out at the world. This sense of a point-of-view or perspective is critical when working on adaptive change as it is the one stable, unchangeable, immutable fact about who we are that is experienced directly. Self-as-perspective is not a belief, hope or idea, it is the conscious experience of an ongoing perspective on life itself.

Our nonverbal self is the biological locus of our behavioural activities, and knowing nonverbally can be thought of as contacting direct experience as a behavioural stream (Hayes 1997). Verbal knowing augments nonverbal knowing. As we become verbal, our behavioural and experiential stream as a biological organism becomes the object of our attention, and our sense of self within the context of space and time emerges. From a behavioural point of view, this kind of self-awareness is responding to one's own responding. Most nonhuman animals see, but we humans also see and know that we see.

Central to both our verbal and nonverbal knowing is our experience as the locus of both biological and verbal behaviour. To function effectively as a species, we need to increasingly organise our statements about ourselves as whole organisms interacting with our historical and current environments in order to predict and influence our social enterprises with precision, scope, and depth (Hayes et al. 2012a). In order to enhance the ability to report events verbally, it is necessary to develop a sense of perspective or point of view, as we have been discussing.

An evolutionary account

The distinctions between our verbal and non-verbal processes of perceiving and knowing ourselves in the world based on RFT suggest that human cooperation and collaboration were the initial drivers of the evolution of symbolic language and cognition (Hayes et al. 2014; Wilson et al. 2014), a view that is consistent with some recent lines of thinking in evolutionary science itself (Wilson et al. 2007; Wilson et al. 2024). Our unique human ability to learn to relate stimuli in an arbitrarily applicable manner with

increasing levels of complexity appears to have emerged from the evolution of highly cooperative behaviours within the human species, beginning with the mutually entailed orienting behaviours between caregivers and infants (Hayes et al. 2014; Jablonka et al. 2005).

How might we understand all this in a practical sense? A recasting of previous RFT accounts of moral development (Barnes-Holmes et al. 2001c) through the lens of the HDML framework might provide practical insight. Broadly, the evolution of moral behaviour is understood to be controlled by increasingly complex classes of verbal behaviour that begins with learning to verbally regulate our own behaviour through to establishing systems that help others learn to regulate their own behaviour. Below in Table 2 is a summary of this progression with examples of more complex forms of relational responding at each level of the HDML. Notice each statement's putative motivational strength toward establishing a socio-cultural normative context within which "kindness" is expressed and/or experienced.

Table 2: HDML Framework with examples of relational responding

Levels	Examples of relational responding
Mutual Entailing	- e.g., $A=B$, therefore $B=A$. "mum" = 'that cuddly person' 'Being cuddly in all the ways it is experienced' = "kindness"
Relational Framing	- e.g., $A<B$, $B<C$, therefore $A<C$. - Mum is kind to dad, and dad is kind to mum... I can be kind too! (Coordination) - My family strives to be kind and honest... I will too! (Hierarchy)
Relational Networking	- e.g., rule-following that involves various classes of relational frames. - I want to be a good person, like my family and many others I have come to know. - Given all I have experienced, kindness and honesty are virtues I want to live by.
Relating Relations	- e.g., analogical and metaphorical reasoning. - How might living the values of kindness and honesty <i>transcend</i> the need for laws to govern our behaviour? - Redressing self-destructive behaviour by developing psychological flexibility <i>is like</i> tending kindly to the wounded child within.
Relating Relational Networks	- e.g., comparisons of extended narrative and complex problem solving. - How can we establish a multi-cultural society that seeks truth and goodness throughout all its endeavours? - How do we adopt deliberative approaches that leverage collective wisdom on the practice of kindness and honesty?

This progression reflects an evolutionary account of how our individual and collective ROE-M'ing establishes increasingly sophisticated forms of verbally regulated responding to our own responding. Appreciating how language functions as an evolutionary driver in this way provides insight into how we can consciously evolve a world that works for all. Constructing

a verbal sense of future self, other, and environment as a reinforcer will not only strengthen the operant behaviours of cooperation and collaboration, it will also select and direct it (Baum 2018). Such a reinforcement history will exert both prospective and retrospective control over behaviour (Cowie 2018).

Well, if you are still with us, good-on-you for sticking with it! We do hope it was worth it! With an appreciation of how language and cognition function from a behavioural point-of-view, in the following two Parts we take a closer look at how statements about ourselves interacting with our historical and current environments can be understood in order to predict and influence our social enterprises. Having done so, we define a taxonomy of socio-cultural institutional grammar fit for this purpose.

Part 3: Functional Self-Discrimination

As discussed above, a *Contextual Behavioural Science (CBS)* perspective on the function of language provides an insight into how we may be able to regulate our own behaviour and work together in ways that enhance our individual and collective wellbeing. Work in this field has shown that personal, and social, flexibility and responsiveness is enhanced if we develop perspective-taking skills, learn to pragmatically and strategically evaluate what is important, and take value-directed responses to prevailing circumstances (Hayes et al. 1999; Hayes et al. 2001a). This is inherently verbal behaviour and is contingent on effective dialogical exchanges within the privacy of our own minds and between individuals. Further, it is contingent on what we value (centrally our health and wellbeing) as living organisms functioning intrinsically to regulate behaviour and reinforce the consequences of our actions (Deci et al. 2008; Ryan et al. 2006; Villatte et al. 2016). To further understand this behaviour, how language works for and against us, we employ the Functional Self-Discrimination Measure (Atkins et al. 2016; Styles et al. 2016, 2018). This framework provides an insight into what it takes to cultivate health processes of self-determination.

As a case-in-point, to bring the FSDM to life, we refer you to the following words of Helen Keller. Her description of what was probably the most formative moment in her life. In doing so we will further elaborate on an RFT account of the ‘self’, motivation, how self-rules function, and forms of pragmatic verbal analysis.

The most important day I remember in all my life is the one on which my teacher, Anne Mansfield Sullivan, came to me. I am filled with wonder when I consider the immeasurable contrasts between the two lives which it connects. It was the third of March, 1887, three months before I was seven years old.

Have you ever been at sea in a dense fog, when it seemed as if a tangible white darkness shut you in, and the great ship, tense and anxious, groped her way toward the shore with plummet and sounding-line, and you waited with beating heart for something to happen? I was like that ship before my education began, only I was without compass or sounding-line, and had no way of knowing how near the harbour was. “Light! give me light!” was the wordless cry of my soul, and the light of love shone on me in that very hour.

We walked down the path to the well-house, attracted by the fragrance of the honeysuckle with which it was covered. Someone was drawing water, and my teacher placed my hand under the spout.

As the cool stream gushed over one hand, she spelled into the other the word 'water', first slowly, then rapidly. I stood still; my whole attention fixed upon the motions of her fingers. Suddenly I felt a misty consciousness as of something forgotten – a thrill of returning thought; and somehow the mystery of language was revealed to me. I knew then that "w-a-t-e-r" meant the wonderful cool something that was flowing over my hand. That living word awakened my soul, gave it light, hope, joy, set it free! There were barriers still, it is true, but barriers that could in time be swept away. I left the well-house eager to learn. Everything had a name, and each name gave birth to a new thought. As we returned to the house every object which I touched seemed to quiver with life. That was because I saw everything with the strange, new sight that had come to me.

Helen Keller

This quote of Helen Keller (2012) draws a distinction between the 'self' that has the use of the language and the language itself. Her words point metaphorically to a 'self' that was transformed the moment she engaged in verbal behaviour. The transformation was from that of a ship without compass and sounding-line, from a wordless and dark inner world in which her soul cried for light, to one of light and love in which everything that was touched quivered with life. This quivering new world occurred with the thrill of returning thought revealed through the mystery of language. Language gave a strange, new sight that not only revealed the world, but it also revealed the 'self.' The living word gave her awareness, hope, joy, and freedom. As discussed above, this distinction between the 'self' that has the use of language and the way language enables us to identify with the world and ourselves verbally is central to this discussion.

The Verbal 'Self'

This story of Helen Keller's is a beautiful example of how verbal knowing augments nonverbal knowing. From the moment she became verbal, her behavioural and experiential stream as a biological organism became the object of her attention, and her sense of self within the context of space and time emerged. As mentioned, from a behavioural point of view, this kind of self-awareness is responding to one's own responding.

This can be understood in terms of three behavioural processes – the *conceptualised self* which is identified with the content or object of verbal relations; the *knowing self* which is identified with the ongoing process of verbal relations; and the *perspective-taking self* which is identified with the deictic context of verbal relations (Hayes 1995; Hayes et al. 2001a; McHugh

et al. 2012). By this definition, the ‘self’ that has the use of language is the *perspective-taking self*. Language, when in use, is known as *verbal behaviour* and pertains to the *conceptualised self* and the *knowing self*.

The verbal behaviours associated with both the conceptualised self and knowing self amount to what we ‘know’ (the two lower circles in Figure 5). They constitute responses relevant to evaluation, problem solving and rule-governed behaviour. The perspective-taking self, or self-as-context of one’s internal verbal behaviour (the top circle in Figure 5), is the observer of this behaviour that takes perspective from the position ‘I-HERE-NOW.’ As one develops the sense of self-as-context, the dynamics of the verbal behaviour pertaining to the other two selves (I-THERE-THEN) can be discriminated. From this transcendent perspective a broader and more flexible repertoire can be brought to bear on any event. These three selves are illustrated in Figure 5 and explained in more detail below. It should be noted that these selves do not exist as entities or things; they are ROE-M’ing processes pertaining explicitly to the ‘self’.

Three Selves

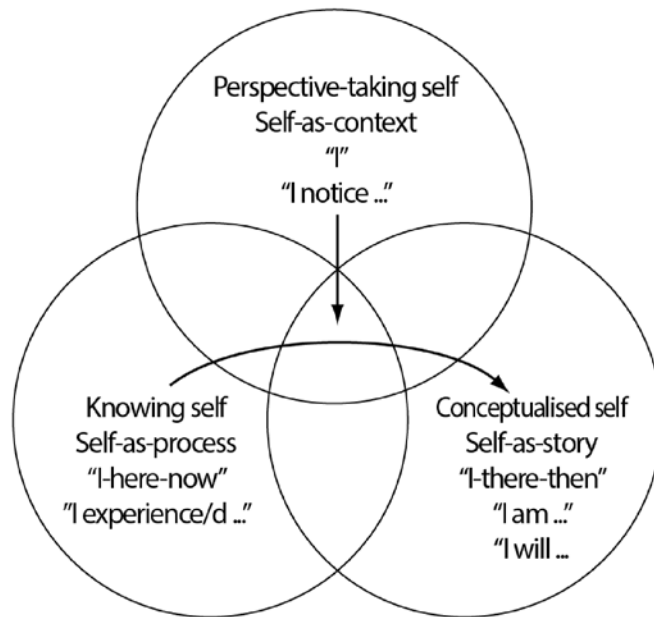


Figure 5: The three ‘self’ processes

The Conceptualised Self: Self-as-Story

Each of us engage in evaluating our ongoing unified stream of behaviour in terms of a panoply of categorical concepts. These categorical concepts constitute the *conceptualised self* or *self-as-story*. We use the term ‘story’ because the content or object of our verbal relations essentially becomes a story about our experience and ‘who’ we are. We evaluate, interpret, predict, explain, rationalise, etc., as we continue to interact with our own and others’ behaviour. As soon as we can interact with ourselves and the world verbally in terms of I-YOU, HERE-THERE, and NOW-THEN we begin to form a “conceptualised self” (Barnes-Holmes et al. 2001a).

For example, the “mystery of language” enabled Helen Keller to evaluate herself “I (not YOU) – HERE and NOW” based on once being “without compass and sounding-line” in a “wordless and dark inner world” in which her “soul cried for light” THERE and THEN, and later as a ‘self’ that had an “awakened soul, had light, hope, joy, and freedom” in a world that “quivered with life” that also happened THERE and THEN. Constructing a conceptualised self means verbally making sense of ourselves by referring to our history and tendencies and forming a coherent sense of identity. A coherent sense of identity serves important social functions. Various self-categorisations allow for the prediction of our behaviour; and, in this way, the self becomes important to us as it becomes important to others (Skinner 1974, p.30). In short, *self-as-story* refers to the descriptive and evaluative verbal constructs HERE and NOW about ‘who’ we are when talking about I, ME or MY behaviours, qualities and personal characteristics, derived from our history located THERE and THEN. In this way, constructing a sense of self involves evaluative verbal responding to personal history in terms of the relations I and YOU, HERE and THERE, and NOW and THEN.

The Knowing Self: Self-as-Process

Where the conceptualised self pertains to the categorical concepts and evaluations of ‘who’ we are, the *knowing self* relates to the ongoing process of verbally evaluating our present moment stream of behaviour in a given context. Being able to describe and categorise our own behaviour HERE and NOW, for example, in terms of emotional feeling states, allows us to interact socially in highly individualised ways in changing circumstances.

For example, Helen Keller tells us she is “filled with wonder” HERE and NOW as she recounts her story of the most important day she can remember in her life. Such emotional talk is a way we discuss HERE and NOW our personal history THERE and THEN. Being sensitive when we relate allows us to cut across many differences and provides a common ground for us to be human. In this way, our private worlds are intensely social and publicly

useful. It is how we, as a verbal community, speak with consistency about the conditions that influence our behaviour. The social construction of our private world allows us to function as social beings with regard to events that are supposedly private. Without this kind of self-knowledge, self-directed behaviour would be limited, as it would not be possible to construct a story about our current situation and future goals in quite the same way. For example, on the 3rd of March, 1887, there were moments when Helen Keller's whole attention was fixed upon the motion of her teacher's finger spelling "w-a-t-e-r" on the palm of her hand. In those, and following moments, she is gaining "vision" as she comes in contact with a world "quivering with life" revealed through the "mystery of language." She experiences being "set free." Equally, she could have experienced those same moments without gaining "vision" only to remain "tense and anxious, groping her way forward."

Making such diverse inner experiences public, influences how we are understood by others and the future direction important relationships might take. While our knowing self is key to empathy, self-control, self-knowledge, personal integration, social sensitivity, and so on, the knowing self also feeds the conceptualised self (Barnes-Holmes et al. 2001a). Hence the arrow from the *Knowing self* to *Conceptualised self* in Figure 5. In this way, the fluid, present based, verbal knowledge that the self as verbal process provides, can become content for the ossified, rigid, explanatory nature of the conceptualised self as current and historically situated present moment insights become the source of new stories, reasons, and causal constructions about 'who' we are. For example, identified preferences for solitude on an ongoing basis can consolidate into "being an introvert".

The Perspective-taking Self: Self-as-Context

Perspective taking involves identifying with the verbally constructed private and phenomenal world events from the perspective of I-HERE-NOW. It is the psychological locus from which we perceive both biological and verbal behaviour. Whenever we talk to someone else it will be from the perspective of I, located HERE and NOW, about events located THERE and THEN. Hence the downward arrow from the *Perspective-taking self* in Figure 5.

For example, if we asked Helen Keller what she did on 3rd March 1887, she will report from her point of view as 'I', the speaker, located HERE and NOW, about the events "walking down the path to the well-house" having "my teacher place my hand under the spout" and realising "that 'w-a-t-e-r' meant the wonderful cool something that flowed over my hand" located THERE and THEN. If asked many questions, the only thing that will be consistent will not be the content of her answer, but the perspective "I, HERE and NOW" from which her answers occur (Barnes-Holmes et al. 2001a;

Foody et al. 2012). As discussed, the perspective-taking self is the conscious experience of an ongoing perspective on life itself. It is the context from which we become conscious of the objects of our experience (Barnes-Holmes et al. 2001a).

A recasting of these three behavioural processes – the *conceptualised self*, *knowing self*, and *perspective-taking self* – more explicitly as ROE-M’ing processes pertaining to the ‘self’ is captured in the Figure 6 below. Here perspective-taking can be understood as the ongoing processes of **O**rientation toward what is catching our attention about ourselves. Being verbal, we **R**elate ‘stories’ about those obversions, be they **H**ERE-NOW processes or **T**HERE-**T**HEN conceptualisations. To which there is a putative **M**otivational quality associated with what is **E**voked.

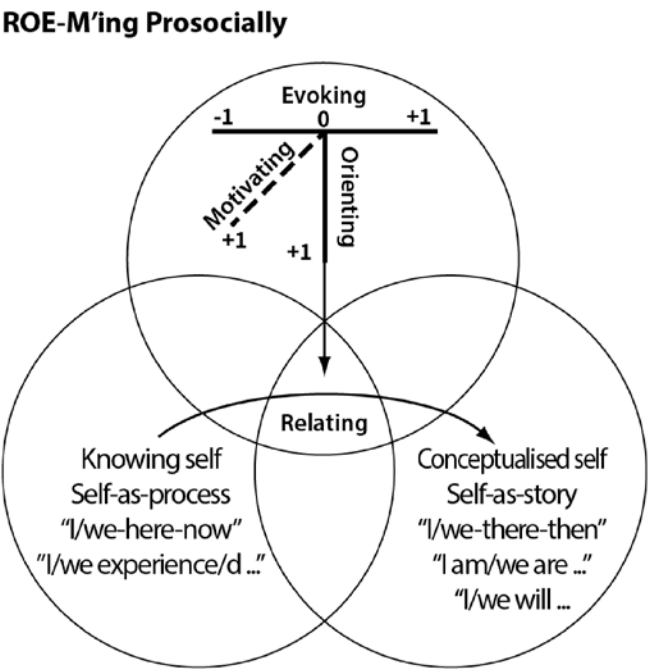


Figure 6: ROE-M + FSDM Analytic Framework

Rule-Governed Behaviour

With an understanding of the three behavioural processes of the ‘self’ we now consider the question, “What is rule-governed behaviour?” As illustrated above in Tables 1 & 2 detailing the levels of the HDML, verbal rules are understood to be increasingly complex classes of verbal behaviour that function to regulate our own as well as others behaviour. Over a lifetime

these rules become increasingly sophisticated forms of verbally regulated responding to our own responding. We derive a verbal sense of future self, other, and environment as a reinforcer and act in that direction with varying degrees of success in terms of our individual and collective wellbeing.

For all animals the influence-behaviour distinction can be thought of in terms of stimulus and response (Skinner 1953, 1974). However, uniquely for humans, along with environmental stimuli, verbal behaviour also functions as a stimulus for both overt and covert behaviour (Hayes et al. 2001a; Wilson et al. 2008). As discussed, central to language functioning as a stimulus is the behaviour of relational framing.

Our capacity for relational framing makes rule-formulation and rule-governed behaviour possible. Simply, rule-governed behaviour is, “behaviour controlled by antecedent verbal stimuli” (Hayes et al. 2001b, p.17). More precisely, a verbal rule can be understood as a description, or a verbal contingency which consists of a response, an outcome, and a discriminative stimulus in the presence of which the response will produce that outcome (Hayes 1989; Hayes et al. 2001a).

Our capacity for relational framing allows for the construction of verbal rules. Constructing a verbal rule is the action of organising verbal stimuli into arbitrarily applicable relational networks so that stimulus functions transfer throughout these networks. For example, Helen Keller, having realised that ‘w-a-t-e-r’ meant the wonderful cool something that flowed over her hand might construct a verbal rule and ask someone, “When the sun rises, please go to the well and fetch water.” The desired outcome is fresh water in the morning. The desired response is for the listener to actually go to the well and get the water. The discriminative stimuli are specified by the speaker in the first instance. The speaker of this rule specifies a contingency, that is, events are “specified” and organised into a relational network as in Table 3.

Table 3: Contextual relations and functions of a verbal rule

Verbal Rule						
sunrise	then	go to	well	then	fetch	water
r	r	r	r	r	r	r
	(temporal)			(temporal & coordination)		
← Entailed environmental objects and events that assume verbal functions →						

The letters ‘r’ and ‘f’ refer to the contextual *relations* (C_{rel}) and behavioural *functions* (C_{func}) involved. The relations established between the words and symbols in the rule, and the environmental objects and events, take the form

of mutual entailment (the middle row of 'r'). The environmental events and objects (sunrise, well), and motor behaviours (go to, fetch) constitute the relata that are framed relationally (temporal, coordination). The stipulated behavioural responses take the form of 'going' and 'fetching.' In this way the specified environmental objects and events participate in the rule by virtue of relations established by the rule. The environmental objects and events now have verbal functions in terms of the rule. Overall, the verbal rule constitutes a set of discriminative stimuli that define a pattern of responding that, if followed, should deliver the desired outcome, fresh water in the morning.

Just as a picture frame can hold many pictures, a relational frame can include different 'relata'. Classes of relational responding include, coordination, opposition, distinction, comparison, hierarchical, temporal, spatial, conditionality, causality, and deictic. Contextual cues, or stimuli, that can be framed relationally include virtually any environmental, behavioural or verbal event. Relational frames define an overall pattern of responding whereas the current or historical context provides the specific formal features that occur in specific parts of the pattern (Hayes et al. 2001a).

Consider the statement, "when you see _____, you will receive _____." Different relata might complete the overall pattern as, "when you see the sun rise, you will receive a cool drink" alternately, "when you see your best friend, you will receive a hug." In this way, highly elaborated forms of relational framing involve deriving relations among relations, for example, paragraphs, chapters, analogies, metaphors, stories, trilogies, symphonies and mathematical formula. As outlined in the HDML framework above, our capacity for relational framing enables complex behaviours such as analysis, problem solving, strategic planning, persuasion, rhetoric, and other social processes that underpin social behaviour.

Understanding a Rule

Once a verbal rule is specified by a speaker, for it to be understood, the listener has to respond to the verbal stimuli firstly by organising events into a relational network. If this occurs the speaker is speaking with meaning and the listener is listening with understanding (Hayes et al. 1989a). For a verbal rule to be specified and understood in this way both the speaker and listener require training of a similar kind. Mature speakers and listeners must learn to produce and respond to the same speech products in terms of the arbitrary applicable relations they specify, which are sustained by the linguistic community (Hayes et al. 1989a). Behaving verbally is a social activity.

In this way, our capacity for relational framing allows for the specification of highly elaborate rules designed to establish complex forms of behaviour over time. In their most complete form, rules detail antecedent conditions

appropriate for the desired behaviour sequence such as time, place and circumstance; features of the response classes involved such as topography, rate and duration; and, desired consequences such as type, quality, and scheduling of events (Hayes 1989). Depending on the audience, the amount of detail varies. Examples of rules range from verbal instructions from books, websites and blogs promising self-awareness, fulfilment, and weight loss to road maps, navigation assistance, cookbooks, and owner's manuals for personal appliances. In each case verbal rules are a partial statement of contingencies that, once understood, require the rule-follower(s) to gather the remaining aspects from the environment and past history.

Relationship between verbal and motor behaviours

Understanding a rule is not the same as following it. Once a verbal rule is specified and understood, the verbal functions of the previously nonverbal environment make it possible to move from rule-understanding to rule-following (Hayes et al. 1989b). The behaviour required to mediate the consequences specified in the rule can occur in an entirely different context to that in which the rule was specified because aspects of the new context now function as verbal stimuli with effects established by the rule.

However, if the required nonverbal functions for effective rule-following are not already established, a rule may be understood and still not lead to effective behaviour (Hayes et al. 1989a). A youngster might understand that bicycles are for riding. The behaviour of riding may be observed and understood verbally in that the child may be able to match the word riding to the observed actions of cycling and vice versa. Nonetheless, the child still may not be able to actually ride a bike. If asked, "please ride to the well and get some water?" effective action may be impossible even though the verbal rule is understood. This is because the nonverbal functions of bike riding have not been established. In other words, you cannot learn to ride a bike by reading a manual, you have to get onto a bike and give it a go. Engage pragmatically in a program of action learning.

In this way, all rule-governed behaviour makes contact with two types of contingencies: those established by the rule and past history with rules; and the natural contingencies involving coordination of the nonverbal functions required to carry out the rule. In the case of natural contingencies, the consequences of the action are determined completely by the topography of the action itself in the given situation. For example, if our young cyclist did ride to the well to get some water, the amount of water in the bucket would be 100% determined by the form of the action of reaching down and scooping. The water cannot react to why the bucket is there, only how it is

there. The natural consequence of water in the bucket is determined by the precise manner in which the bucket dips into and scoops the water.

This still does not fully explain rule-following, however. If a rule is understood and the nonverbal functions required for rule following are established there still remains the matter of actualising those nonverbal functions in coordination with the verbal functions specified in the rule. When the sun rises, our young cyclist may contact the altered functions of the sunrise and well and still not get out of bed to go and fetch the water. He, for example, may point toward the well when asked “Where are you meant to go to get the water?” and still not get up and go. This is a question of “motivation”, a topic to which we now turn.

Motivation

As discussed, Motivation refers to the putative strength of motivational variables within the ROE-M unit, that is the dynamic interaction of the Orienting, Relating and/or Evoking functions (Barnes-Holmes et al. 2022). When a rule is Related to us, we Orient toward the environmental objects, events and behavioural functions specified by the rule, an emotional feeling state is Evoked, and the putative Motivational strength has us do something or not depending on the importance of the specified consequence. This is a question of value. So, how does this work exactly, you ask?

Here we employ the term *augmenting*. Originally defined in the RFT literature, it refers to a changed or heightened state of affairs and foregrounds the degree to which events (appetitive or aversive) function as consequences (Hayes et al. 2001a). Acknowledging this heritage and the terms relevance, augmenting in the ROE-M'ing Prosocially framework translates to the strength of the Evoking function explicitly within the context of rule-governed behaviour. Augmenting is a subtle and important feature that is intrinsic to all forms of rule-governed behaviour given that all rules involve implied or specified consequences of varying degrees of value.

In some instances, rule-governed behaviour may be under the control of socially mediated consequences for following the specified rule (Barnes-Holmes et al. 2001b; Hayes et al. 1989b). For example, if a person is instructed, “When the sun rises go to the well and fetch water!” and does so in order to be a ‘good citizen,’ gain the approval of the speaker or avoid getting into trouble for non-compliance, the rule is of this type. The consequences are mediated by the social/verbal community as only they can discern the presence of the rule and check for behaviour that corresponds with it. In this way, the consequences are explicitly designed to organise responding into a class of behaviours we might term obedience or compliance.

In other instances, rule-governed behaviour may be under the control of an apparent correspondence between the specified rule and the topography of the traversed environment (Hayes 1989). Taking our water-fetching example, “When the sun rises go to the well and fetch water,” if the listener’s behaviour is brought under control of the rule because of the correspondence between it, how to actually get the water, and the personal desire to have a drink, then it is functioning this way. The natural contingencies for water fetching are contacted because of the nonverbal properties of the behaviour involved – the form, frequency, or situational sensitivity of the relevant behaviour produces the consequence(s) specified or implied in the rule (Hayes et al. 2001a). For our early morning riser, this would have her fetch water to quench a thirst, rather than deliver on civic responsibilities or gain approval for compliance with the rule. The behaviour would be as likely to occur if the rule were written in a tourist guide. In this way, the consequences organise the responding into a class of behaviours that we might term self-determination or value-directed action.

Irrespective of the class of rule, the question is, what distinguishes verbal self-rules that allow apt functions to be augmented or diminished, for valued outcomes to be detected, and for lengthy behavioural sequences to be performed with regard to those valued consequences?

Pragmatic Verbal Analysis

Effective long-term rule-following, from an RFT perspective, involves taking ourselves as the object of our attention, and from this vantage point verbally analysing our own behaviour over extended periods. This process of verbally analysing our own behaviour is a form of *pragmatic verbal analysis* which Hayes et al describe as “acting upon the [nonarbitrary] world verbally, and having the world serve verbal functions as a result” (2001a, p.90). *Analysis* because the process involves evaluating the likely success or failure of a behavioural effort; *verbal* because the objects of analysis are symbolic/verbal representations of those contextually situated behaviours participating in highly complex relational networks; and, *pragmatic* because the exercise is in the service of achieving practical and valued ends.

The value of analysing one’s own behaviour and developing such self-knowledge is considerable. Self-awareness and self-monitoring will permit greater self-control as we engage in analytic activities related to our ongoing behavioural streams. Responding to our own responses in an evaluative sense enhances our capacity to predict the success or failure of our behavioural efforts. As discussed, from a behavioural perspective, the most important adaptive function of pragmatic verbal analysis is the construction of verbal rules that allow for lengthy behavioural sequences to be performed with

regard to possible valued consequences (Hayes et al. 2001a). Broadly there are two classes of *pragmatic verbal analysis*, a *strategic analysis* and *valuative analysis*.

A *strategic analysis* is undertaken when we know a solution or purpose but there is an absence of effective action to achieve that solution or purpose. Having discriminated the desired end state, the problem is achieving that end state. To solve the problem involves placing the desired goal or purpose in a relational network that specifies the current situation and delineates possible steps that, if undertaken, will likely lead us to achieve the verbally constructed goal or purpose. This activity is inherently metaphorical and requires that we relate entire sets of verbally derived stimulus relations to one another based on the properties and dimensions of the events in the network and their transformation. This activity often proceeds in a linear, step-like fashion and includes common sense steps such as define problem, gather information, compare possible solutions, select plan, carry out plan, test outcomes, change plan. Each of these action learning steps comprise domains in which verbal activity occurs, each with reference to the verbally constructed outcome being sought. In each instance the prescribed steps are defined by successful working criteria.

In contrast to a strategic analysis, a *valuative analysis* is undertaken in the absence of a goal or purpose and involves using relational frames to contrast, and select from, possible outcomes. We often face major life decisions to do with, for example, our career, marriage, or spiritual vocation and grapple with questions like “What do I want my life to be about?” or “What’s really important to me?” Collectively we might ask, “What does a preferred and probable future look like?” The problem is more about deciding and choosing possible consequences rather than a means of reaching the selected consequences. Valuative analyses are at the core or “values clarification” and functions to provide an overall direction in the absence of one. Looking at pros and cons is an iterative verbal process that amplifies the behavioural effects of a verbally constructed future. For example, considering possible career options you might ask, “On my 85th birthday, what would I like people to say about my life’s work?” As a community or organisation, you might ask, “What kind of world would we like our descendants to inherit?” Such metaphors function to bring nonverbal effects of the situation as verbally constructed into the verbal network and serve to clarify the choice.

So, pulling all this together, *functional discrimination* in the ROE-M’ing Prosocially framework can be understood as the ongoing processes of **O**rientating toward what is intrinsically important, **R**elating or deriving ‘self-rules’ to realise what is valued, be it HERE-NOW and/or THERE-THEN, all the while having the putative **M**otivational quality associated with what is **E**voked (augmented) sustain efforts to realise a life that is worth living. Rules

that govern complex and integrated sequences of motor behaviours in such a way make it possible for environments to be cleaned up, dams to be built and for people to have fresh clean water on tap for generations to come. These rules function literally and causally in that events are controlled and desired consequences are brought about.

Well, if you are still with us at this juncture, you are doing unbelievably well! Again, we do hope you have found it worthwhile and ask, please stick with us, only one more deep dive into the world of a behavioural scientist before we start unpacking our approach to evaluating the function of a prevailing discourse. The question now is, with an appreciation of how language and cognition functions to direct and enhance valued living, how do we apply these methods in organisational settings. It is here that we turn our attention to *Behavioural Systems Analysis*.

Part 4: Behavioural Systems Analysis

If we are to act upon the [nonarbitrary] world verbally in a way that works, that is functionally, at any level in the system, we need to distinguish the terms of a *multi-term metacontingency*. To help us draw some of these distinctions we turn to *Behavioural Systems Analysis*.

What this means in colloquial terms

Before unpacking what it means to conduct a behavioural systems analysis formally, we introduce what this means in colloquial terms. Applying what we have discussed at the aggregate level involves reconstituting ourselves in the world at every level (i.e., re-authoring the symbolic niches we are currently inhabiting). It is the work of aligning our individual and collective capacity to act with a shared purpose whenever necessary. Operationally, this is about giving legitimacy and support within the context of personal and collaborative endeavours. It's about power and authority that builds in purpose to act with sovereignty and self-determination. These distinctions help delineate an approach to decision-making that is based on collecting all needs and values relevant to a decision and engaging stakeholders in converting them to practical strategies that can work for all, now and in the future. To render an integrated response to meeting collective needs at each level, we ask, how should the multiple players in a socio-cultural ecosystem:

1. Identify what is needed and align themselves strategically.
2. Constitute themselves into mutually beneficial relationships.
3. Design and implement the machinery of the system to get things done; and
4. Motivate themselves?

Why this taxonomy? The presence or absence of strategically qualified opportunities will determine stakeholder alignment and levels of investment and action taken by the players involved. Constitutional arrangements will either frustrate or enhance choice and/or capacities to exercise power and authority on behalf of the respective institution or in the service of a collective endeavour. A system's machinery, governance arrangements, cultural norms, policies, procedures, etc., will moderate various measures of equity (procedural, informational, distributive, relational) across the system. Finally, the degree of reciprocity experienced by the individuals and teams involved will either have them behaving to avoid experience they don't want or striving to have their intrinsic worth mean more within the context of the collective endeavour. This framework is enabling us to better discern opportunities that ultimately build the mutual trust and social cohesion

required to evolve toward a ‘truly values-based’ system that works for all within the sector they are a part of.

The on-the-ground methods we employ (Styles et al. 2025) involve developing our capacity for perspective-taking and the application of a set of operant behavioural streams, referred to as *Core Design Principles* (CDP, listed below). This approach is based on the work of Nobel laureate Elinor Ostrom, and has been shown to align many decision-making centres under an overarching set of prosocial norms, policies and procedures (Atkins et al. 2019; Ostrom 1990). This polycentric vision leverages the forms of self-governance and organisation that naturally result from stakeholder interactions as they constitute themselves into mutually respectful and workable relationships (Lohmann 2016). Such polycentrically-governed and normative contexts have been shown to persist through time and prevail through chaotic circumstances (Aligica 2016; Araral et al. 2013; Wilson et al. 2024).

Moreover, such polycentric strategy and governance work, being dialogical, means cultivating effective perspective-taking and communication at every level—between individuals and across the system. That is, developing systems for making decisions about how we can conduct our business of living together, systems that promote human and planetary prosperity. In a nutshell, we believe the essentials include:

Psychological Flexibility

- We each need to treat all life with compassion, including our own, which means finding ways of *mindfully* supporting each other, holding ourselves accountable, recognising our strengths and limits, and continue working flexibly and effectively towards our individual and collective *valued goals*.

Core Design Principles

1. **Shared identity and purpose:** We need to identify ourselves within bounded groups that share a duty and responsibility to work together to preserve life, the life of each individual, as well as the collective and our planet.
2. **Equitable distribution of contributions and benefits:** We need to mobilise available resources to meet needs in a way that ensures the derived benefits for those involved are matched as fairly and equitably as possible.
3. **Fair and inclusive decision-making:** We need to implement decision-making processes that include all those impacted by the outcomes

to ensure fair, collaborative, and inclusive deliberations occur at all levels.

4. **Monitoring agreed-upon behaviours:** We need to institute feedback loops, both material and relational, that allow us to monitor and learn, individually and collectively, the effects that our actions and choices have upon others and systemically.
5. **Adaptive responses to helpful and unhelpful behaviour:** We need mechanisms that allow us to continually grow in our ability to live our values and be effective in the pursuit of our goals.
6. **Restorative approaches to conflict resolution:** We need approaches based on restorative justice principles that can handle conflict at all levels in diverse systems and circumstances and only retain restrictive responses as a protective measure for the most flagrant of violations.
7. **Authority to self-govern:** We need sufficient local autonomy from other groups to enable choice and internal decisions about how we work together in the service of our shared purpose.
8. **Collaborative arrangements with other groups:** We need to show that the methods we employ to use resources interdependently and sustainably can also be scaled up to larger polycentrically governed systems.

In behavioural systems analytic terms this suite of operants (CDPs) can be packaged in terms of *metacontingencies*. A topic to which we now turn.

Metacontingencies

To evaluate the function and effectiveness of this prosocial approach from a behavioural perspective, the distinctions outlined above can be reframed in terms of a multi-term metacontingency analyses (Houmanfar et al. 2004; Houmanfar et al. 2009; Houmanfar et al. 2024; Houmanfar et al. 2015; Houmanfar et al. 2022). Metacontingencies *describe the functional relations* between facets of the *cultural-organisational milieu* that are shaping the *interlocked patterns of behaviours* between two or more people or groups, the *group norms & rules* they employ, and the *aggregate outcome(s)* of their collective effort. Central are the *communication systems*, the different forms of pragmatic verbal analysis intrinsic to all these processes.

Meso-Narratives

To clearly delineate the functional classes of a metacontingency (group norms & rules, aggregate outcome(s), critical factors comprising the cultural-organisational milieu) we have explicitly introduced a suite of *Meso-Narrative Indicators (MNIs)* to reflect these facets of the communication system. For pragmatic purposes, we take into account the function of higher order verbal

constructs including discourse themes, bounded texts, policy frameworks, philosophical worldviews, symbolic artifacts, etc., that synthesise into one coherent explanatory, motivational, governance, or cultural category. These higher-order verbal constructs are what we term *meso-narratives*; MNIs are the bounded discourse units through which meso-narratives become visible to the analyst. According to Relational Density Theory (RDT) the density, volume, and mass of such verbal constructs serve to establish higher order relational networks of stimulus equivalence that have implications for generalized reinforcement learning and the shaping of environmental contingencies (Belisle et al. 2021; Belisle et al. 2020a; Belisle et al. 2020b, 2022; Belisle et al. 2024). Identifying and describing these variables pragmatically provides the necessary relata for effective responses at each level of the system.

Cultural-Organisational Milieu

The cultural-organisational milieu that an organisation or community is embedded in is comprised of a number of factors (stimuli) selecting individual and group behaviours. We use the acronym STEEPLES to help delineate these – Social, Technological, Economic, Environmental, Political, Legal, Ethical, Spiritual. We are particularly interested in those that are the most *critical and uncertain* in terms of their forecast evolution over time. These *Critical-Uncertainties* are the driving forces that have the potential to tip the future in one direction or another. They reflect a *state of uncertainty* – a lack of understanding of how these factors will continue to change over time; *effect uncertainty* – a lack of understanding of the impact these factors will have on the organisation or system; and *response uncertainty* – a lack of understanding of the available response options. Critical-Uncertainties are the most critical and uncertain adaptive challenges. They have two fundamental characteristics; they are unusually high impact and exceptionally unpredictable or volatile.

The most critical-uncertainties are the dependent variables we aim to impact in the long-run. Identifying and describing these variables pragmatically provides the necessary relata for effective long-term strategic planning, the design and maintenance of overarching infrastructure and machinery of a system, foregrounding the value intrinsic to the interlocked behaviours of individuals and groups involved and the aggregate outcome realised as a result of their collective effort. Interestingly, even though verbal behaviours associated with the cultural milieu are considered important to the development and maintenance of cultural practices comprising metacontingencies (Houmanfar et al. 2009), their role is not explicitly discussed in previous conceptual and empirical work.

Group Norms & Rules

The group norms and rules we are interested in are centred on the Core Design Principles (CDPs, listed above). Functionally the CDPs reflect the cultural and institutionalised practise of a set of operant behavioural streams (value directed rule-following) that weave together to align stakeholders constitutionally, and shape prosocial norms, policies and procedures (Atkins et al. 2019; Ostrom 1990). The presence or absence of such arrangements will either frustrate or enhance choice and/or capacities to exercise power and authority on behalf of the respective institutions/communities in the service of a collective endeavour.

The underlying element in this process is the communication systems in play that specify the group norms and rules (Houmanfar et al. 2004). As antecedents or consequences (or both), the specification of functional organisational contingencies (or lack of) affects the interrelated behaviours of organisational/community members within and across the system. They function as institutional stimuli that correspond to a shared response from a group or group of groups. Therefore, the institutionalised nature of organisational norms and rules requires a focus on not only the shared function they serve among those involved but also the topographical characteristics that mediate stimulus control among groups of individuals. These organised group practices can be defined as learned interactions with institutionalised stimuli, acquired under group auspices and shared among members of a given organisation.

Interlocking Behavioural Contingencies (IBCs)

Technically IBCs are operant contingencies in which behaviour, particularly the overt behaviour of two or more people, functions as an environmental event that shapes the behaviour of others in the system. In this way, organisations are behavioural systems fashioned by individuals' acting together (IBCs) toward a common goal (Houmanfar et al. 2009). This collective action occurs within the context of the organisation/community's interaction with the broader cultural-organisational milieu and the critical factors they are striving to demonstrably impact. The realisation of this strategic agenda is the composite output of the mutually dependent processes (IBCs) undertaken by those involved as they deliver on their respective duties and responsibilities from their place and level in the system. In this way, the successful behaviours of individuals within the context of an organisation, community or supply chain tend to rely on the successful behaviours of others on which they depend. When the product of the behaviour of an individual acts as an antecedent for the behaviour of someone else, IBCs are said to exist.

For our purposes, we are particularly interested in how the CDPs, to the extent they are reflected in group norms and rules, shape the overt behaviours of group members within groups and the overt behaviours of groups as they interact with other groups implicated by their actions. We view this enquiry as participatory action learning/research shaped by the system's machinery, governance arrangements, cultural norms, policies, procedures, etc., and moderated by various measures of equity (procedural, informational, distributive, relational) and collective impact on the critical factors shaping the behaviour of the system.

Aggregate Outcomes

The coordinated behaviours of members of departments within an organisation or between different organisations or community groups in a supply chain generate the aggregate products or services available in a system. They are the aggregate outcomes realised as a consequence of their interlocked behaviours.

Broadly, there are two classes of aggregate outcomes we are interested in. First, the *group norms & rules* generalised as operants that propagate across the system. Particularly how the CDPs (listed above) shape institutional climates (constitutional arrangements, policies, procedures, etc) and cultural norms (shared beliefs, attitudes, unwritten rules and expectations for behaviour). This first class of outcomes are the independent variables we aim to shape through deliberative and participatory action learning processes. The second class of outcomes equate to demonstrable impacts on the critical-uncertain factors framed as meso-narratives featuring as facets of the cultural-organisational milieu (delineated by the STEEPLES acronym outlined above) that are driving behaviour across the system. This class of outcomes are the dependent variables we seek to impact as a consequence of manipulating the verbal context shaping individual and community norms and rules.

Figure 7 Multi-term Metacontingency depicts the *functional relations* between facets of the *cultural-organisational milieu* shaping the *interlocking behavioural contingencies* between two or more ROE-M'ing individuals in groups, the *group norms & rules* they employ, and the *aggregate outcome(s)* of their collective effort.

Metacontingency

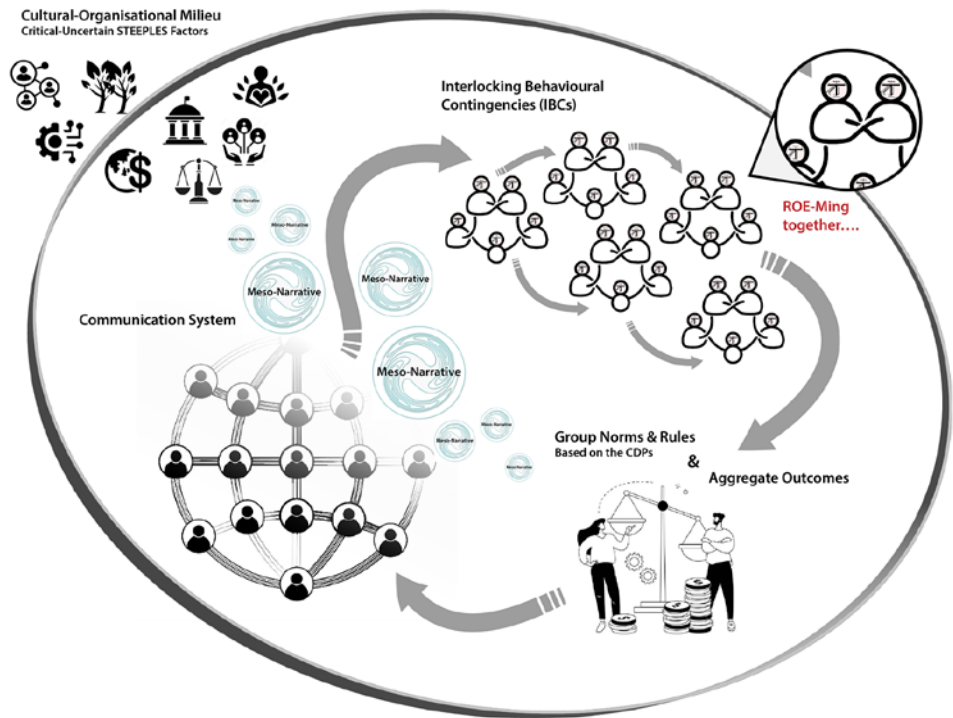


Figure 7: Multi-term Metacontingency

Communication Systems

At the beginning of Section One we asked, how does language and cognition function to regulate our behaviour? In response to this question, we have delineated a suite of verbal behavioural contingencies that can be shaped and analysed in the service of predicting and influencing behaviour personally and collectively. These include classes of verbal behaviour associated with self-discrimination through to the meso-narrative indicators that constitute a metacontingency. Having discussed all this, in this last section we pull it all together, provide an overview of the ROE-M'ing Prosocially framework, and a taxonomy of socio-cultural institutional grammar used to evaluate the function of a prevailing discourse.

ROE-M'ing Prosocially

The principles and practices undergirding the *ROE-M'ing Prosocially* framework invite organisations to engage in deliberative processes dedicated to enhancing self-efficacy, exploring and then consolidating multiple perspectives regarding shared purpose and future ambitions and adopting participatory action learning/research methods to qualify and embed best-

practice methods as they pursue valued goals. In other words, in the context of their Motivational histories, groups (teams, departments, entire organisations & communities) **O**rient toward the environmental contingencies of influence, **R**elate their conceptualisation of what is needed and valued, and seek to **E**voke their future course as made manifest conversationally in the present (Styles et al. 2026). This process is captured in Figure 8 ROE-M'ing Prosocially below.

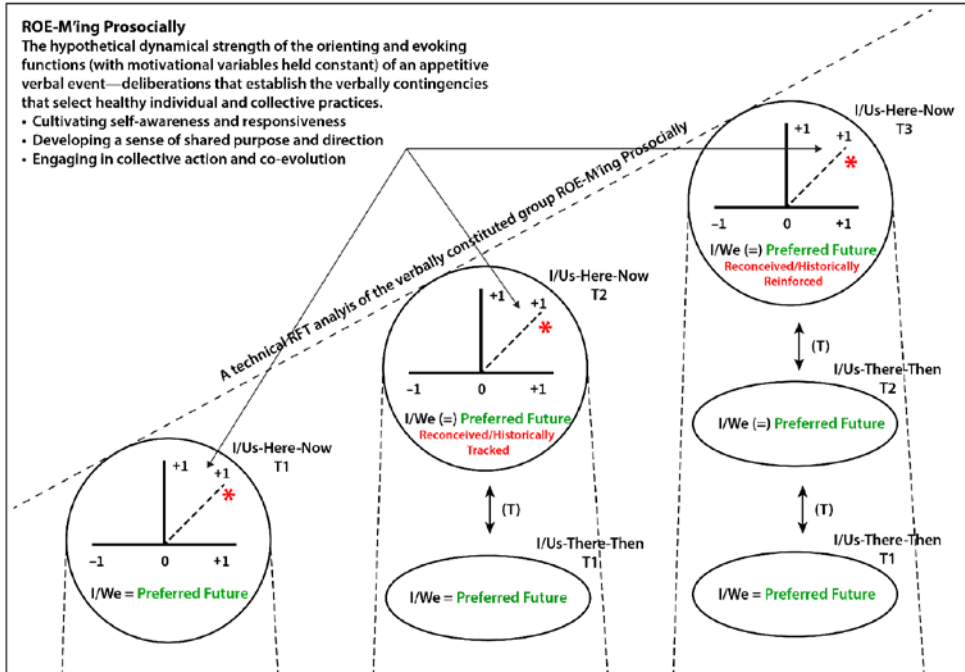


Figure 8: ROE-M'ing Prosocially

Note, in Figure 8 ROE-M'ing Prosocially '=' refers to a coordination relation, '(T)' to a temporal relation, and '(=)' to a containment relation that includes current and historical deliberations. The vertical axis of the inverted 'T' indicates the dimension of relative strength for orienting functions, the horizontal axis for evoking functions, and the dashed diagonal line motivational variables. The asterisk indicates the relative strength of the orienting and evoking functions of the "I/We=Preferred Future" coordination relation for each of the three ROE-M'ing Prosocially events, I/Us-Here-Now T1-T3 (reading from left to right).

To successfully apply the ROE-M'ing Prosocially framework we need to be clear about what the *dependent* and *independent variables* are. We also need to understand what the 'truth' criterion is, which is 'successful working'. These distinctions are critical if we are to maintain the behavioural integrity of the method.

Dependent Variables

As you will have gleaned, there are two classes of *dependent variables*. The first is the *ROE-M* itself – how those engaged in a deliberative process are individually and collectively *ROE-M’ing*. Then there are the *critical factors (trends & drivers)* that are selecting the behaviours of everyone across the system.

As discussed, the acronym *ROE-M* represents the four facets of ONE integrated psychological ‘response’ pattern of verbally enabled human beings within a context. These are the ongoing processes of sensing and making sense of ourselves in the world individual, and collectively. If this doesn’t change, meaningful behavioral change is unlikely to occur. This is the most basic unit of analysis in this method.

Then there are the *critical-uncertainties* selecting everyone’s behaviours requiring urgently needed responses if we are to evolve in a healthy direction. The level of impact a group of change agents might realise is dependent on how effective their responses are. If their responses don’t change, then what they do isn’t going to work.

To explain (predict-and-influence) the *ROE-M’ing* ‘response’ pattern of individuals in groups and predict the consequent impact of their collective effort on the *critical-uncertainties (trends & drivers)*, we need to manipulate the context ‘outside’ of the *ROE-M* (i.e., current/historical antecedent and consequential variables). The aim is to enhance (influence) the *ROE-M’ing* process, that is, help change agents with their communities, deliberate on important questions and forge (vary, select & replicate) urgently needed responses. For our purposes, the manipulable context is the deliberative process and all that the participants bring to it.

Independent Variables

As stated above, to change (predict-and-influence) the dependent variables (*ROE-M* & *Critical Factors*), we need to manipulate the *independent variables*. These variables are found within the symbolic niches constructed at each level of the system from individuals up, in the forms of self-discriminations through to the meso-narratives that delineate the metacontingencies in play. The particular methods we employ to manipulate these variables include the promotion of a behavioural/evolutionary worldview, the development of psychological flexibility, implementation of the CDPs, and action learning/research to find out what works so it can be replicated and scaled up (Styles et al. 2025). These are symbolic niches where healthy verbal processes are woven into every level of the socio-cultural fabric. Through processes of deliberation, learning and experimentation we seek to manipulate the

coherence, complexity, derivation and flexibility of the prevailing discourse as detailed in the four dimensions of the HDML.

- **Coherence:** We aim to test how ‘beliefs’, and ‘strategies’ cohere with previously established bodies of evidence that have been learned and shown to enhance functional responses in similar contexts.
- **Complexity:** We aim to render philosophical worldviews, narratives about the world, and personal and group strivings, so they more adequately reflect (entail with) the prevailing contexts—past, present, and future—through perspective-taking processes.
- **Derivation:** We aim to facilitate deliberative processes that probe for the fundamental needs that sustain human and more than human life, as well as the value that each actor can realise in the service of a life worth living for all concerned.
- **Flexibility:** We aim to de-literalise the world of words, the symbolic niche/s currently being inhabited and dogmatically adhered to and approach the testing of our assumptions flexibly and in context specific ways.

Truth Criterion

The goal of prediction and influence provides a specific kind of utility, the *truth criterion of “successful working”*. As contextualists, our truth criterion is not the correspondence between subjective or objective models that predict or reflect what is ‘real’, but ‘effective action’ (Gifford et al. 1999; Hayes et al. 2013) – asking “Does this way of viewing the world help me to achieve my goals?” As such, the ROE-M’ing Prosocially framework and PRISM method have been designed to analyse the *function (workability)* of a prevailing discourse (not to prove if it is true or not), and based on that analysis, provide a forecast that points to what it is a community needs to vary, select & replicate in order to realise a preferred and probable future.

Further, when undertaking an analysis, we aim to do it with ‘*Precision, Scope and Depth*’.

- **Precision:** We aim to use a limited number of analytic concepts to explain phenomena in any given case.
- **Scope:** We aim to use analytic concepts that allow us to explain as wide a range of phenomena as possible across different cases.
- **Depth:** We aim to use analytic concepts that readily integrate with other levels of analysis across well-established scientific domains.

A Taxonomy of Socio-Cultural Institutional Grammar

Weaving together all we have discussed in Parts 1 through 4 provides a framework for influencing and analysing the verbal behavioural processes

that will have us collectively orient toward what is valued and motivated to choose and act in a direction that has our intrinsic worth mean more within the context of our collective endeavours. In other words, conducting the business of living together in the service of promoting human and planetary prosperity. For analytic purposes we cast these variables in terms of a *Taxonomy of Socio-Cultural Institutional Grammar* that falls into three domains:

1. **Self-Discrimination** – function of three classes of “selfing” statements:
 - *Perspective-taking self* – Self & other-as-context
 - *Knowing self* – Self & other-as-process
 - *Conceptualised self* – Self & other-as-story
2. **Meso-Narratives** – function of four classes of higher order verbal constructs that synthesize into coherent explanatory, motivational, governance, or cultural categories that have implications for generalized learning and the shaping of institutional behaviour:
 - *Group norms* – behavioural streams informed by Ostrom’s CDPs
 - *Group rules* – institutional arrangements informed by Ostrom’s CDPs
 - *Aggregate outcomes* – composite outputs (distinct from norms & rules) of inter-locked behaviours undertaken by those delivering on their respective duties and responsibilities
 - *Critical-uncertain systemic factors* – factors that are driving and selecting behaviour across the system (‘STEEPLES’)
3. **ROE-M’ing Prosocially** – synthesis of results from preceding categories into a coherent descriptive framework:
 - *Meso-narrative patterns* — the distribution and interrelation of themes across the four meso-narrative categories, including prosocial composition patterns, non-prosocial functional categories, and derived indices
 - *ROE-M* – the apparent strength of Relating, Orienting, Evoking & Motivational processes as assessed across the discourse

The ROE-M’ing Prosocially Profile is a key output that includes a baseline assessment of system health and a 6–12-month forecast of the capacity and risk needing to be managed if desired impact on dependent variables is to be realised.

With this appreciation of how language and cognition function from a behavioural point-of-view, we are now in a position to explain in more detail how statements about ourselves interacting with our historical and current environments can be analysed in order to predict and influence our social enterprises. The methods of which we turn to in *Section Two: PRISM*.

Section Two:

PRISM

Beth Hawkins & Robert Styles

Part 5: Prosocial Relational Integrated Scoring Method (PRISM)

Introduction

The *Prosocial Relational Integrated Scoring Method (PRISM)* is a functional analytic approach to evaluating the function of a prevailing discourse at multiple levels.

In practice, PRISM is designed to analyse both spoken and written language. Transcripts of meetings, meeting records, policy texts or other written artefacts are read and systematically coded based on functional and symbolic properties. The resulting metrics and indicators are linked to outcome variables defined with stakeholders engaged in a participatory action learning/research agenda. Rather than imposing fixed outcome metrics (i.e., dependent variables) from outside the system, outcomes are identified *with* stakeholders as behaviourally observable indicators of “what matters here, what is working?” Therefore, PRISM scores are always interpreted in relation to locally meaningful aims (e.g., specific prosocial governance outcomes, equity targets, or collaboration goals), and are used to support iterative cycles of reflection, learning, and adjustment.

PRISM results reflect culture conditions and quality of performance at a snapshot in time, not permanent traits of the individuals or groups involved. Patterns may shift as context changes, which is precisely why PRISM is best applied across iterative cycles rather than as a one-off assessment. In this way, PRISM serves as a diagnostic and forecasting tool helping groups see how their symbolic practices are shaping their own cooperative futures.

Philosophically, PRISM is based on the *ROE-M’ing Prosocially framework* and *Taxonomy of Socio-cultural Institutional Grammar* introduced in *Section One: ROE-M’ing Prosocially*. The method itself is the synthesis of three analytic approaches to understanding and regulating human behaviour informed by Contextual Behavioural Science (CBS; Zettle et al. 2016).

The first of the three analytic approaches, which is at the heart of this framework, is based on an updated version of Relational Frame Theory (RFT; Hayes et al. 2001a), a behaviour-analytic account of human language and cognition, captured in the acronym “ROE-M” (Barnes-Holmes et al. 2022). Here PRISM examines the function of the stories people **Relate** about the events toward which they are **Orienting**, the emotions that are **Evoked**, and the putative **Motivational** response. Alongside this one integrated response is the *Hyperdimensional, Multi-Level (HDML)* framework which delineates facets the manipulable verbal context within which people are ROE-M’ing – the Coherence, Complexity, Derivation and Flexibility of what is being

related in order to elicit healthier responses from the individuals and groups concerned.

The second of the three analytic approaches is informed by the evidence-based *Functional Self Discrimination Measure* (FSDM; Atkins et al. 2016; Styles et al. 2016; Styles et al. 2018), which is also based on Relational Frame Theory (RFT). While the ROE-M and HDML frameworks point to the basic analytic unit and manipulable variables of a prevailing discourse that will shape the responses of the individuals concerned, the FSDM draws a distinction between different substrates related explicitly to each individual's sense of identity and the self-rules that are governing their behaviour, healthily or otherwise.

The third analytic approach PRISM employs is informed by *Behavioural Systems Analysis* (Houmanfar et al. 2024). This level of analysis takes into account the metacontingencies selecting the behaviours of groups within institutions and the aggregate products produced as a consequence of their interlocked behaviours. The products of interest being those that shape institutional cultural and climatic conditions. Particularly the group norms and rules that align with the prize-winning work of Nobel Laureate Elinor Ostrom (Atkins et al. 2019; Cox et al. 2010; Wilson et al. 2013). Ostrom identified eight '*Core Design Principles*' (CDPs) shown to reinforce prosocial behaviours within and between groups who share a common purpose. These principles delineate a suite of integrated behaviours that, when implemented well within cultural and institutional arrangements, enhance mutual trust and reciprocity.

In the following sections we elaborate on the specific classes of verbal behaviour PRISM has been designed to analyse in order to ascertain the function of a prevailing discourse and provide indicative scenarios predicting the likely success or failure of a collective behavioural effort over 6-12 months. This framework is cast as a *Taxonomy of Socio-Cultural Institutional Grammar*.

A Taxonomy of Socio-Cultural Institutional Grammar

The Taxonomy of Socio-Cultural Institutional Grammar comprises three domains. Within the first two, distinct classes of verbal behaviour are identified, classified, and measured in terms of frequency, correlations and ratios.

Self-Discrimination – function of three classes of “selfing” statements:

- *Perspective-taking self* – Self & other-as-context
- *Knowing self* – Self & other-as-process
- *Conceptualised self* – Self & other-as-story

Meso-Narratives – function of higher order verbal constructs that synthesize into coherent explanatory, motivational, governance, or cultural categories with implications for generalised learning and the shaping of institutional behaviour. Four classes are distinguished:

- *Group norms* – behavioural streams informed by Ostrom’s CDPs
- *Group rules* – institutional arrangements informed by Ostrom’s CDPs
- *Aggregate outcomes* – composite outputs (distinct from norms & rules) of inter-locked behaviours undertaken by those delivering on their respective duties and responsibilities
- *Critical-uncertain systemic factors* – factors that are driving and selecting behaviour across the system (‘STEEPLES’)

These meso-narrative classes are operationalised through the *Meso-Narrative Indicator (MNI)* – a bounded unit of discourse in which constituent elements are functionally interdependent and compose a higher-order relational-functional move. Each MNI is classified according to which meso-narrative category it expresses and scored for prosocial quality.

ROE-M’ing Prosocially – synthesis of results from preceding categories into a coherent descriptive framework:

- *Meso-narrative patterns* — the distribution and interrelation of MNIs across the four meso-narrative categories, including prosocial composition patterns, non-prosocial functional categories, and derived indices
- *ROE-M* – the apparent strength of Relating, Orienting, Evoking & Motivational processes as assessed across the discourse

The *ROE-M’ing Prosocially Profile* is a key PRISM output that includes a baseline assessment of system health and a 6–12-month forecast of the capacity and risk needing to be managed if desired impact on dependent variables is to be realised.

With respect to the measurement architecture, PRISM integrates two methods that assess different levels of the system but share a common analytic logic. The *Functional Self-Discrimination Measure (FSDM)* operates at the utterance level, identifying and classifying the self-discrimination classes described above. The *Meso-Narrative Measure (MNM)* operates at the MNI level, identifying, bracketing, and scoring the bounded discourse units through which meso-narrative processes become visible. Both methods quantify their respective classes in terms of frequency, correlations and ratios, and both forecast outcomes. In the following sections we provide detail of each of these domains and measurements.

Self-Discrimination

The *Functional Self-Discrimination Measure (FSDM)* measures the function of identity formation processes (*Part 3: Functional Self-Discrimination*). Based on the frequency and ratio of the different classes of language used we can forecast wellbeing – foregrounding how empathetic and compassionate individuals and groups are.

The smallest language unit that PRISM assesses are ‘utterances’ – a *coherent, self-contained expression of meaning, ranging from a single word to a full sentence or more, depending on context and communicative intent* (Styles et al. 2016). The FSDM distinguishes between two core classes of self-discrimination using ‘self-rules’:

1. **Value-oriented self-rules (VOR):** Personal principles or rules that guide behavioural responses in alignment with intrinsic values. These rules support adaptability, psychological flexibility, and sustained engagement in meaningful activity.
2. **Control-oriented self-rules (COR):** Rigid, avoidance-based rules focused on escaping discomfort or maintaining perceived control. These often inhibit flexibility and are linked to reactivity, rigidity, and reduced well-being.

Importantly, the FSDM also classifies broader “selfing” statements—verbal responses that describe or discriminate one’s “self”. From the moment we become verbally capable, we forever more ROE-M our way through life constructing a self-narrative, regulating behaviour, and making sense of experience through verbal processes. The FSDM helps measure and analyse these “selfing” behaviours, classified into three functional categories:

- **Self-as-Story (SS) <-> Conceptualized-self**
Verbal, symbolic representations of one’s identity, rooted in historical narrative Ex: “I am a champion.” “I’m just not good enough.”
- **Self-as-Process (SP) <-> Knowing-self**
Present-moment verbalizations of ongoing experience promoting emotional regulation, empathy, and defusion. Ex: “I am so excited.” “I’m feeling nervous right now.”
- **Self-as-Perspective (SX) <-> Perspective-taking self**
The capacity to observe thoughts and feelings from a deictic or observer perspective. Ex: “Along with everything else going on inside of me, there is always my passion.” “There’s a part of me that feels ashamed.”. SX includes self-empathy — the capacity to hold one’s own experience with compassion from an observer stance.

These “selves” are not static identities but ROE-M’ing processes. Importantly, how individuals ROE-M constitutes their psychological functioning and quality of social engagement.

Predictors of Individual-level Wellbeing

Styles & Atkins’ (2016) study showed that both absolute frequencies and functional ratios of the following FSDM-coded utterances strongly correlate with psychological and prosocial outcomes. Individual-level: High-flexibility individuals showed a 9:1 VOR-to-COR ratio, versus 3:1 in low-flexibility individuals, reflecting stronger values-based governance and psychological flexibility. Table 4 provides an indicative measure of the ratio between coded utterances made by individuals high versus low in psychological flexibility.

Table 4: Ratio between coded utterances made by individuals high versus low in psychological flexibility (Styles et al. 2016)

Ratio	Low Psych Flex	High Psych Flex	Z Scores
VOR:COR	3:1	9:1	
VOR:Total Utterances	1:18	1:9	6.1**
COR:Total Utterances	1:40	1:48	0.8

Results were further validated by the Acceptance and Action Questionnaire (AAQ-II) survey data, as displayed in Figure 10 below.

For the study, Styles & Atkins’ (2016) created two composite measures, both were found to significantly predict well-being.

- **Self Flexibility (SELF FLEX)** = VOR + SX
- **Social Flexibility (SOC FLEX)** = VOR + SX + OX

These findings suggest that increasing the frequency of VOR, SX, and OX statements can meaningfully enhance individual and social functioning. PRISM builds on these findings to assess the functional balance between reflection and values-directed action. When SX + OX are proportionally expressed alongside VOR, groups demonstrate equanimity—the capacity for flexible, grounded, cooperative behaviour under pressure: “I value honesty, and I also recognize how my words may affect you—so I’ll share this with care.”

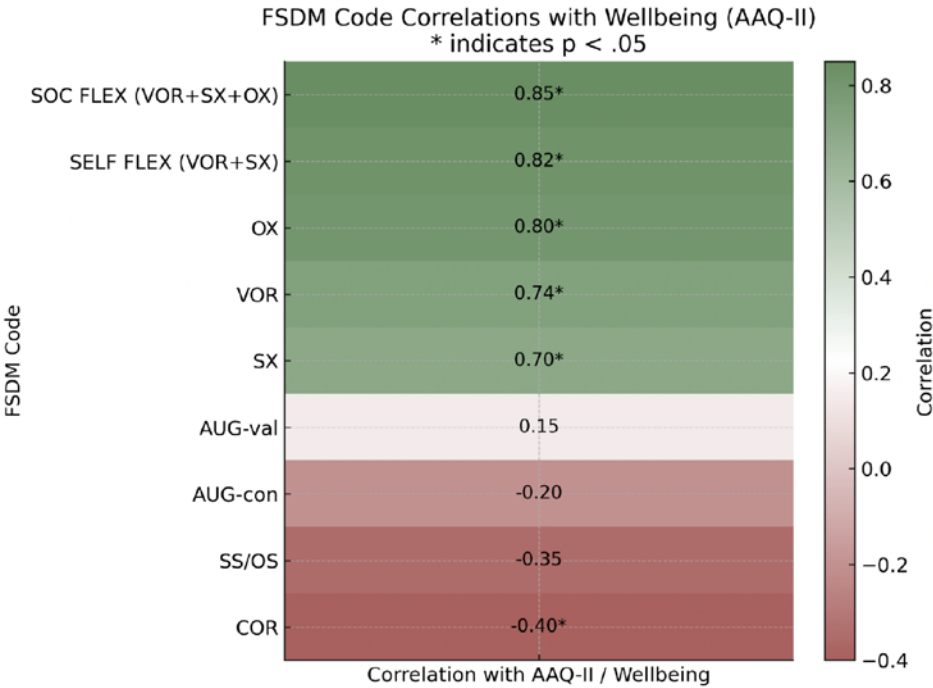


Figure 10. FSDM Code Correlations with Wellbeing (Styles et al. 2016)

In simple terms, this approach to analysing natural language has shown that: speaking of ‘values’ and their means of implementation significantly predicts long-term wellbeing; if a speaker utters both value oriented self-rules and perspective taking statements, the combined effect is a stronger relationship with wellbeing; the way a person views themselves is significantly and positively related to their view of others; and, specific ratios of different categories of utterances equates to high levels of psychological flexibility.

Group-level Wellbeing

VORs and CORs are not only indicators of individual psychological flexibility, they also function as modulators of group-level ROE-M’ing. When individuals in groups interact using more VORs, governance processes often become more inclusive, adaptive, and sustainable. Conversely, when individuals operate under CORs, they are more likely to exhibit rigid, defensive, or avoidant relational behaviour, which can constrain governance, inhibit cooperation, and erode group cohesion.

High frequency of VOR and OX (empathy for others) utterances in a group’s discourse indicates adaptive ROE-M’ing patterns, increased psychological flexibility, and cultural resilience. High frequency of COR, Control-Oriented-Beliefs (COB), and SS-rigid utterances suggests a rule-governed behavioural repertoire shaped by avoidance and control, predictive of governance

dysfunction and low group cohesion. Therefore, self-rules serve as cultural modulators. Such group-level modulation via individual verbal behaviour is empirically supported in laboratory models of metacontingencies (see below), where external consequences contingent on collective outcomes selectively reinforced specific forms of interlocking behaviours among group members (Vichi et al. 2009).

The aim is to increase and strengthen our capacity to achieve results that will have us evolve in a healthier direction. What is being selected for here are the behaviours (inner and outer) that will move people more towards a life of thriving. The desired outcome is for those involved to be taking a broader perspective on their experience such that they can respond consciously rather than reactively to their environment.

Meso-Narrative Measure

The *Meso-Narrative Measure (MNM)* is a second-order category of assessment that operates through the identification, segmentation, and scoring of bounded language units known as *Meso-Narrative Indicators (MNI)*. MNIs are the units through which meso-narrative processes – the higher-order verbal constructs described in the taxonomy – become empirically tractable.

At the meso-narrative level, MNIs are classified according to which of the four meso-narrative categories they express. As with the FSDM, it is the frequency and ratio of classified MNIs that allow for prediction and influence. Explicitly, MNIs take into account the terms of cultural/institutional level metacontingencies – *group norms, group rules, aggregate outcomes, critical-certain systemic factors*.

Metacontingencies

As discussed in *Part 4: behavioural Systems Analysis*, the terms of cultural/institutional level metacontingencies (Houmanfar et al. 2024) delineate the *group norms* and *group rules* functioning as institutional arrangements informed by Ostrom's Core Design Principles (CDPs; Wilson et al. 2013), how these norms and rules interact to shape the interlocked behavioural streams of groups working together to produce *aggregate outcomes*, and the realised impact of their collective effort on the *critical-uncertain systemic factors* that are driving and selecting behaviour across the system (STEEPLES). From a behavioural systems perspective the CDPs are embraced as a suite of operants that delineate the *group norms* and *group rules* which allows for a detailed evaluation of the function of a prevailing discourse at this level (see below). Here, MNIs are the discourse-level units through which these aspects of a metacontingency become observable.

Core Design Principles

Ostrom's Core Design Principles (CDPs) reflect the overarching evolutionary process of variation-selection-replication of behavioural repertoires that enhance well-being at multiple levels in complex adaptive systems. Within the ROE-M'ing Prosocially framework and PRISM method, multi-level selection is operationalised through the expression of the CDPs as *group norms* and/or *group rules*. These principles delineate a suite of integrated behaviours that, when implemented well within cultural and institutional arrangements, enhance mutual trust and reciprocity. The eight CDPs are:

1. Shared identity and purpose
2. Equitable distribution of contributions and benefits
3. Fair and inclusive decision-making
4. Monitoring agreed-upon behaviours
5. Adaptive responses to helpful and unhelpful behaviour
6. Restorative approaches to conflict resolution
7. Authority to self-govern
8. Collaborative arrangements with other groups

The CDPs provide a functional interface between individual rule-following and group-level adaptation. When individuals ROE-M in response to well-implemented CDPs, they are more likely to exhibit value-oriented behaviours that support collective well-being. Conversely, if CDPs are absent or framed in punitive terms, control-oriented relational networks may dominate, leading to rigid, reactive, or coercive social dynamics.

Evidence shows the CDPs can be applied to any group pursuing a group-aggregated valued outcome (Atkins et al. 2019; Wilson et al. 2021; Wilson et al. 2023; Wilson et al. 2013; Wilson et al. 2024). They shape group-level behaviours that reinforce shared identity and purpose, support hierarchical and deictic framing of group membership, and enable functional contextual control of both individual and cultural practices through a prosocial and values-aligned governance.

Together, these interdependent processes function as value-directed self-rules at the group and system levels, orienting collective behaviour toward shared valued outcomes in the same way that VORs orient individual behaviour. This parallel between FSDM and MNM is theoretically grounded. Relational Density Theory (RDT; Belisle et al. 2021; Belisle et al. 2020a; Belisle et al. 2020b) describes the properties of higher-order verbal constructs – density, volume, and mass – that predict how these relational classes self-organise, resist change, and merge under specific contextual conditions.

RDT and the HDML are compatible contemporary extensions of RFT (Belisle et al. 2024) that reinforce the integrity of the MNM. Within this

integration: volume maps onto levels of complexity & derivation (i.e., the number of times a *complex* relational response (MNI) has been *derived* within a particular meso-narrative class = relational volume); density maps onto coherence (i.e., the number of *coherent* relational responses (MNIs) within a meso-narrative class = relational density); and mass maps onto flexibility (i.e., the more relational responses (MNIs) within a particular meso-narrative class the less *flexible* it will be = relational mass). These correspondences provide a quantitative theoretical foundation for the way meso-narratives form as self-organising higher-order verbal constructs and for the way MNIs – as their discourse-level indicators – may evolve across iterative cycles of deliberation.

ROE-M'ing Prosocially

ROE-M'ing Prosocially, as presented in *Part 2: The RFT of ROE-Ming*, provides a detailed exposition of the integrated conceptual foundation that PRISM rests upon. This is the third-order category of assessment.

Meso-Narrative Patterns

Meso-narrative patterns reflect the distribution and interrelation of different classes of verbally regulated behaviour from across all classes of *self-discrimination* and *meso-narratives*. The frequencies, ratios and correlations between these patterns provide for a baseline assessment of system health and a 6–12-month forecast of the capacity and risk needing to be managed if desired impact on the dependent *critical-uncertain STEEPLE factors* driving and selecting behaviour across the system is to be realised.

ROE-M

The ROE-M process framework, explains how symbolic resources are actually used to regulate self and others in everyday contexts and provides a process-level bridge between moment-to-moment language use and the psychological flexibility that underpins prosocial action.

When individuals and groups are functioning flexibly, ROE-M processes give rise to behaviourally coherent response patterns organised around perspective-taking, flexible evoking, and sustained value-based motivating. ROE-M'ing this way thus constitutes the psychological infrastructure of adaptive and prosocial behaviour in complex environments.

The graph in Figure 9 displays the ROE-M components within a two-dimensional analytic space. This visualization highlights how ROE-M'ing functions as a dynamic, behaviourally grounded unit enabling us to track the symbolic and functional basis of behaviour, revealing not just what participants say, but how their behaviour is organised and maintained through relational, emotional, and motivational contingencies.

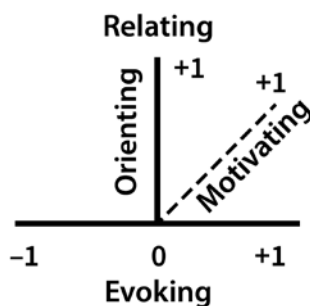


Figure 9. Visualizing ROE-M Components
(Barnes-Holmes et al. 2022)

Relating, unencumbered from the analytic space, indicates the structural complexity of relational framing from simple mutual entailment to complex relational networks. Its associated functions are reflected in the process of **Orienting**, **Evoking** and **Motivating**:

- **R**: (1-5), indicating the level of relational complexity
- **O**: (0–1), indicating the salience of attention to a stimulus
- **E**: (-1 to +1), indicating emotional valence
- **M**: (0–1), indicating the putative strength of response arising from the interaction of orienting and evoking.

A PRISM analysis of individual ROE-M'ing processes reflects the apparent strength of **Relating**, **Orienting**, **Evoking** & **Motivational** processes across the all self-discrimination and meso-narrative classes of the discourse. This provides an assessment of how these processes have unfolded in real time.

Dependent/Independent Variables and Manipulable Context

As mentioned, PRISM is grounded in the HDML, which defines *what* the manipulable verbal context and variables are from a contextual behavioural perspective. The ROE-M'ing Prosocially framework and PRISM methodology define *how* to manipulate that context with precision, scope, and depth.

PRISM distinguishes between two classes of dependent variables. The first is ROE-M itself — how those engaged in a discourse are individually and collectively ROE-M'ing. The aim of facilitated deliberation is to change the way people are ROE-M'ing; if this does not change, meaningful behavioural change is unlikely to occur. The second class comprises the STEEPLES factors that are selecting the behaviours of everyone involved. Demonstrable impacts on these factors are measured in terms of classified MNIs — composed discourse units whose prosocial or non-prosocial function emerges from the relations between their constituent parts.

In this way, dependent variables serve as both *anchors* for interpreting multi-level scores and *live indicators* of system health—supporting context-sensitive forecasts of resilience, sustainability, and alignment with shared values.

Importantly, ROE-M is itself a dependent variable — the ongoing psychological response pattern we are trying to change through facilitated deliberation. We do not manipulate ROE-M directly. The manipulable variables are the four dimensions of the HDML — Coherence, Complexity, Derivation, and Flexibility — which describe qualitative properties of the prevailing discourse. By selectively shaping these dimensions within the discourse, we change the context in which people are ROE-M'ing. Putting all of this in relation with the HDML, the classes in our taxonomy can each be elaborated with varying degrees of complexity — from simple relational framing up to relating relational networks as per the five levels of the HDML. To change how these classes function, we manipulate the coherence, complexity, derivation and flexibility of the discourse when facilitating the deliberations of an action learning cycle. If this is done well, we observe an apparent change in the ROE-M that is implicated.

These HDML dimensions are not in and of themselves the independent variables; they represent independently manipulable properties of the discourse environment. **In behaviour-analytic terms, the independent variables in a PRISM-informed, participatory action research cycle are the *intentional contextual procedures* groups embrace—such as new decision rules, facilitation practices, feedback processes, training arrangements, policy changes, or redesigned roles and incentives.** PRISM does not prescribe these procedures (or any specific intervention); rather, it treats them as manipulable contextual variables whose effects can be observed in (a) shifts in symbolic processes and governance patterns (e.g., PRISM domain constructs) and (b) movement on the co-created dependent variables that stakeholders have identified as “what matters here.”

Having provided a concise account of the conceptual foundations of PRISM, in Part 6: PRISM Analytic Architecture we present details of the analytic framework itself.

Part 6: PRISM Analytic Framework

In this Part we detail the **analytic architecture** that allows the verbal processes we have defined in previous sections to be observed, coded, and quantified. PRISM is designed to analyze both spoken and written language. Transcripts of meetings, meeting records, policy texts or other written artefacts are read and systematically coded based on functional or symbolic properties. The resulting metrics and indicators are linked to outcome variables defined with stakeholders through a participatory action learning/research agenda. In this way, PRISM serves not only as a diagnostic tool but also as a mechanism for iterative cycles of reflection, redesign, and evaluation, helping groups see how their symbolic practices are shaping their own cooperative futures.

PRISM's analytic approach focuses on measuring processes. The metrics presented within this chapter are designed to inform program and intervention design. In this way, we strive to employ a variety of best practice procedures to improve particular processes. The aim is to increase and strengthen our capacity to achieve results that will have us evolve in a healthier direction.

ROE-M Domain

The ROE-M framework is the most basic unit of analysis in the behaviour-analytic methods informing the approach we have adopted. 'Utterances' are parsed as the smallest language unit that the ROE-M domain assesses. An utterance refers to a coherent, self-contained expression of meaning, ranging from a single word to a full sentence or more, depending on context and communicative intent (Styles et al. 2016).

This analysis begins with the parsing, coding, and scoring of utterances across the four ROE-M'ing components. Each utterance is scored independently across each component, enabling fine-grained analysis of symbolic regulation (Table 5).

Table 5. Scoring ROE-M Components

Dimension	Scale & Formula	Notes & Scores
Relating	1–5 HDML-aligned scale ¹	1 = Mutual Entailment 2 = Relational Framing 3 = Relational Networking 4 = Relating Relations 5 = Relating Relational Networks
Orienting	0, 0.5, 1	0 = No evident attention to stimulus 0.5 = mild attention draw (e.g., passive noticing) 1 = high salience/strong attentional pull (e.g., rumination, urgency, determination, alertness)
Evoking	-1, 0, +1	-1 = aversive 0 = neutral +1 = appetitive
Motivating	0, 0.5, 1	0 = Passive, avoidant 0.5 = Weak pull toward action or control-driven 1 = Clear, values-consistent action orientation

1 Note: The hyper-dimensional multi-level (HDML) developmental framework, grounded in Relational Frame Theory (RFT), illustrates how increasingly complex forms of verbal behavior emerge. This progression reflects an evolutionary account of how our individual and collective ROE-M'ing establishes increasingly sophisticated forms of verbally regulated responding to our own responding. Higher levels reflect greater intricacy or detail in the description of a context, such as the types and/or number of relations involved. More complex relationships may require greater cognitive effort or training to influence psychological and/or social behavior effectively.

ROE-M Component Trajectories

Of the four ROE-M dimensions, two – Orienting and Evoking – are directly observable in discourse, Relating and Motivating are inferred, and all four are scored. To predict and influence the mental process (i.e., ROE-Ming) we shape the discourse, so they Orient toward what is appetitively Evocative. The associated Relating — which refers to the brief, immediate, habitual interpretations of what we are attending to, often elicited so quickly they bypass conscious awareness, as distinct from the extended and elaborated stories that comprise a discourse — changes with, and shapes, the strength of re-Orientation that occurs during the discourse. The Motivational impulse in any given moment is putative and is directly moderated by the strength of Orienting and Evoking. M represents the putative motivational state, not the consequent action; the strength of this impulse leads to, or translates into, action or inaction.

As established in Part 5, ROE-M is itself a dependent variable — the ongoing psychological response pattern we are trying to change through

facilitated deliberation. The contextual variables that shape ROE-M'ing are the four HDML dimensions (Coherence, Complexity, Derivation, and Flexibility) of the prevailing discourse, which are in turn shaped through the methods ProSocial employs: the promotion of a behavioural/evolutionary worldview, the development of psychological flexibility, implementation of the CDPs, and action learning/research.

At the group and system level, ROE-M analysis is reported at four progressively richer layers. Layer 1 (Distributional) examines what kinds of symbolic activation the discourse is producing and where activation is concentrated by component. Layer 2 (Cross-Participant) asks whether participants share a profile or cluster into types, and whether activation is symmetric or concentrated. Layer 3 (Within-Meso-Narrative Dynamics) examines how activation organises within composed acts. Layer 4 (Cross-Meso-narrative Architecture) maps group-level patterns across the full set of composed units.

Meso-Narrative Indicator and Prosocial Function Scoring

The meso-narrative layer addresses the observation that prosocial function often appears at the level of composed discourse, not isolated utterances — summing utterance-level scores is structurally analogous to summing organs of an organism.

Two parallel scores at the Meso-Narrative Indicator (MNI) level capture the prosocial and non-prosocial direction of this composed work: **Grounded Prosocial Integration (GPI)** and **Grounded Non-Prosocial Integration (GNPI)**. GPI measures the degree to which an MNI's composed relational act is grounded in reality and organised toward prosocial function. GNPI measures the degree to which an MNI's composed act is grounded in reality and organised toward non-prosocial function. Both are scored using the same component structure: a binary reality-anchoring gate (A) and three functional indicators.

Reality-anchoring (A) functions as an ecological gate. No matter how high an utterance scores on V, P, or C, the indicators contribute to prosocial valence only if the utterance is grounded in a specific, actionable, contextually anchored reality.

Equation 1. $MNI_GPI = A \times (V+ + P+ + C+)$

Equation 2. $MNI_GNPI = A \times (V- + P- + C-)$

Where:

- *A is the reality-anchoring gate (0 or 1)*
- *V+/V- is prosocial/non-prosocial values-directedness (0–2)*

- *P+/P- is prosocial/non-prosocial perspective-taking (0–2)*
- *C+/C- is prosocial/non-prosocial cultural-normative framing (0–2)*
- *Range: 0–6 each*

Critical scoring rule: GPI = 0 does not imply GNPI. GNPI must be positively evidenced and scored separately.

At the group level, a **Net Prosocial Integration (NPI) ratio** is calculated using:

Equation 3. $(\Sigma MNI_GPI - \Sigma MNI_GNPI) / (\Sigma MNI_GPI + \Sigma MNI_GNPI)$

Where:

- *Range is -1 to +1.*

MNIs are classified through two parallel taxonomies. Six GPI Composition Patterns describe recognised forms of prosocial-composing relational work and five GNPI Functional Categories describe recognised forms of non-prosocial relational work. An additional qualitative +action tag is annotated when an MNI converts prior value, perspective, analysis, or concern into a specified proposal, intention, commitment, or next step.

GPI Composition Patterns:

1. P1 Grounded Value Articulation
2. P2 Perspective Integration
3. P3 Norm Activation
4. P4 Coordination/Action Commitment
5. P5 Co-constructive Composition (with meta-integrative co-construction as a high-complexity variant)
6. P6 Prosocial Restoration/Repair Composition.

GNPI Functional Categories:

1. Category A Coercive Regulation/Control Pressure
2. Category B Othering/Exclusion/Devaluation
3. Category C Dismissal/Epistemic Closure
4. Category D Antagonistic Escalation/Failed Repair
5. Category E Governance/Coordination Breakdown

A single MNI may receive tags from both taxonomies simultaneously. Together, the GPI/GNPI scoring and taxonomic classification enable the analyst to:

- Differentiate values-consistent, grounded commitments from abstract slogans or control-based demands.

- Identify where strong emotional and motivational energy is not oriented toward prosocial, CDP-aligned ends.
- Feed a more accurate picture into higher-level indices and the ROE-M'ing Prosocially Profile (discussed in upcoming sections), especially when assessing whether apparent “engagement” is likely to translate into constructive action.

For example, a baseline conversation among groups could show a moderate GPI (range: 2.0 - 3.0) despite high concern and complexity, whereas under a facilitated context GPI = 8.0, reflecting a shift toward grounded, values-directed, perspective-rich, culturally anchored commitments. This illustrates GPI's distinctive role: distinguishing strong feelings and expression from strong, prosocially organised symbolic action.

Self-Discrimination Domain

The Functional Self-Discrimination Measure (FSDM) evaluates the function of utterances, rather than content or topography, by classifying them into categories that reflect either value-oriented or control-oriented verbal governance.

- **Value-Oriented Beliefs (VOB)** and **Control-Oriented Beliefs (COB)**: Statements about self or others that function to reinforce a value-driven (VOB) or avoidance-based identity (COB).
- **Self- or Other-as-context [SX/OX]** statements referring to an observing, detached stance in relation to internal, private experience such that that experience is not in a frame of coordination with the self (i.e., perspective-taking self), or conversely, referring to perspectives of others.

Valued-Action Indicator – Self (VAI-S)

The Valued-Action Indicator – Self (VAI-S) is a composite indicator and the primary predictive metric at the individual level. It integrates select FSDM-coded utterance types into a ratio that captures functional balance—between values and control, reflection and action and personal beliefs. The VAI-S captures psychological flexibility, values and motivational alignment, and relational stance toward self and others—all core drivers of prosocial functioning and well-being. This structure surfaces indicators and predictors of future adaptability, relational alignment, and governance alignment over the next 6–12 months.

The VAI-S value is based on these core FSDM-derived codes:

- VOR, COR, SX, and OX

VAI-S formula was designed to integrate these multiple ratios into a single, interpretable value – a composite measure of symbolic health and the primary individual-level predictor feeding into the interpretive profile.

Equation 4. $VAI-S = (VOR_i + SX_i + OX_i) / (COR_i + COB_i + 1)$

Where:

- i = individual transcript
- +1 in the denominator prevents division by zero and normalizes low-sample cases.

This formula weights adaptive symbolic behaviours (values, perspective-taking, intrinsic motivation) against restrictive or coercive patterns (control, othering, extrinsically motivated rules). Table 6 summarises how to interpret the resulting composite measure of individual-level symbolic health (VAI-S).

Table 6. Interpretation of the Composite Measure of Individual-Level Symbolic Health (VAI-S)

VAI-S Range	Interpretation	Narrative Summary
≥ 2.0	Adaptive	Values and perspectives strongly outweigh control. Predicts resilience, collaboration, and flexibility.
1.0 – 1.9	Mixed / Transitional	Some flexibility present, but balance is fragile. May drift into rigidity or over-accommodation under stress.
< 1.0	Inflexible	Control language and othering dominate. Indicates rigidity, distrust, and risk of compliance-driven behavior.
Total utterances < 10	Unstable Sample	Too few utterances to calculate a reliable VAI-S. Interpret with caution.

Note: In transcripts with low utterance counts, a single utterance can disproportionately influence the VAI-S. A minimum of 10 coded utterances is required for interpretive stability.

Valued-Action Indicator – Group (VAI-G)

Individual utterances are then examined in the context of group dynamics to assess the function of collective symbolic behaviour, governance arrangements, and emergent patterns of prosocial behaviour. The **Valued-Action Indicator – Group (VAI-G)** is a primary component of the ROE-

M'ing Prosocially Profile, indicating group-level symbolic flexibility. The VAI-G formula was designed to:

- Aggregate the symbolic health of individual group members into a single, interpretable group-level metric
- Preserve the structure of the individual VAI-S while enabling cohort-level comparisons.
- Reflect the balance between values, perspective-taking, and control dynamics across a system.
- Normalize interpretive outputs for consistency across groups and contexts.
- Support governance analysis by forecasting adaptive capacity, cohesion, and relational resilience.

Equation 5. $VAI-G = (\sum VORi + \sum SXi + \sum OXi) / (\sum CORi + \sum COBi + 1)$

Where:

- i = individuals in the group sample
- Σ = sum across all valid individuals (with ≥ 10 utterances)

Only VAI-S scores based on valid samples (≥ 10 utterances) are included. If multiple individuals fall below that threshold, the VAI-G may not be stable and should be interpreted with caution. Table 7 summarises how to interpret the resulting composite measure of group-level symbolic health (VAI-G).

Table 7. Interpretation of the Composite Measure of Group-Level Symbolic Health (VAI-G)

VAI-G Range	Interpretation	Narrative Summary
≥ 2.0	Adaptive	Group discourse reflects strong values anchoring, shared perspective-taking, and low reliance on control. Predicts resilience, collaboration, and flexible governance.
1.0 – 1.9	Mixed / Transitional	Some elements of flexibility are present, but symbolic alignment is uneven. The group may drift into rigidity or fragmentation under stress.
< 1.0	Inflexible	Control-based language and symbolic rigidity dominate. Indicates high risk of compliance-driven or defensive group functioning.
< 3 valid samples	Unstable Sample	Too few individual samples (VAI-Ss) to compute a reliable VAI-G. Interpret with caution.

Prosocial Valued-Action Indicator (PVAI)

The **Prosocial Valued-Action Indicator (PVAI)** serves as a parallel cultural-level qualitative measure. PVAI is the VAI-G partitioned by CDP categories at the utterance level. It captures the degree to which values-oriented and perspective-taking language is distributed across the eight CDPs within a group's discourse. The cultural level thus has two parallel measures constituting separate orders of analysis: PVAI (utterance-level, VAI-G within CDPs) and Net Prosocial Integration per CDP (composition-level, the NPI formula computed across MNIs touching each CDP). VAI-G remains the group-aggregated FSDM flexibility ratio summarising the balance of values-oriented and perspective-taking utterance functions relative to control-oriented utterance functions. It does not measure composed group integration; that function is served by GPI/GNPI at the MNI level.

To operationalize this analysis, we apply the FSDM to group-level ROE-M'ing. This functional-analytic methodology supports evaluation of governance resilience and adaptability by:

- Coding discourse using FSDM categories to assess levels of individual and collective psychological flexibility, distinguishing between value-oriented self-rules (VORs) and control-oriented self-rules (CORs), as indicators of sustainable, adaptive cultural practices.
- Mapping participant discourse to CDP-aligned verbal behaviour, such as statements reflecting shared identity and purpose, processes for balancing individual and collective interests, and conditions that support appropriate relations with other groups.
- Tracking ROE-M variables to observe how individuals and groups relate to, orient toward, and are evoked or motivated by governance conditions.

Forecasting Governance Patterns

These symbolic ratios also offer insight into collective functioning and governance:

- VOR: COR predicts whether group rules are internalized through shared values or imposed through external enforcement.
- SX: VOR and OX: COR reflect a group's ability to engage with difference while staying anchored in purpose.

Depending on the balance of these ratios, groups are likely to demonstrate one of the following symbolic postures:

- Adaptive Flexibility — values-aligned, open, and grounded in shared purpose
- Inflexible Reactivity — rule-bound, defensive, and susceptible to distrust or compliance traps
- Equanimous Resilience — flexible yet purpose-driven; capable of collaboration under stress

CDP Expression Domain

Ostrom's eight CDPs provide a behavioural governance lens within PRISM, assessing whether group and institutional arrangements function in ways that support cooperation, trust, adaptability, and fairness over time. CDPs are situated within a relational, evolutionary framework, not as fixed targets but as dynamic indicators of prosocial governance. CDP expression is rated behaviourally – lived governance practices – how members enact shared purpose and coordinate behaviour in real, observable group contexts. Each CDP serves as a functional lever, but groups may organically prioritize or enact certain principles more strongly than others depending on their specific needs or cultural dynamics.

Scores reflect observed behavioural enactment in lived interactions. Coders evaluate utterances and interactions for evidence of how the CDPs are being lived in practice. References to CDPs being structurally embedded into institutional policy, process, or formal agreements, are evaluated at the system-level (see section Metacontingency Domain). Each CDP is scored independently allowing for a nuanced picture of governance strengths and vulnerabilities (0 = Absent or counterfunctional; 1 = Partial, inconsistent, or fragile enactment; 2 = Consistent, transparent, and adaptive enactment). The CDP 'expression panel' enters the ROE-M'ing Prosocially Profile as the main indicator of lived governance practice. Table 8 summarises how to interpret these scores as a behavioural governance assessment.

**Table 8. Interpretation of the Behavioural Governance Assessment
(CDP Expression)**

CDP	Principle (focus)	0 = Absent / Counterfunctional	1 = Partial / Fragile Enactment	2 = Consistent / Adaptive Enactment
1	Shared identity & purpose	No clear shared purpose; “us vs them” narratives dominate; goals fragmented or implicit.	Some shared language about purpose, but unevenly owned or easily overridden by subgroup interests.	Shared purpose is explicit, regularly referenced, and used to guide decisions and resolve tensions.
2	Equitable distribution of costs & benefits	Perceived or actual unfairness; burdens and benefits seen as lopsided; resentment evident.	Efforts toward fairness in some areas, but gaps remain; perceived inequities not consistently addressed.	Costs and benefits are openly discussed, monitored, and adjusted; fairness is a live, shared concern.
3	Fair & inclusive decision- making	Decisions made by a few; affected parties excluded or tokenised; little transparency.	Some inclusive practices (e.g., consultation rounds), but not systematic or reliable.	Clear, predictable processes for including those affected; deliberation is transparent and taken seriously.
4	Monitoring agreed behaviours & impacts	Little or no feedback on behaviour or outcomes; people “fly blind” or rely on anecdotes.	Some monitoring occurs (e.g., sporadic reporting), but patchy, informal, or not widely shared.	Agreed behaviours and impacts are monitored in regular, visible ways; feedback loops inform learning and adjustment.
5	Adaptive responses to helpful/ unhelpful behaviour	Responses to behaviour are either absent or punitive; learning from consequences is rare.	Some constructive responses (e.g., informal correction or recognition), but inconsistent.	Helpful behaviour is reinforced and unhelpful behaviour is addressed in graded, context-sensitive ways.
6	Restorative conflict resolution	Conflict is avoided, suppressed, or escalates; no shared process for working through disputes; punitive processes employed.	Occasional use of restorative or reflective conversations, but not reliably triggered or supported.	Shared, trusted ways to surface and work through conflict; emphasis on repair, learning, and preserving relationships.
7	Authority to self-govern	Local actors have little say over rules; decisions imposed externally; low sense of agency.	Some delegated authority, but constrained by higher-level vetoes or unclear boundaries.	Groups have real scope to adapt rules locally within agreed boundaries; local innovation is encouraged.
8	Collaborative relations with other groups	Relations with other groups are minimal, competitive, or adversarial.	Some cooperative projects or liaison roles, but ad hoc or personality-dependent.	Stable, mutually beneficial relationships with other groups; shared projects, information, and joint decision-making.

By creating a panel, we avoid penalizing groups that excel in certain principles while intentionally developing others. Clustered strength (e.g., high scores in CDPs 1, 2, 3, 4) may indicate a cooperative culture with robust trust and communication, while selective enactment of CDP 1-4 may reflect cultural priorities, developmental stage, or strategic choice. Gaps highlight

opportunities for targeted intervention without assuming overall governance weakness. Therefore, interpretation focuses on patterns and integration with other PRISM constructs; for example:

1. **CDP panel + GPI distributions/trends** → Predicts whether prosocial norms will strengthen or erode
2. **CDP panel + VAI-G scores** → Predicts group adaptability and relational resilience

Metacontingency Domain

We also evaluate symbolic behaviour and governance alignment at the system level, focusing on how organizational/institutional discourse, norms, and reinforcement structures shape collective functioning over time. The **Cultural-Organizational Milieu Interaction (COMI)** assesses whether prosocial principles are structurally embedded – not just expressed symbolically – but enacted through sustained, adaptive practices.

COMI is applicable across ideological or cultural systems (e.g., Ubuntu, Indigenous practice, local custom), provided that functionally prosocial alignment is accessible. COMI contributes the structural governance component to the ROE-M'ing Prosocially Profile, indicating the strength of systemic scaffolding for prosocial norms. COMI is based on the following three components: (1) Cultural Norm Coherence, (2) Policy Functionality, and (3) Norm-Practice Interaction.

Cultural Norm Coherence (N)

Assesses the degree to which the discourse evidences a coherent set of cultural norms operating across speakers, topics, and time. This component also assesses whether CDPs 1-6 are actively operationalized with symbolic culture consistently promoting cooperation, inclusion, and care. High (N) indicators:

- Clear reference to and operationalization of shared prosocial values
- Normative scaffolding supporting cooperation and flexibility

Policy Functionality (F)

Assesses whether rules, protocols, and institutional processes shape cooperative behaviour in prosocial directions. High (F) indicators:

- Functional rules that support collaboration and fairness
- Behavioural shaping systems influencing conduct
- Organizational routines reinforcing CDP-aligned outcomes

Norm-Practice Interaction (I)

Assesses whether policies and norms mutually reinforce one another to create a coherent, psychologically flexible context. High (I) indicators:

- Rules and norms co-designed or co-reinforcing
- Cultural messaging and governance practice are aligned
- Governance practice and structure are aligned

The COMI highlights the system's structure – how a prosocial culture is embodied in policy, and how rules operationalize shared values – while the functional valence of prevailing discourse is captured by the MNI_GPI. Exploring the relationship between COMI and MNI_GPI shows whether the team's prosocial composing capacity at the MNI level is supported by structural alignment or depends on individual relational work in the absence of systemic scaffolding.

Interpretation

The COMI is a qualitative, tier-based interpretation derived from the combination of component scores.

Where:

- *Component scores: 0 = Not at all; 1 = Partially; 2 = Strongly*
- *1-4 Tier Range: Tier 1(integrated) to Tier 4 (fragile)*

The tier framework is developmentally calibrated: Tier 1 represents an aspirational benchmark that most baseline assessments do not achieve. The methodology measures developmental movement toward Tier 1 across PRISM cycles. The framework combines profile-based scoring (mechanical assignment from N, F, I scores) with signature sub-patterns that describe the developmental position the team occupies. Table 9 summarises how these combinations are interpreted.

Table 9. COMI Tier Framework (Developmentally Calibrated Structural Support for Prosocial Governance)

Tier	Sub-pattern	Interpretation	Profile (N, F, I)
Tier 1 – Integrated and Actively Maintaining	–	The discourse evidences a system where cultural norms, functional practice, and their productive interaction are all operative. This is an aspirational benchmark; few teams reach Tier 1 in baseline assessment.	N=2, F=2, I=2
Tier 2 – Developing or Strong With One Gap	2a – Active Developmental Engagement	Norms are clear; practice gaps are voiced; the team is engaging the gaps rather than ignoring or dismissing them. This is the discourse-derived signature of a team in motion.	N=2, F=0 or 1, I=2
	2b – Established With Interaction Gap	Strong cultural norm coherence and functional practice are both present, but the discourse evidences only sporadic mutual reinforcement or developmental engagement between them.	N=2, F=2, I=1
	2c – Practice-Led Emerging Norms	Functional practice and norm-practice interaction are strong, but cultural norm coherence is still consolidating around the practices.	N=1, F=2, I=2
Tier 3 – Symbolic or Structural Partiality	3a – Recognition Without Engagement	Strong cultural norm coherence but weak or absent functional practice and limited norm-practice interaction. The team articulates ideals without the developmental work that would move them toward enactment.	N=2, F=0 or 1, I=0 or 1
	3b – Functional Without Coherence	Functional practice is dominant but cultural norms are inconsistent or absent. Practices function without a shared normative fabric to reference.	N=0 or 1, F=2, I=0 or 1
	3c – Interaction Without Substance	Strong productive interaction signals but the underlying norms and practices are not yet consolidated. This is uncommon as a stable position and usually represents a transition stage.	N=0 or 1, F=0 or 1, I=2
Tier 4 – Structural Fragility	–	Pervasive structural fragility without active developmental engagement. Prosociality, where present, depends on individual capacity rather than systemic scaffolding.	All three ≤ 1 , AND $I \leq 1$

Edge cases: Profiles not cleanly matching the sub-patterns above (e.g., N=2, F=2, I=0) should be assigned to the tier that best captures the functional structural picture, with documented rationale.

Cross-cycle interpretation: Tier and sub-pattern movement across PRISM cycles is the primary developmental signal the methodology measures. Tier stability with sub-pattern change is also informative. A team remaining at Tier 3 but moving from 3a to 3b has shifted the locus of strength even without changing tier.

Integrated Output -ROE-M'ing Prosocially Profile

The ROE-M'ing Prosocially Profile translates symbolic language patterns into actionable insights by synthesizing results from all six domains of the Taxonomy of Socio-Cultural Institutional Grammar. It forecasts the capacity of individuals, groups, and institutions for flexibility, cooperation, and resilience over a 6–12-month time horizon.

The profile is built on a triangulated measurement architecture. ROE-M component coding at the utterance level reveals how relational, orienting, evoking, and motivating functions are patterned across the discourse. The MNI shows whether symbolic energy organises into coherent composed relational acts. MNI_GPI/MNI_GNPI shows whether those acts are grounded and prosocially or non-prosocially functional. The ROE-M'ing Prosocially Profile reads patterns across these levels, together with FSDM (functional self-discrimination), CDPs (governance practice), and COMI (governance structure), to produce the integrative forecast.

The profile supports targeted diagnosis by answering the following types of questions:

- How functional and integrated are our policies and procedures?
- How healthy is our organisational climate (alignment of constitutional arrangements with the prevailing institutional culture)?
- Are we cultivating symbolic patterns supporting cooperation, trust, and resilient decision-making?
- To what degree is governance practice and structure aligned?
- Which CDPs are strongly enacted, and which require strategic development?
- Do self-rules lean toward values and perspective-taking, or toward control and rigidity?
- Is motivational climate more AUG-val or more AUG-con?

Predictive capacity emerges from the interaction of these metrics:

ROE-M'ing Prosocially Profile = $f(\text{GPI/GNPI}, \text{VAI-G}, \text{CDP Panel}, \text{COMI Tier})$

Key Interpretive Patterns

- High VAI-G + Broad CDP enactment
Impact on the dependent variables show the VAI-G and CDP contingencies strongly reinforcing cooperative norms, indicating robust cooperative resilience.
- High VAI-G + Selective CDP enactment
Impact on the dependent variables reveal uneven reinforcement across governance principles; resilience depends on which principles and contingencies are strong.
- Low VAI-G + Broad CDP enactment
Low impact on the dependent variables indicate systemic misalignment between individual symbolic repertoires and prevailing contingencies; governance norms exist but are weakly embodied in daily interaction.
- Low VAI-G + Multiple weak/absent CDPs
Low impact on the dependent variables indicate high vulnerability to governance breakdown due to contingencies reinforcing non-cooperative or rigid patterns.
- Declining MNI_GPI with rising MNI_GNPI
Sustained shifts in the GPI/GNPI balance signal reduced values-directedness, cultural anchoring, or perspective-taking in composed discourse. When paired with dependent variables, these shifts pinpoint which contingencies are eroding prosocial climate and where early corrective action is most needed. The PVAI tracks this balance at the group level, with movement toward zero or negative values indicating systemic erosion of prosocial composing capacity.

Conclusion

PRISM offers a precise, multilayered method to understanding how individuals and groups symbolically relate to themselves, one another, and the systems they inhabit. Grounded in functional contextualism, RFT, and the ROE-M'ing Prosocially framework, PRISM links moment-to-moment symbolic processes (ROE-M), hierarchical and dimensional features of relational responding (HDML), utterance-level flexibility (FSDM), and multilevel governance dynamics (CDPs and metacontingencies). In doing so, it moves beyond surface content to reveal the underlying behavioural architecture of cooperation and control. PRISM is structured as a **Taxonomy of Socio-Cultural Institutional Grammar** organized into interconnected categories that represent different lenses through which discourse can be analysed. This taxonomy reflects both conceptual architecture and the discrete research programs likely to emerge as PRISM methodology develops.

Analytically, PRISM distinguishes between concepts and content, processes and procedures, and procedures and outcomes. Natural language—discourse, policies, and other written artefacts—is coded as content, while the taxonomy of socio-cultural institutional grammar is applied to that content. These lenses yield indicators of self-discrimination, the individual-level Valued-Action Indicator – Self (VAI-S) and the group-level Valued-Action Indicator – Group (VAI-G). Additional group- and system-level metrics capture the prosocial and non-prosocial direction of composed work – Grounded Prosocial Integration (GPI) and Grounded Non-Prosocial Integration (GNPI) – CDP expression and the metacontingency assessment, based on the Cultural-Organizational Milieu Indicator (COMI). Together, these metrics map how symbolic regulation, governance arrangements, and cultural selection processes interact over time. The measurement architecture rests on three theoretically independent layers: ROE-M (at the utterance level), MNI (relational composition above the utterance level), and GPI/GNPI (prosocial quality of composed acts).

Beyond analysing lived discourse, PRISM can also be applied to institutional frameworks—policies, regulations, codes of conduct—to assess their likely impact on psychological flexibility, CDP enactment, and cultural climate. This dual capacity makes the model both structurally evaluative (what is built into the system) and forward-looking (what is likely to emerge under current conditions). The ROE-M'ing Prosocially Profile integrates these multi-level indices into a diagnostic and predictive tool that can identify emerging symbolic strengths and vulnerabilities, forecast relational and governance resilience over a 6–12-month horizon, and support the design and refinement of context-shaping procedures.

PRISM complements a participatory action learning/research agenda in which outcome variables are co-constructed with stakeholders as behaviourally observable indicators of “what matters here,” and contextual procedures (e.g., new decision rules, facilitation practices, feedback processes, and policy shifts) are locally designed. PRISM then tracks how these procedures show up in symbolic behaviour and governance patterns, and whether they move the co-defined system outcomes in a healthier, more values-consistent direction. By examining whether symbolic and structural layers are mutually reinforcing—through both the distribution of enacted CDPs and the alignment of norms, narratives, and policies—PRISM equips leaders, practitioners, and researchers to see not only what is, but what is becoming likely. In doing so, it provides a rigorous, behaviourally grounded scaffold for cultivating more cooperative, flexible, and values-aligned futures in complex human systems.

Research Limitations

PRISM integrates theoretical frameworks (RFT, HDML, FSDM) and governance models (CDPs, metacontingency analysis) that have been separately developed and validated. However, ROE-M'ing Prosocially & PRISM represent their first systematic integration into a unified scoring model. The Meso-Narrative Indicator (MNI) is theoretically justified as a construct-valid extension of utterance-level functional coding, but it has not yet been directly validated as its own measurement unit; empirical validation studies remain needed. Applications across diverse contexts—different sectors, cultural settings, group sizes, and governance challenges—is essential to test PRISM's robustness and refine its parameters.

The PRISM method is designed to be AI assisted (Claude, Anthropic), which introduces both efficiencies and limitations. AI-assisted coding enables rapid processing of large discourse samples and consistent application of complex taxonomies, making PRISM practically viable for real-world applications where manual coding would be prohibitively resource-intensive. However, AI systems can produce errors in utterance segmentation, functional classification, and contextual interpretation. All AI-generated analyses require human oversight, validation against source transcripts, and expert judgement—particularly for nuanced FSDM coding decisions and CDP behavioural evidence interpretation.

PRISM is designed as a tool for participatory action learning, which implies ongoing collaboration between researchers and participants. Realising the method's potential requires sustained commitment to iterative cycles of analysis, feedback, redesign, and re-evaluation. Researchers must remain responsive to feedback, refining scoring protocols, interpretive guidance, and reporting formats based on what proves useful in practice. This continuous improvement orientation is methodologically necessary: PRISM's validity is ultimately established through its capacity to support meaningful change in the systems it analyses.

Finally, PRISM's predictive claims—particularly the 6–12-month forecasts—should be understood as conditional trajectories rather than deterministic predictions. Complex human systems are subject to unpredictable disruptions, and symbolic-governance patterns interact with material, political, and economic forces beyond the method's scope. PRISM identifies leverage points and likely directions; it does not guarantee outcomes. Future research should track longitudinal cases to assess forecast accuracy and refine the conditions under which PRISM predictions hold.

New work in the field of CBS

An accumulating body of research is reinforcing the integrity of this approach. As discussed, the *Contextual Behavioural Science (CBS)* perspective on ‘self’ and the function of language provides insight into how we can regulate our own behaviour to enhance our wellbeing (Barnes-Holmes et al. 2022; Harte et al. 2023a; Hayes et al. 2001a; Hayes et al. 2012b). Studies have shown that our longitudinal wellbeing as individuals can be predicted based on our ability to conversationally express a sense of perspective about ourselves and the values intrinsically motivating us to take action (Atkins et al. 2016; Styles et al. 2018). Engaging ecosystem partner groups in such deliberations has been shown to “increase access to positive reinforcement via adaptive responding” which is critical to enhancing wellbeing in organisations (Houmanfar et al. 2022). Institutionalising these processes has shown a significant, positive and sustained improvement eight years post initial interventions along several dimensions, including: Employee Engagement, Communication, Innovation & Change, Senior Leadership, Immediate Supervisor, Current Job & Workplace Performance, Code of Conduct, and Agency Specific Performance (Wilson et al. 2024).

Synthesising these approaches in the ROE-M’ing Prosocially framework and applying the associated PRISM evaluation method has further validated this as an approach to predicting and influencing the behaviour of individuals working together in groups. Our understanding of what it could mean to consciously evolve a world that works for all has led us to design and apply this method to show it is possible to facilitate and analyse a prevailing discourse for statements and predict the success or failure of behavioural efforts in pursuit of a vital life. We consider the methods employed to be a *functional analysis* of the verbal responses shaping individual and collective behaviours at each level in a system. The claim that this work is in fact a functional analysis is new work in the field of CBS.

We believe that as we consciously engage with such practices within active communities of commitment, the resulting response will go way beyond individual transformation to restoring a community’s capacity to develop collective and collaborative ways to sustain itself now and into the future. In other words, to be consciously evolving a world that works for all.

Appendix

Acronyms and Abbreviations

A	Reality- Anchoring
AUG-con	Augmental Control
AUG-val	Augmental Value
C	Cultural Framing
CDPs	Ostrom's Core Design Principles
CDP 1	Strong Shared Identity and Purpose
CDP 2	Equitable Distribution of Contributions and Benefits
CDP 3	Fair and Inclusive Decision-Making
CDP 4	Monitoring Agreed Behaviors
CDP 5	Graduated Social Reinforcement
CDP 6	Restorative Conflict Resolution
CDP 7	Local Authority to Self-Govern
CDP 8	Collaborative Relations with Other Groups
COB	Control Oriented Personal-Belief
COMI	Cultural-Organizational Milieu Indicator
COR	Control-Oriented Self-Rule
F	Policy Functionality
FSDM	Functional Self-Discrimination Measure
GNPI	Grounded Non-Prosocial Integration
GPI	Grounded Prosocial Integration
HDML	Hyperdimensional, Multi-Level framework
I	Norm–Practice Interaction
MNI	Meso Narrative Indicator
N	Cultural Norm Coherence
NPI	Net Prosocial Integration
OP	Other-as-Process (now or then)
OS	Other-as-Story total (Positive, Negative & Neutral)
OX	Other-as-Perspective
P	Perspective- Taking
PVAI	Prosocial Valued-Action Indicator
ROE-M	Relating Orienting Evoking-Motivating
SP	Self-as-Process (now or then)
SS	Self-as-Story total (Positive, Negative & Neutral)
SX	Self-as-Perspective
V	Values- Directedness
VAI-G	Valued-Action Indicator – Group
VAI-S	Valued-Action Indicator – Self
VOB	Value Oriented Personal-Belief
VOR	Value Oriented Self-Rule

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